

Abandoned Science, Broken Promises

*How the Trump Administration's Neglect of Science Is
Leaving Marginalized Communities Further Behind*



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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.

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Cover photo: AP Photo/David Goldman
Children play basketball in Port Arthur, Texas, a predominantly Black community that is also the site of three different oil refineries.

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[FOREWORD]

by James Hoyte

James Hoyte is a Union of Concerned Scientists board member and a former Massachusetts Secretary of Environmental Affairs. He retired from Harvard University in 2009, where he was an Associate Vice President and Co-Program Director of the Working Group on Environmental Justice. He was also Lecturer on Environmental Sciences and Public Policy at Harvard College, Adjunct Lecturer in Public Policy at Harvard's Kennedy School of Government, and a member of the Harvard University Committee on Environment.

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The Trump administration's assaults on environmental regulatory protections and policies that support public health have been well documented. Indeed, this administration has been quite vocal and explicit about its firm intention to roll back environmental controls and protections. The administration's negative posture with regard to existing science-based regulatory policy designed to address air, water, and other areas of pollution has been manifested from its earliest days. The reality of this perspective, coupled with a failure to acknowledge the threats posed by the warming climate, has frightened many individuals who were already concerned about the health of the planet.

This report by the Union of Concerned Scientists (UCS) documents the particular impact that the Trump administration's anti-environment regulatory policies and practices have had on vulnerable communities. Having faced decades of systemic inequities in the application of environmental law and policy, low-income communities and communities of color are now confronted by the federal rollback of anti-pollution regulations.

Prior to the Trump administration, many hard-fought battles were won by environmental justice groups and other community-based organizations that led to the development of federal programs and policies that helped marginalized and vulnerable communities address health, safety, and quality-of-life concerns. Several factors were critical to the development of sound and effective environmental policy for all communities. Perhaps most important to the enactment of evidence-based policies and regulations has been the collection of, and public access to, reliable scientific data at the federal level. The availability of such data and information has been especially valuable in equipping the public to advocate for policies that combat the impact of pollution on local communities and neighborhoods. These data can be particularly important for environmental justice and community-based organizations when advocating for policies and practices that are designed to address the disparate impact of pollution on public health in their communities.

Reaching out to community-based partners, UCS has gathered the voices and perspectives of those who are on the ground, working hard to protect their neighborhoods from pollution and other environmental threats. UCS has documented the disastrous impact the Trump administration is having on underserved communities by undermining science-based policy decisions and ignoring the public health concerns raised by the communities themselves.

Much has been written and reported in general about the Trump administration's broader assault on environmental protection. This report highlights an often missed part of that picture: the administration's deliberate efforts to undermine, sabotage, and dismantle the policy and regulatory frameworks that can be a positive force in addressing inequities in the health and quality of life of low-income communities and communities of color.

The recognition and reporting of the existing and potential damage caused by the Trump administration's policies and practices is extremely important.

Introduction

One of the most important responsibilities of the federal government is to safeguard the health and safety of people across the nation. Yet, the Trump administration has consistently sidelined science-based decisionmaking processes and laws designed to provide these protections. The administration's attacks on science, now numbering more than 100 in less than three years, have been documented by the Union of Concerned Scientists (UCS) at six months and again two years after President Trump's inauguration (UCS 2019a; Carter, Desikan, and Goldman 2019; Carter et al. 2017; Carter et al. 2019). While all communities are affected by these attacks, low-income communities, communities of color, and Indigenous communities bear the brunt of the consequences of the administration's anti-science actions.

The Trump administration has sidelined science from decisionmaking in several different ways. The president, his advisors, and his appointees, along with allied members of Congress, have willfully distorted scientific information during the decisionmaking process, targeted scientists for doing their jobs, impeded scientists' ability to conduct research, limited the public's access to taxpayer-funded scientific information, and rolled back science-based protections aimed at advancing public health and safety. They have appointed officials with severe conflicts of interest to oversee industries to which they have ties, and, in some cases, these appointees now lead agencies that they previously disparaged or even sued (Carter et al. 2017). President Trump and allies have dismissed evidence showing the benefits of conserving culturally important lands for Indigenous communities, dismissed climate science despite overwhelming evidence of the devastating impacts of climate change, and restricted agencies from considering scientific evidence fully in the decisionmaking process.

While the Trump administration is exacerbating risks to public health and safety, especially within underserved communities, it should be noted that the issues themselves are not unique to President Trump nor can the blame be placed on the Trump administration alone. There is no single culprit nor any one government action that can explain the long-term injustices that underserved communities have faced. Rather, marginalized communities have experienced and continue to experience such inequities as a result of multiple factors and many interwoven policies and ideas. Many historical examples illustrate that policy decisions made before President Trump took office have placed the health and safety of underserved communities at risk. Take, for example, the city of Commerce, California. Commerce is a primarily Latinx community containing a disproportionate number of hazardous facilities. Demographics alone do not explain why there is such a high concentration of facilities near communities in Commerce; rather, the zoning decisions of the Los Angeles Regional Planning Commission in the 1920s and 1930s paved the way for these facilities to be sited here (Boone and Modarres 1999). Another example of environmental injustice involves Black communities living near the Columbia Slough in Portland,

There is no single culprit that can explain the long-term injustices that underserved communities have faced.



Arthur Tress/US National Archives

Efforts to promote environmental justice have a long history, and in fact were at the forefront of the movement to create the Clean Air Act and Clean Water Act in the 1970s to combat pollution, especially in marginalized communities. Pictured here is debris from a controversially sited incinerator in the Gravesend Bay neighborhood of Brooklyn in 1973. Gravesend Bay residents are still fighting illegal dumping in this area to this day.

Oregon. The narrow waterway has long been polluted, but according to researchers speaking with community members in 1999, some in the community recall the slough being cleaner in the 1900s before business interests superseded the interests of the communities located nearby. During the height of the environmental movement in the 1970s, the North Portland Committee held a conference that brought together the communities of the Columbia Slough and local agencies to implement environmental regulations for the area. The citizens at the conference voiced concerns regarding their water and air quality and made specific requests of these agencies to eliminate a landfill in the area and to avoid zoning areas near the Columbia Slough for polluting industries. The communities' requests were ignored: siting permits continued to be granted to polluting industries, and the landfill was never removed (Stroud 1999). The Columbia Slough remains an area heavily polluted by toxins, putting the health of its citizens at risk. These are but two examples of environmental injustices that occurred among long-standing inequities in Black, Latinx, Asian, Indigenous, and low-income communities, including segregation, redlining, voter disenfranchisement, gerrymandering, and the lack of enforcement of environmental protections and other public health safeguards (City of Portland 2019).

Exacerbation of Long-Standing Harms Faced by Disenfranchised Communities

The Trump administration's attacks on science will have significant impacts on the public health of disadvantaged communities that are already disproportionately harmed by environmental pollution, hazardous workplace conditions, industrial activities, and a lack of access to health care, nutritious foods, playgrounds and parks, and many other amenities enjoyed by other communities. Studies have shown that Black children, Latinx children, and children from low-income families, compared with their white peers, have a higher likelihood of developing asthma, a life-threatening condition linked to air pollution (Milman 2018). Research dating back to the 1970s shows that many more low-income communities, Indigenous communities, and communities of color live near toxic waste sites, landfills, and congested highways than white and affluent communities. Higher exposure to tailpipe exhaust and a slew of hazardous chemicals carries many health risks, including developing heart disease and certain types of cancer (Bullard 1993; Cosselman, Navas-Acien, and Kaufman 2015; Simon 2013). Studies also have shown that low-income communities often lack grocery stores that provide affordable nutritious foods that help individuals maintain a healthier lifestyle (Richardson et al. 2017). Given these disproportionate impacts faced by disenfranchised communities, it is important that members of communities have a voice in critical decisions affecting them and that they have access to the best-available science to inform these decisions. This importance is amplified by the cumulative environmental, psychological, and socio-logical stressors that low-income communities, Indigenous communities, and communities of color have experienced for decades (Cutrona, Wallace, and Wesnes 2006).

It is important that members of communities have a voice in critical decisions affecting them.

The Trump administration is adding to burdens faced by communities by sidelining their voices in science-based decisionmaking. In some cases, the administration has walked back its word to keep lines of communication open with Indigenous groups on policies that would help communities adapt to a changing climate (Clement 2019). In other cases, the Trump administration is sidelining advisory groups that have served as

a means for community groups to have their voices heard when federal agencies make decisions (Reed 2017a). Without these voices, it is impossible for any administration to fully serve and understand the needs of impacted communities.

The Trump administration further exacerbates these disproportionate burdens through systematic cutbacks in research and data collection designed to address issues of equity and environmental justice. The administration has also stalled, suppressed, or halted scientific reports and data collection that identify the disproportionate burdens borne by impacted communities. Without research and data, it is much more difficult for community members and decisionmakers to manage the problems affecting communities.

Communities Pushing Back and Achieving Victories

Low-income communities, communities of color, and Indigenous communities are actively fighting to protect their community members from environmental and public health harms, which have led to positive changes and victories on the state and local level. Led by California, 14 states and the District of Columbia are pushing for tougher fuel efficiency standards. Oregon issued a bill to codify the federal clean air and clean water standards in place before the Trump administration took power. Colorado and New Mexico have written rules that place limits on heat-trapping emissions from oil and gas drilling (Dennis and Eilperin 2019). New Jersey enacted an executive order to address environmental justice in communities, including the consideration of the cumulative impacts on disenfranchised communities (State of New Jersey 2018). The state of California has prevailed in a majority of the environmental regulatory lawsuits it has filed or joined against the Trump administration, victories won primarily because the administration was unable to mount an argument against the robust science underpinning the environmental laws (Phillips 2019). Houston workers and residents that were affected by chemical disasters are suing petrochemical facilities, members of the Standing Rock Sioux Tribe are pushing for science-based safeguards against the threat of spills from the Dakota Access Pipeline, and environmental groups from across the nation are advancing an Equitable and Just National Climate Platform, which confronts environmental injustice when addressing the harms of climate change (Kirk 2019; McKenna 2017; NRDC 2019).

Environmental justice policies are also continuing or being newly enacted at the city level. New York City passed bills in 2017 to both conduct research about and address environmental injustices in communities of color and low-income communities (WEACT 2017). Baltimore placed a ban on new crude oil terminals in 2018 due to the urging of a diverse

coalition of environmental justice advocates (Javorsky 2019). In 2017 and 2018, several cities amended their public health codes at the urging of environmental justice advocates trying to address public health impacts in their communities (Baptista, Sachs, and Rot 2019). These efforts codified health-based regulations on solid waste disposal in Detroit, Michigan; coal and petroleum coke storage in Richmond, California; and industrial odors in Erie and Denver, Colorado. For local communities, pesticide usage has also become a touchstone issue, with more than 140 communities passing a pesticide law or ordinance that limits or bans pesticide usage (Wilcox 2019). Some major victories have been won—for instance the use of the pesticide glyphosate (also known as Roundup) has been halted in Los Angeles County and it has been banned in New York City parks, although these bans have encountered roadblocks from state-level preemption laws (City News Service 2019; Gillam 2019; Wilcox 2019).

Communities are actively fighting to protect their members from environmental and public health harms.

The Need to Challenge the Inequitable Impacts of the Trump Administration's Attacks on Science

As the Trump administration increasingly abdicates its duty to use science to inform critical public policy decisions, it is more important than ever to monitor government actions and push back against its efforts to sideline science. This report analyzes the ways that Indigenous communities, low-income communities, and communities of color will face disproportionate harms from the anti-science actions of the Trump administration. On top of existing inequities in communities, these attacks on science will worsen environmental pollution, increase hazardous workplace conditions, decrease the accessibility of nutritious foods, and in other ways exacerbate public health and safety challenges that our political leaders should be working to solve.

We must insist that our decisionmakers serve the public interest; demand that they address existing inequities in public health, safety, and environmental outcomes for communities; and hold them accountable when they do not.

Exposing Communities to Health Hazards

There are real impacts on people when science is sidelined by the federal government, and some of the most egregious examples of disproportionate impacts on communities under the Trump administration come from the rollback or lack of enforcement of public health and environmental protections.

In the United States, science-based safeguards are necessary to help alleviate inequities in the health burdens faced by communities of color, Indigenous communities, and low-income communities; however, they are not currently sufficient to address the full extent of these disparities. There is a great need for policies that focus specifically on the issues that affect marginalized communities, such as the Environmental Justice Act of 2019, which has led to siting policies that may restrict siting of hazardous facilities within marginalized communities and policies that control the financing of clean-ups after hazardous facilities leave the community. These policies are particularly needed because sources of pollution and hazards are located far more often near disenfranchised communities. Eight out of 10 waste incinerators and six of the 10 most contaminated coal ash dumping sites are located within three miles of communities of color and low-income communities (Dunlevy 2019; Earthjustice 2019a). Twenty-one percent of all people of color, including Indigenous communities, and 19 percent of all households below the poverty line are located within three miles of a Superfund site (OCPA 2017). These pollution burdens carry a heavy toll. For instance, one recent study found that men of color (Black, Asian, and Latinx) and men with a low socioeconomic status had a significantly higher risk of death associated with an increased exposure to fine particulate matter, which is a form of air pollution composed of tiny airborne particles that can travel deep into the lungs and affect people's health (Di et al. 2017).

Science-based safeguards are necessary to help alleviate inequities in the health burdens faced by marginalized communities.

Indigenous communities face additional risks. There are a high number of resource extraction industries located on tribal land, which can carry substantial pollution burdens (McBride 2017). As compared with other groups, Indigenous groups more frequently engage in outdoor activities and subsistence hunting and fishing, which markedly increases their exposure to outdoor pollution sources (Brady and Eilperin 2019). For instance, Arctic Indigenous individuals often have levels of persistent organic pollutants in their blood and breast milk that are 10 times higher than the residents of major American cities (WEACT 2017).

The right to a “safe, clean, healthy and sustainable environment” is considered by the United Nations to be a substantive right guaranteed to all people (UN Environment 2019). And yet the administration's actions, rather than working to help people achieve this basic right, are increasing pollution in affected communities. The Environmental Protection Agency (EPA) under the Trump administration has been systematically lax in its enforcement of environmental laws—generating the fewest number of anti-pollution criminal cases since 1988, dramatically

decreasing the financial penalties for polluters as compared with the previous three administrations, and employing so few criminal investigators that it violates the minimum number required by Congress (PEER 2019; Schaeffer and Pelton 2018; Katz 2017).

The Trump administration has also concluded fewer criminal prosecutions of environmental laws in its second and third years than did the Bush and Obama administrations in the corresponding years (Figure 1a). There are several possible reasons for this decrease under the Trump administration—the administration could be prosecuting fewer cases, discontinuing more cases during their investigation, settling more out of court, or otherwise lack the ability to conclude a case—but whatever the reason, this essential tool for enforcing our environmental laws is being compromised. The Trump administration is failing to enforce two landmark environmental laws in particular: the Clean Air Act and the Clean Water Act (Figure 1b). This is especially striking considering that Andrew Wheeler, the EPA administrator, said in a May 2019 interview with the Financial Times that “water issues are the number

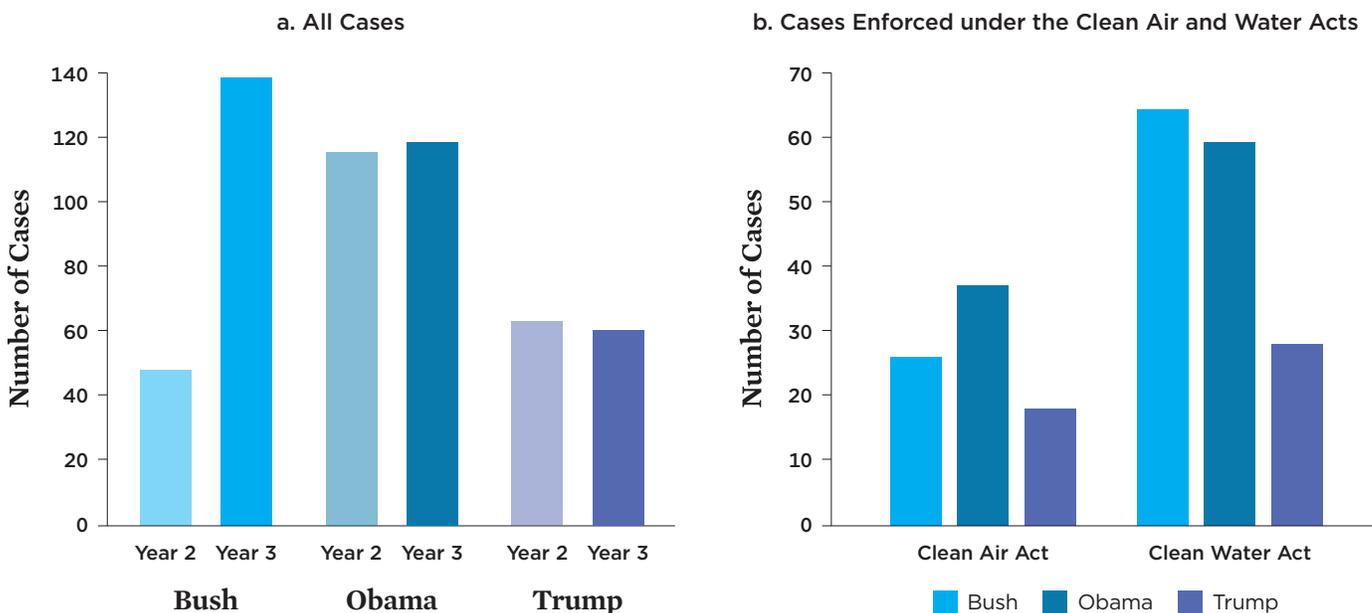
one environment crisis” (Hook and Stacey 2019). And several of the science-based safeguards being dismantled are being poorly enforced by the administration in the meantime—protections that keep our air breathable, our water drinkable, and our homes and workplaces safe from hazards. And it is the communities already facing environmental hazards that are bearing the brunt of these rollbacks.

Compounding the Cumulative Impacts of Air Pollution

Ignoring the science on air pollution and health, the Trump administration is enacting policies that will increase the health risks from air pollution already faced by marginalized communities, especially those at the fenceline of (or immediately adjacent to) industrial pollution sources.

Air pollution is a serious public health threat that can damage every organ in the human body, leading to conditions like asthma, heart attacks, cancer, and premature death (Landrigan et al. 2018; Carrington 2019). Communities of color,

FIGURE 1. EPA Criminal Enforcement Cases that were Concluded in the Second and Third Year of the Past Three Presidential Administrations



The prosecution of entities violating environmental laws has decreased under the Trump administration as compared with the Bush and Obama administrations. Criminal prosecutions that resulted from environmental investigations were examined in the second and third fiscal year of presidency; the first year was not included to avoid overlap with the prior administration.

Note: Years 2 and 3 of George W. Bush’s presidency correspond to 2002 and 2003; for Barack Obama, 2010 and 2011; for Donald Trump, 2018 and 2019. All years are fiscal years (October 1 to September 30).

SOURCES: EPA 2019f.

Indigenous communities, and low-income communities have been shown to suffer disproportionately from exposure to air pollution and its damaging health effects. These disparities in air pollution exposure and negative health outcomes are the result of generations of systemic racism and the cumulative impact of air pollution from multiple sources near communities of color. White and affluent communities have influenced patterns of development that provide benefits primarily for their own communities (for instance, the building of a freeway, but not in their backyard) (Grineski, Bolin, and Boone 2007).

The burden then falls on other communities that live with the increased air pollution from these sources (see Box 1).

Air pollution from traffic is one source of these unequal impacts. A 2017 study found that race, far more than income level, was the strongest predictor in the United States of exposure to nitrogen dioxide, a transportation-related pollutant that can lead to coughing, wheezing, and asthma exacerbations (Milman 2017). On average, Black individuals in California are exposed to fine particulate matter air pollution from cars, trucks, and buses at rates 43 percent more than white Californians

BOX 1.

Communities Take Action on Cancer-Causing Gas Emissions, Despite the EPA's Delayed and Selective Response

Co-produced with Diana Burdette of Clean Power Lake County

Air pollution from industrial facilities plagues fenceline communities across the country, contributing to the rise of chronic health problems in adults and children. One chemical, ethylene oxide, has been the focus of resident activism in recent years, especially since 2016 when the EPA's Integrated Risk Information System classified ethylene oxide as "carcinogenic to humans' by the inhalation route of exposure" (NCEA 2016). More than 100 communities across the United States are exposed to ethylene oxide concentrations above the level the Integrated Risk Information System deems safe (Reed 2019a). Data released by the EPA's National Air Toxics Assessment in 2018 revealed that long-term exposure to ethylene oxide is significantly contributing to higher cancer rates in some of the areas located close to facilities that emit the chemical (EPA 2018c).

Despite these risks to human health, the EPA has largely failed to ensure that companies keep ethylene oxide emissions at a safe level. The community of Willowbrook, Illinois, an affluent neighborhood located near Chicago, ran a successful campaign to shut down a plant emitting unsafe levels of ethylene oxide, which resulted in a 90 percent drop in ethylene oxide levels (Reed 2019a). During the campaign, high-ranking EPA officials met with community members of Willowbrook, and the EPA created a website to address residents' concerns (Lerner 2019).

However, the EPA has often paid far less attention to communities of color and low-income communities, in

some cases not visiting the communities and not informing residents of their exposure to the cancer-causing gas (Lerner 2019). One of these areas is Lake County, Illinois, a majority low-income community, with a large number of Spanish speakers and people of color, located 40 miles north of Willowbrook. Clean Power Lake County, a community-driven coalition committed to local action to secure environmental, economic, and racial justice, is still fighting to find solutions to their community's health and safety issues, including ethylene oxide emissions from the nearby Medline Industries plant (CPLC 2019a; Hawthorne 2018). The group has organized its residents to stand up to the EPA without support or resources from outside organizations. Representatives of the community traveled to Washington, DC, to testify at the EPA's meeting on hydrochloric acid, "urg[ing] EPA to follow its mandate to protect human health and the environment" (CPLC 2019b). (Many facilities that produce hydrochloric acid also emit ethylene oxide [Reed 2019a].) In contrast to the town hall the EPA held at Willowbrook, the EPA has refused to come to Lake County to brief residents on ethylene oxide issues. The experience of Lake County residents is representative of the experiences of low-income communities and communities of color around the United States that are disproportionately affected by pollution from facilities producing hydrochloric acid and ethylene oxide (CPLC 2019b).



trekandshooof/Stockphoto

The 110 freeway cuts through the predominantly Latinx and Black communities of Central Los Angeles, exposing residents to disproportionate amounts of particulate air pollution as compared to white residents.

(Reichmuth 2019). The discrepancy is even more stark in the Northeast and mid-Atlantic, where communities of color breathe on average 66 percent more fine particulate matter originating from vehicles than white communities, and for Latinx individuals, 75 percent more on average (UCS 2019d).

Communities of color, Indigenous communities, and low-income communities also face disproportionate impacts of air pollution from industrial sources. Hazardous air pollutants, a category of proven or likely carcinogenic pollutants, are emitted from industrial facilities that tend to be located near Indigenous communities, low-income communities and communities of color (EPA 2019h; Goldman 2018b; Linder, Marko, and Sexton 2008; Chakraborty 2012), with the worst polluters far more likely to choose locations near marginalized communities (Collins, Munoz, and Jaja 2016; Erickson 2016). EPA data from

2018 show that Black individuals, as compared with the overall population, are up to 54 percent more likely to live near particulate matter-emitting facilities (Mikati et al. 2018). And that proximity has health implications (see Box 2, page 8).

Hazardous air pollutants are emitted from industrial facilities that tend to be located near marginalized communities.

BOX 2.

Marginalized Communities Have Faced Serious Threats from Air Pollution for Decades

Air pollution originating from industrial facilities has an adverse effect on the health and wellbeing of nearby communities, which tend to have higher proportions of people of color. Scientific findings show that people of color have a disproportionately higher rate of exposure to environmental hazards than white people, and this inequity helped launch the environmental justice movement in the 1980s (Beretta 2012). Over the years, it has spurred a wide range of legislation and regulations designed to recognize and address environmental health inequalities. While the Trump administration’s attacks on science have severely hampered the ability of decisionmakers to provide evidence-based policies that protect environmental justice communities, it is important to remember that communities have been burdened by health hazards from industrial pollution long before the Trump administration (UCS 2019a).

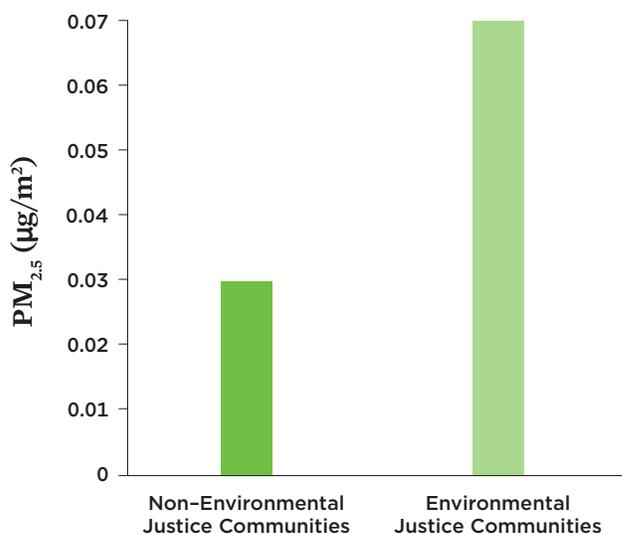
One of the major sources of industrial air pollution is power plants. In the United States, they are a major emitter of hazardous air pollutants including mercury, sulfur dioxide, acid gases, nitrogen dioxide, and arsenic (NACAA 2019b). Additionally, power plants emit fine-particle pollution, which is especially dangerous because it can enter deep into the lungs and bloodstream (NACAA 2019a). Fine-particle air pollution is linked to a wide variety of adverse health effects including increasing the incidence of lung cancer, worsening the symptoms of asthma, and putting heart disease sufferers at greater risk of heart attack (CDC 2019a). Neighborhoods near power plants that experience this pollution tend to be communities of color, low-income communities, and Indigenous communities, resulting in serious environmental justice issues (Geiling 2017; Sadasivam 2015).

Environmental justice communities are often located closer to power plants than other communities. For example, in the present analysis, we found that 40 percent of communities of color and low-income communities were located within three miles of a power plant facility known to emit particulate matter 2.5 micrometers or smaller ($PM_{2.5}$), while only 20 percent of non-environmental justice communities live within the same distance. Not only are environmental justice communities located closer

to these facilities, but the average concentrations of $PM_{2.5}$ are significantly higher near such communities (Figure 2).

Instead of moving forward with policies that would help protect communities and address this health disparity,

FIGURE 2. Fine Particulate Matter in Northeast Communities Within Five Miles of a Power Plant



The primary dispersion of the mean annual daily 24-hour $PM_{2.5}$ concentrations in census tracts within five miles of natural gas- and coal-fired power plants in the northeastern United States shows inequities in exposure to particulate matter. Average modeled $PM_{2.5}$ concentrations are higher in environmental justice census tracts compared with non-environmental justice census tracts. The difference in average concentrations is statistically significant at the significance level $\alpha=0.05$, with a p -value $< 2.2e-16$, and 6,176 degrees of freedom.

Note: $PM_{2.5}$ concentrations were measured within five miles of a power plant over 24-hour period, and a yearly average was determined. Using these yearly averages, an average was obtained over a five-year period (2011 to 2015) and was used to compare across states and community type. A community was defined as an environmental justice community if, within a census tract, the community had a higher percentage of people of color (people who self-identified on the 2010 census as Black, Indigenous, Latinx, or Asian) and a higher percentage of low-income individuals (individuals with incomes below the federal poverty threshold). A more detailed explanation of the methodology can be found in the appendix.

SOURCES: US CENSUS BUREAU 2014, EIA 2017

Marginalized Communities Have Faced Serious Threats from Air Pollution for Decades

the Trump administration has chipped away at public health safeguards that could have improved the environment of fenceline communities. Among the many rollbacks overseen by the administration, the repeal of the Clean Power Plan means that communities will not see reductions in heart attacks and other beneficial health effects that would have resulted from the policy's required emissions reductions (HCSPH 2016). Moreover, the administration's replacement for the Clean Power Plan, the Affordable Clean Energy rule, is expected to result in more pollution and more adverse health effects (McNamara 2018). Just as progress was being made to improve the health and safety of fenceline communities, the Trump administration has rolled back needed protections.

Other Trump administration steps could also increase particulate-matter pollution and its health effects. EPA officials are upending the agency's long-standing process for setting the National Ambient Air Quality Standards by diminishing the impact of human health data in the decision (Bade 2018). For the current review of standards for particulate matter, this could mean that a standard for an air pollutant that causes serious harm to human health—that is known to cause premature death—could be guided primarily by costs to industry. Emissions of other air pollutants from large industrial facilities are also likely to increase with the rollback of the EPA's "once in, always in" rule, which required that all major polluters that had violated the air standards to always enact stringent pollution controls (UCS 2019c).

ROLLING BACK AIR POLLUTION PROTECTIONS FOR FENCELINE COMMUNITIES

These disparities existed before the Trump administration came to power, but the administration's actions have exacerbated unequal pollution burdens, especially for fenceline communities. In January 2018, the EPA rolled back a policy known as "once in, always in," which required major sources of hazardous air pollutants to reduce their emissions through stringent pollution controls known as maximum achievable control technology (UCS 2019c). As a result of the rollback (which may become permanent under a proposed rule), at least 21 states could see a rise in hazardous air pollution (Bothwell 2019). Areas with a higher clustering of industrial facilities are particularly vulnerable to this form of air pollution, such as the region between Baton Rouge and New Orleans (known as "Cancer Alley"), Chicago, Houston, New York-Newark urban area, and Philadelphia (UCS 2019c; Shamlian 2019).

Fenceline communities are also expected to be especially harmed by the EPA's proposed rollback of the Mercury and Air Toxics Standards, a policy designed to limit mercury emissions from coal-burning and oil-burning power plants (Irfan 2018). Mercury is a highly potent neurotoxin that can cause significant harm to the developing brain, making it particularly harmful to pregnant women, their fetuses, and children in fenceline communities (Hardin, Ahmed, and Novoa 2018). The Mercury and Air Toxics Standards are estimated to prevent 11,000

premature deaths and 100,000 asthma and heart attacks every year in the United States (EPA 2015). But the agency now asserts that it is no longer "appropriate and necessary" to regulate mercury from power plants (EPA 2018b). Worse yet, the agency is attempting to cease considering the co-benefits associated with the regulation of mercury emissions, such as the reduction of deaths associated with reduced levels of particulate matter (Rest 2019). This change would be highly problematic for the EPA's ability to meet its mission of protecting public health, as it will devalue the scientifically backed health benefits experienced by fenceline communities when mercury emissions from power plants are regulated (Jackson 2019). Because consideration of these benefits often drives the cost-benefit assessment in EPA rulemaking, this change in calculations would make it harder for the EPA to protect environmental justice communities in the future.

The EPA is attempting to make a similar change to the Affordable Clean Energy rule, a proposed rule that would likely increase air pollution, resulting in harm to the public's health (Irfan 2019). EPA Administrator Wheeler asserts that this new rule would have the benefits of reducing particulate matter levels at power plants and none of the costs associated with its predecessor (Chemnick and Farah 2019). However, when an earlier draft of the Affordable Clean Energy rule showed that replacing the Obama-era rule could lead to 1,400 additional premature deaths every year due to particulate matter pollution,

the final version of the rule changed the mathematical calculation to eliminate this result (Chemnick 2019; Chemnick and Farah 2019). And since low-income communities, Indigenous communities, and communities of color are more likely to be located in the vicinity of power plants—which science strongly suggests leads to premature deaths elicited by particulate matter pollution (see Box 2)—the effects of the EPA’s attempts to hide the severe harms to health will fall disproportionately on communities (Geiling 2017).

Other measures carried out by the Trump administration make it easier for industrial sources to emit more air pollution, erode protections against the air pollution faced by fenceline communities, or even prevent communities’ knowledge of these risks. An executive order by President Trump limits what air monitoring information can be used in EPA decisions to determine what areas need improvements in air quality. Specifically, the agency is no longer allowed to rely on air quality data from models or satellites (Goldman 2018a). This is problematic since the EPA is not able to install air monitoring

devices in every part of the United States. Therefore, this order makes it difficult to ensure that people are protected from industrial emissions.

In 20 states, mostly located on the east coast, the EPA is allowing industrial facilities to downgrade from the gold standard of air pollution monitors for nitrogen dioxide, thereby lowering the quality and accuracy of the data that could be used to protect fenceline communities (Desikan 2019). Additionally, the EPA released a memo that weakened the standards, known as the National Ambient Air Quality Standards, that govern smog-causing pollutants such as ground-level ozone and nitrogen dioxide. When setting the National Ambient Air Quality Standards, instead of considering only the health effects, as required under the Clean Air Act (passed with bipartisan support in 1963), the EPA is forcing the additional consideration of “social, economic, or energy effects” (Bade 2018). This means that, when setting pollution standards, costs to industry could be considered as important a criterion as harms to health.



Known to the locals as “Cancer Alley,” more than 100 petrochemical plants are congregated and emitting air pollution in a region along the Mississippi River between Baton Rouge and New Orleans. This is likely contributing to the higher-than-normal rates of cancer in the area. Pictured is Holy Rosary Cemetery, in Hanhnville, Louisiana.

Communities Surrounded by Dangerous Chemicals

Concerns about chemical pollution, specifically of toxic waste being dumped near a community without the community's say or even its knowledge, helped form the basis of the US environmental movement. In the 1960s and 1970s, egregious acts of chemical pollution were occurring across the nation: Ohio's Cuyahoga River caught fire, New York's Love Canal community was found to be sitting on top of 21,000 tons of toxic industrial waste, and Missouri's Times Beach town had to eventually be abandoned due to contamination from a toxin found in Agent Orange (Rotman 2010; Cruz 2010; Eschner 2017). Egregious acts occurred in environmental justice communities, leading to pivotal moments like Martin Luther King Jr. leading Black sanitation workers in Memphis to strike; residents of Warren County, North Carolina, protesting the illegal dumping of polychlorinated biphenyls (PCBs) in the predominantly Black county; and Cesar Chavez and the United Farm Workers organizing a boycott of grapes in response to the industry's refusal to control pesticide use (Bullard et al. 2014). These examples of environmental insults, where scientific evidence showed indisputable evidence that pollution was harming people, served as a rallying cry that led to passage of the Clean Air Act of 1963 and the Clean Water Act of 1972 and the formation of the EPA in 1970. And with the formation of these public health protections, people gave Congress and the federal government a mandate: listen to the science and do not allow another community to become a toxic waste dump.

FAILING TO ENSURE THE SAFE STORAGE OF HAZARDOUS CHEMICALS

Science-based landmark laws are not working for all communities, and they are being further undermined by the current administration. Communities of color, low-income communities, and Indigenous communities are far more likely to be located near an industrial facility, which increases their risk of exposure to harmful chemical substances (UCS 2016; White et al. 2017; Hoover et al. 2012). The greatest disparities occur for low-income children of color (Starbuck 2016). Compared with white children living above the poverty line, low-income Black children are twice as likely to live near industrial facilities that emit hazardous chemicals; low-income Latinx children are two and one-half times more likely. Under the Trump administration the EPA delayed implementing and attempted to repeal the Risk Management Program, a regulatory mechanism that was intended to ensure the safety and security of more than 12,000 facilities that use or store hazardous chemicals nationwide (Johnson 2018). The Risk Management Program rule required training to improve safety at chemical facilities



Demonstrators rally following a spill of 82,000 tons of coal ash from Dan River Power Plant in 2014. Coal ash contains chemicals like arsenic, lead, and mercury and it can readily contaminate the groundwater, placing nearby residents, especially within marginalized communities, at risk of cancer, low birth weight, and premature death.

and provide more accessibility to critical information for first responders, frontline communities, and the broader public. In August 2018, a federal court ordered the EPA to implement the rule, but during the delay (from March 2017 to September 2018), 73 incidents occurred at chemical facilities that would have been covered by the rule—including explosions, fires, and floods that spewed large amounts of toxic material into residential communities (Earthjustice 2018).

One example of substantial chemical pollution occurring today is from the disposal of coal ash from coal-fired power plants. Coal ash is a waste product littered with toxic substances, including arsenic, lead, and mercury, and is associated with a variety of detrimental health effects including cancer, low birth weight, and premature death (Herbolsheimer 2017). Ninety-one percent of coal-fired power plants are contaminating groundwater at levels that exceed federal safety standards, and these power plants are disproportionately located near low-income communities, Indigenous communities, and communities of color (Earthjustice 2019a; Sturgis 2012). The EPA under the Trump administration has exacerbated this disparity by relaxing a 2015 rule governing the disposal of coal ash and cutting back on the agency's ability to monitor groundwater contamination (Cama 2018). States as well as the EPA can now waive requirements for industry to monitor groundwater in certain circumstances, and the agency eased the acceptable pollution standards in groundwater for four dangerous chemicals associated with coal ash (cobalt, lithium, molybdenum, and lead).



Ed/Creative Commons (Flickr)

Farmworkers and agricultural communities, predominately Latinx people, are more highly exposed to the pesticide chlorpyrifos, therefore facing higher health risks. The EPA under the Trump administration has refused to ban chlorpyrifos despite the strong scientific evidence showing that the pesticide can hinder the normal development of children's brains.

ABANDONING COMMUNITIES TO THE TOXIC THREATS OF MINING OPERATIONS

Similarly, the administration is failing to help communities burdened with chemical pollution from abandoned hardrock mines (such as silver, lead, and gold), the majority of which are located on tribal land. In the western United States, approximately one in five uranium mines is located within six miles of tribal land, with more than 75 percent of uranium mines located within 50 miles of tribal lands. Indigenous communities are particularly impacted by toxins from mines. For example, there is evidence that Indigenous groups living near abandoned uranium mines face an increased risk of developing kidney disease and hypertension (Lewis, Hoover, and Mackenzie 2017). Yet the EPA ignored such evidence and rescinded a proposed rule to prevent this type of pollution by requiring hardrock mining companies to demonstrate financial assurances that they will clean up a mining site once mining operations have concluded (Cama 2017).

REFUSING TO BAN A PESTICIDE THAT HARMS CHILDREN'S BRAINS

The administration's failure to follow the science and ban the harmful pesticide chlorpyrifos will have disproportionate impacts on farmworkers and people living near industrial agriculture operations. Decades of scientific evidence have shown that exposure to chlorpyrifos, even at low doses, can inhibit the normal development of children's brains, beginning in the

womb, resulting in a higher risk of lowered IQ or autism (Hertz-Picciotto et al. 2018; Hyland and Laribi 2017; Rauh 2018; Gunier 2017; Lan et al. 2017). The EPA banned its use in homes in 2000, and in October 2015 the agency proposed a ban on farm use based on the advice of scientists both in and outside of the agency (EPA 2019b). However, in March 2017 the EPA scrapped the rule altogether, claiming inaccurately that "the science addressing neurodevelopmental effects remains unresolved" (EPA 2017c). Agricultural communities, many of which are predominantly low-income Latinx and migrant workers, bear the brunt of the harms of chlorpyrifos exposure. In some agricultural communities, the level of pesticide biomarkers in the urine of pregnant women is actually higher than prior to the EPA's indoor residential ban, providing evidence that the agency's current actions are failing to protect the women and children in impacted communities (Rauh 2018). In August 2018, a federal court ordered the EPA to finalize its proposed ban on chlorpyrifos, and, despite the EPA's appeal on a technical ground, in April 2019 a federal appeals court ordered that the EPA finalize its ban (Reed 2018; Cama 2018; Chase-Lubitz 2019). In response, the EPA falsely claimed in July 2019 that there were not enough data to demonstrate that the pesticide is unsafe (Beitsch and Green 2019). The issue of chlorpyrifos has been taken up by environmental justice groups, which has led to successes at the state-level, with Hawaii, California, and New York officially banning it, and Oregon, New Jersey, and Connecticut attempting to do the same (Alvarez Noli 2019; Brady and Eilperin 2019; Earthjustice 2019b).

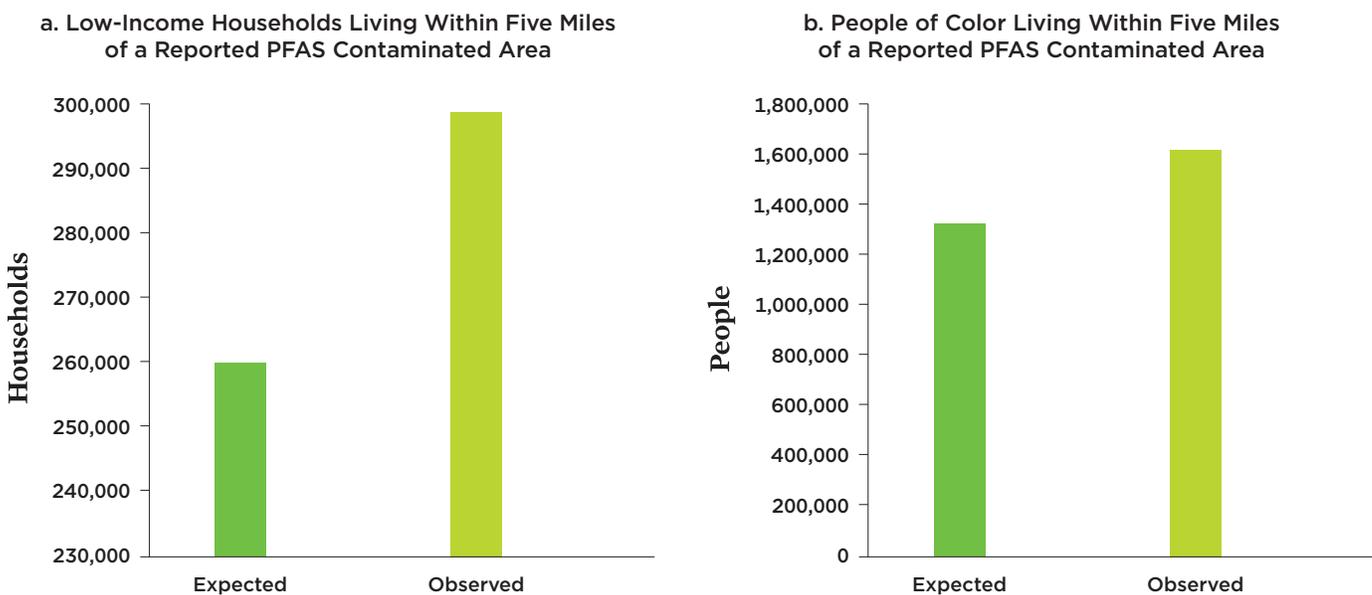
EXPOSING DISENFRANCHISED COMMUNITIES TO ENDOCRINE-DISRUPTING CHEMICALS IN THE DRINKING WATER

Low-income communities, Indigenous communities, and communities of color may face increased contamination risks from an endocrine-disrupting class of chemicals known as PFAS (polyfluoroalkyl and perfluoroalkyl substances). PFAS are manufactured chemicals that were once used in Teflon cookware and Scotchgard fabric protector and continue to be used in firefighting foams at military bases (UCS 2018). They have been linked to a wide variety of health problems, such as an increased risk of cancer, disruptions to normal cognitive development in children, and a weakened immune system (ATSDR 2019). PFAS contamination is remarkably widespread in our nation’s drinking water and groundwater, sometimes at high concentrations. In the scientific literature, groundwater and drinking water contaminated with PFAS have been previously shown to be widespread at military sites, airports, industrial sites, and wastewater treatment plants—facilities near which low-income communities are disproportionately located (Hu et al. 2016; Blum to New Jersey Drinking Water Quality

Institute 2016). However, the extent of this contamination is likely far worse than previously expected (UCS 2018). A report by the Centers for Disease Control and Prevention’s Agency for Toxic Substances and Disease Registry found that the EPA’s non-binding health advisory levels for PFAS are 7 to 10 times too high to estimate the actual health-related risks that occur with exposure. The report was initially buried by the White House for being a “public relations nightmare.” The report was eventually released, but only due to public outcry when the Union of Concerned Scientists obtained documents through a Freedom of Information Act request in May 2018 that showed evidence of the report’s suppression (ATSDR 2018; Halpern 2018).

Setting the appropriate standards for PFAS is especially important for low-income communities and communities of color, as they are more likely to live near PFAS-contaminated areas (Figure 3). Nearly 40,000 more low-income households and approximately 300,000 more people of color live within five miles of a site contaminated with PFAS than expected based on US census data. In a state-specific analysis of Michigan, which has the most thorough PFAS testing in the nation, these

FIGURE 3. Number of Low-Income Households and People of Color Living Within Five Miles of a Reported PFAS Contaminated Area



We observed 38,962 more low-income households (A) and 294,591 more people of color (B) living within five miles of a site contaminated with PFAS than expected based on US census data. PFAS contamination occurs across the United States, and higher exposures are more likely to occur in communities of color and low-income communities.

Note: Residential location was considered as a proxy for PFAS exposure. A more detailed explanation of the methodology can be found in the appendix.

SOURCES: SSEHRI 2019; ACS 2017.



Jennifer Sharp/iStock

New evidence suggests that the water sources in low-income communities and communities of color are disproportionately contaminated with PFAS. PFAS are a group of industrially-manufactured chemicals that have contaminated numerous ground and surface water sites across the United States, including drinking water sources. Higher exposures in marginalized communities will likely increase the risk of PFAS-related health effects, such as cancer, cognitive irregularities in children, and weakened immune systems.

inequities were exacerbated (see appendix), with 36,170 more low-income households and 134,488 more people of color living within five miles of a PFAS-contaminated site than expected based on US census data. Because PFAS are not regulated under the Safe Drinking Water Act and no comprehensive monitoring is required by law, it is currently impossible to know the extent of PFAS contamination and which communities are affected for every state. But there is no reason to believe that Michigan is an exception.

The EPA and the Department of Defense have largely failed to take strong enough action to protect impacted communities from legacy and new sources of PFAS contamination. Because PFAS are not designated as a hazardous waste, the EPA is not required to prioritize and remediate PFAS-contaminated Superfund sites and force polluters to pay for cleanup. Likewise, the Department of Defense is stalling on cleaning up contaminated military sites. The long-awaited PFAS Action plan issued by the EPA in February 2019 offered few concrete regulatory changes and was criticized by impacted communities as being too little, too late (EPA 2019a). As the Trump administration stalls on instituting safeguards to protect us from PFAS, communities near military and industrial sites bear the financial burden of paying for improved filtration of their drinking water and for the medical bills of any associated health impacts.

Failing Our Nation's Workforce

Worker protections are also being undermined by the Trump administration, with low-income workers, Indigenous workers, and workers of color likely to be especially impacted. Under federal law, employers are required to maintain a workplace that is free from recognized hazards that are causing or likely to cause death or serious physical harm. This type of work environment is particularly important for low-income workers, Indigenous workers, and workers of color, as several of the most common low-income professions have some of the highest numbers of work-related injuries and illness, a health disparity at least partly explained by unsafe and unhealthy working conditions (Baron et al. 2014; d'Errico et al. 2007). According to a recent study, jobs with the highest work-related risk of injury are disproportionately held by Black and foreign-born Latinx workers, which is associated with an elevated level of work-related disabilities (Seabury, Terp, and Boden 2017). Indigenous workers are 42 percent more likely to be employed in a high-risk occupation than are white workers (CDC 2019b).

Scientific evidence informing policies designed to prevent workplace injury is being sidelined under the Trump administration. Since 2017, enforcement activity at the Occupational and Safety Health Administration has been in a steady decline, and the agency currently has the lowest number of health and safety inspectors in its 48-year history. The reduction in enforcement is largely driven by cutbacks in inspections dedicated to issues like musculoskeletal disorders, heat-related illness, exposure to dangerous chemicals, and explosions caused by combustible dust. Concurrently, the number of workplaces reporting work-related deaths or catastrophes (defined as more than three workers hospitalized) is at the highest level seen in a decade (Berkowitz 2019).

Jobs with the highest work-related risk of injury are disproportionately held by Black and foreign-born Latinx workers.

One group at high risk for injury while on the job are poultry workers (UCS 2019i). According to research done by the Occupational Safety and Health Administration, poultry workers suffer serious injuries at almost twice the rate of the average of all private industries and are more than six times more likely to have a work-related illness as compared with workers in any



U.S. GAO/Creative Commons (Flickr)

Poultry workers, many of whom are foreign-born people of color, cut and trim chicken as they move along a line. The Department of Agriculture granted the ability of some poultry plants to increase their line speeds, an activity that is well known to increase the risk of workers sustaining on-the-job injuries.

other industry in the United States (Galassi to Dougherty 2015). However, in September 2018, the US Department of Agriculture announced that it will allow some poultry plants to increase their line speeds under a waiver system, despite thousands of public comments on a previous proposal expressing concerns over worker safety and the body of scientific evidence strongly suggesting that the poultry workers are at a high risk of developing upper extremity musculoskeletal disorders at the proposed speeds (FSIS 2018; Erwin 2018; Cartwright et al. 2014; Cartwright et al. 2012; Musolin et al. 2014). The Occupational Safety and Health Administration has long recognized that line speeds at poultry plants represent an “ergonomic hazard” for workers, even stating in guidelines from 1993 that high line speeds pose a risk to workers and should be modified to protect them (Reich and Dear 1993). Poultry workers represent a vulnerable demographic, with 29 percent of workers being foreign-born, non-US citizens (three times higher than the manufacturing sector overall) (GAO 2016). These workers are routinely denied adequate bathroom breaks, face staggeringly low wages, and have much to fear and little incentive to speak up about hazardous working conditions (Oxfam America 2016; Grabell 2017; GAO 2017b).

The Trump administration also ignored scientific evidence on worker safety in March 2019 by implementing only a partial ban on methylene chloride, a dangerous and volatile, colorless solvent that is frequently used for tasks such as paint and coating removal (OSHA and NIOSH 2013). The EPA’s partial ban addresses consumer products but ignores the dangers this chemical poses for workers (S+H 2019). Exposure to the chemical resulted in 83 deaths between 1980 and 2018, of which 87 percent were workers on the job (Rayasam et al. 2019). The EPA noted that 32,600 workers are exposed to methylene chloride every year during paint and coating removal activities (EPA 2017d). This is an about-face for the EPA, which proposed a total ban on methylene chloride based on the health risks for workers in January 2017. At that time, the EPA identified serious risks for workers, including a risk of several cancers following chronic exposure and “incapacitation, coma, or death in workers” with acute exposure. Under high exposure scenarios, these risks were present even when a worker wore respiratory protection. Additionally, the EPA concluded in 2017 that exposure to methylene chloride was likely a health inequity issue, as Latinx and foreign-born workers are both overrepresented in the construction trade.

Undermining Programs Designed to Help Underserved Communities

The federal government has numerous programs designed to address inequities around health and prosperity outcomes—from lifting communities’ voices in policy decisions to providing food security—and many of these programs serve low-income communities, Indigenous communities, and communities of color. The need for these programs is often grounded in science, but the Trump administration has failed to consider or has ignored such scientific evidence in decisions concerning these programs (Badger 2014).

One prominent example of underserved communities being disproportionately affected by the sidelining of science is the Trump administration’s unrelenting attacks on climate science: from White House actions to bar the presentation of climate science in congressional testimony to the US Geological Survey’s director restricting the types of climate models that scientists are allowed to use in research such that some of the most serious repercussions of climate change will not be investigated (UCS 2019e; UCS 2019g). The most serious climate impacts will be made all the more likely if we continue along our current emissions path. By failing to make deep cuts in emissions, the Trump administration is undermining one of the most important ways to limit the effects of climate change and its impacts on communities. These attacks on climate science hamper federal agencies’ ability to enact programs that mitigate the impacts of climate change on marginalized communities, especially those disproportionately exposed to risks. Low-income communities, communities of color, and Indigenous communities are disproportionately represented among the hardest hit areas and the areas less able to cope with the impacts of climate change (USCRT 2019; Rysavy and Floyd 2019; Blatchford 2018; Dahl et al. 2018). For example, a recent UCS report, *Killer Heat in the United States*, showed that climate change is projected to

The most serious climate impacts will be made all the more likely if we continue along our current emissions path.

drive more frequent and more severe extreme heat events across the country and that low-income communities are expected to be particularly at risk of suffering heat-related illnesses, due to a lack of access to or ability to pay for air conditioning (Dahl et al. 2019). Additionally, pre-existing health conditions and a lack of shade may be more common in low-income urban areas, which also increases the risk of a heat-related illness.

Dismantling Programs that Protect Public Health

For decades, the federal government has invested in safety-net programs such as Medicaid and the Supplemental Nutrition Assistance Program (SNAP, often called food stamps) that provide some low-income families, communities of color, seniors, children, and people with disabilities with resources to help them feed their families and obtain health care. The scientific evidence shows that these programs are successful in lifting people out of poverty and meeting basic needs, especially for children, who show long-term positive effects from these programs in terms of health status, educational success, and future career outcomes. For example, the Economic Policy

Institute found that low-income assistance programs kept 47 million people out of poverty in 2017 (Schieder and Wolfe 2018). The SNAP program in particular has resulted in fewer sick days taken, fewer hospital visits, lower health care costs, and reduced risks of babies having low birth weight (Gregory and Deb 2015; Berkowitz et al. 2017; Almond, Hoynes, and Whitmore 2011).

WEAKENING PROGRAMS THAT PROVIDE NUTRITIOUS FOOD

Despite the clear evidence of these low-income assistance programs' success, the Trump administration has chosen to sideline many of them, to the detriment of the basic needs of millions of the country's most underserved people. Secretary of Agriculture Sonny Perdue has proposed critical cuts to the SNAP program that would severely impact needy families. A rule proposed in December 2018 would enact stricter enforcement of work requirements, decreasing the ability of states to suspend the time limits on finding a job in situations of high unemployment or low job availability (Reinhardt 2018a). Estimates suggest that more than 750,000 people could lose their SNAP benefits over the course of three years if the rule is enacted (Fessler 2019).

Informally known as the “public charge” rule, the Department of Homeland Security finalized a rule that gives the administration broad latitude to deny visas or green cards to immigrants who have ever—or even might ever—receive public assistance, including food, medical, and housing assistance. If immigrant families used SNAP benefits, this would count as a “negative factor” in visa and green-card applications, forcing these families to choose between putting dinner on the table and maintaining a path to citizenship (Blitzer 2018).

The regulation drew more than 266,000 public comments overwhelmingly in opposition (NLIHC 2019). As a result of this rule, participation in important safety net programs including Medicaid, SNAP, and public housing programs is likely to fall among immigrant families. The science suggests that this will undermine public health broadly and will put the health and wellbeing of immigrant children, in particular, at risk (Reinhardt 2018b).

If immigrant families used SNAP benefits, this would count as a “negative factor” in visa and green-card applications.

In addition to taking food off people's plates, the US Department of Agriculture is failing to consider the best-available science in a proposed rule that would make children's meals at school less healthy. In February 2019, the US Department of Agriculture finalized a rule that overhauls nutrition standards for school lunches, specifically, allowing schools to serve children flavored milk with higher amounts of sugar and fat, meals with excess salt, and fewer whole grains (FNS 2018). Weakening these standards that have helped improve the diets of millions of students nationwide will limit our ability to address the crisis of obesity and chronic disease risk in our nation's youth, particularly children from low-income communities, Indigenous communities, and communities of color (Fox and Gearan 2019; Belluck 2005; HHS and USDA 2015). The majority of students who receive either a free or a reduced-price lunch at public schools come from low-income families and are likely to identify as Latinx, African American, Native American, or Pacific Islander (NCES 2019). These students will be most impacted by the weakened nutritional standards for school lunches.

HAMPERING THE ABILITY TO OBTAIN SCIENTIFIC INFORMATION

The Trump administration is not only cutting back assistance programs for communities, it is also restricting their receipt of science-based information from experts. For instance, the administration is censoring medical doctors, prohibiting them from discussing reproductive health care science with low-income patients (UCS 2019f). A final rule issued by the Department of Health and Human Services eliminates the



KOMUnews/Creative Commons (Flickr)

Nutrition assistance programs have proven to increase food security and help lift people out of poverty, yet the Department of Agriculture has proposed critical cuts to these social safety nets. Slashing these benefits can lead underserved populations to rely more often on food banks for regular meals.



American Life League/Creative Commons (Flickr)

Low-income individuals often rely on Title X institutions such as Planned Parenthood for their medical needs. Under President Trump, the Department of Health and Human Services is limiting the services provided by Title X institutions, essentially censoring medical advice and reproductive health care for the low-income patients.

requirement that Title X clinics provide pregnancy counseling that includes a full discussion of reproductive health care options if requested by the patient (HHS 2019). Title X provides more than four million people of low income with access to affordable birth control and other reproductive health care services (Planned Parenthood 2019). Planned Parenthood is an important health provider of Title X services across the United States, and in 13 states, Planned Parenthood clinics were the site of care for 40 percent of women who obtained publicly funded contraceptives in 2015 (Sobel et al. 2018). In 21 percent of all counties across the country, a Title X facility is the only health care center providing publicly funded contraceptive care to women (Hasstedt 2019). This rule will shrink the network of available health care providers that offer family planning services for low-income people, especially in rural areas. Studies have shown that restricting women’s reproductive health care choices puts their health at risk, and this is especially true for low-income women (Lussenhop 2018).

The Trump administration has also hampered the ability of Alaskan Indigenous communities to safely hunt and fish in order to feed their families by dramatically decreasing very high frequency (VHF) radio services that provided scientific, up-to-date weather information to rural communities. In some

rural areas, VHF radio equipment is practically a necessity for people who hunt and fish, as it warns them of potentially dangerous weather conditions (Martinson 2018). According to the National Weather Service Employees Organization, the Trump administration has been reducing staffing, services, and operations in Alaska, and VHF weather forecasts were terminated in August 2017 (NWSEO 2018). This is particularly harmful to rural locations near Barrow and Kotzebue in Alaska where Indigenous hunters, exposed to potentially life-threatening weather conditions, use VHF extensively. The cut to services “endanger[s] the people of Alaska by compromising the mission of the National Weather Service to protect lives and property,” the employees wrote. And with climate change contributing to a rapid loss of sea ice in Alaska, the buffers that have served to protect communities from the impacts of severe storms are being further threatened (Martin 2018).

Sidelining Community Participation

The most disenfranchised communities in the United States continue to be under-represented at the policymaking table, even though they often are some of the most affected by government decisions (Lumumba Simms 2012). For example,

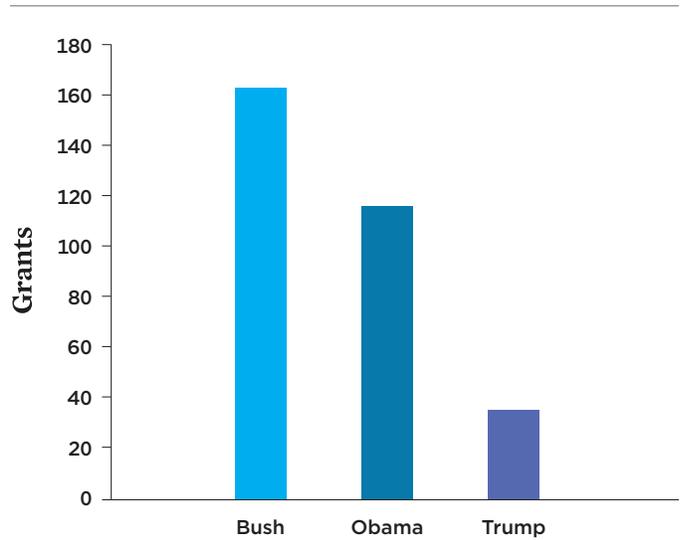
the Trump administration has attempted to sideline the work of the EPA's Office of Environmental Justice. Created in 1992, this office has worked to coordinate EPA efforts to address the needs of vulnerable populations by decreasing environmental burdens, increasing environmental benefits, and working collaboratively to build healthy, sustainable communities (EPA 2017b). Chief among its responsibilities, the Office of Environmental Justice ensures that safeguards for disenfranchised communities, such as the cleanup of toxic sites, are enforced; verifies that the voices of communities are incorporated into EPA decisions; and provides tools and resources that help promote these principles, such as EJSCREEN, the environmental justice mapping and screening tool (EPA 2018a). The office also awards small grants to community groups to help them develop solutions to local environmental and public health issues. Its small grant program has awarded more than \$26 million since 1994 to more than 1400 community-based organizations and local and tribal organizations that work with communities facing environmental justice issues (EPA 2019c). The grants fund a variety of projects, from education and training opportunities that reduce people's exposure to pollution and other dangerous substances, to cleaning up neighborhoods of environmental hazards and revitalizing the land with sustainable gardening (EPA 2016; EPA 2019d). However, during the first two years of the Trump administration, the number of small grants awarded has dropped by 70 percent compared with the Obama administration's first two years, and by 79 percent compared with the George W. Bush administration's first two years (Figure 4). This severe decrease in grants will hinder the ability of community groups to carry out projects that provide mental and physical health benefits to communities impacted by environmental justice concerns.

The most disenfranchised communities in the United States continue to be under-represented at the policymaking table.

STRIPPING ALASKAN NATIVES OF THEIR ABILITY TO INFLUENCE DECISIONS ABOUT THEIR LAND

The Trump administration also has silenced the voices of other groups on science-based policy decisions, such as those of Alaskan Natives. In April 2017, the Trump administration rescinded Executive Order (EO) 13754, which established a

FIGURE 4. The Number of EPA Environmental Justice Small Grants Issued by Three Administrations in their First Two Years



The EPA's Environmental Justice Small Grants Program supports communities facing environmental justice concerns. Community-based organizations are awarded up to \$30,000 to work on solutions to local environmental and public health issues. However, this grant program is being severely compromised under the Trump administration as compared with past administrations.

SOURCE: EPA 2019c.

plan for maintaining the resilience of the Bering Sea in light of the foreseeable effects of climate change (WHOPS 2016). The executive order had been heavily influenced by Alaskan Native groups, particularly the Bering Sea Elders Group, which petitioned the government to protect the Bering Sea ecosystem in 2016 (NCAI 2017). In a letter, the group criticized the Trump administration's decision to rescind EO 13754, saying that the most important piece of the order was the ability to have their voices heard through the decisionmaking process: "The key component of Order 13754 was the creation of the Bering Sea Intergovernmental Tribal Advisory Council. This Council gave us, local Alaskans who use the waters of the Bering Sea every day, a say in how the federal government managed those waters. Today, the President took that away . . ." (NARF 2017). The order included the use of the communities' traditional knowledge in decisions regarding the Bering Sea, a provision that also was included at the behest of Alaskan Natives (Subramanian 2010). The Trump administration rescinded EO 13754 without so much as contacting the Alaskan Native groups, the people on whose participation it was based and whose welfare it was designed to protect.



Coco Robitailleux/Alamy Stock Photo

Communities within floodplains of the Gulf Coast are at an increased risk of losing their homes. One conservation-based research program provided communities with more affordable flood insurance to protect them from flooding threats. However, the Trump administration is severely curtailing this federal research program, meaning that science-based protections centered on conservation and landscape impacts are less likely to benefit affected communities.

THWARTING CONSERVATION RESEARCH THAT ADDRESSES COMMUNITY CONCERNS

Federal research on conservation issues of community concerns is also being cut back. For example, the Trump administration is eliminating research centers called Landscape Conservation Cooperatives run by the Fish and Wildlife Service that address national and local concerns (e.g., climate change, flooding, wildfires) (Dunlevy 2019). The Trump administration has officially eliminated or put on indefinite hiatus 16 of the 22 research centers, despite the program funding being earmarked by Congress (Pickett 2019). The research of these centers often addressed community concerns. For example, one Landscape

Conservation Cooperative researched areas with high conservation value along the Gulf Coast that would be prone to flooding in the future, which helped communities vulnerable to flooding threats obtain more affordable flood insurance (DLCC 2017). Without continued federal support for these research centers, it is likely that communities will lose out on valuable research supporting their landscape conservation needs. According to a 2016 review by the National Academy of Sciences, Engineering, and Medicine, “no other federal program is designed to address landscape conservation needs at a national scale” (NASEM 2016).

Halting or Burying Data, Harming People Most at Risk

Across the government, federal agencies collect scientific data in order to anticipate, identify, and address public health and safety risks, evaluate policy effectiveness, and identify inequities in public services. But the Trump administration is halting this data collection in several areas, impeding agencies' efforts to protect the public in an equitable way.

Where there is no data, we cannot enact evidence-based policies. The result is policy decisions vulnerable to political influence and less accountable to the public interest. The impact of the administration's attempt to sideline the collection of scientific data is particularly felt by low-income communities, Indigenous communities, and communities of color. For example, many environmental justice groups use federal-level datasets on environmental risks, industrial emissions, and climate issues to examine inequities in health, social, and economic outcomes throughout the United States (Dillon et al. 2017).

The collection of and public access to robust scientific federal data are critical to environmental justice. The administration's attempt to stop these processes could destroy our ability to detect and understand the public health and safety challenges that communities are facing. This move is a serious reversal of the federal government's long history of collecting data essential for tracking the wellbeing of communities, the environment, and the economy.

Stopping Data Collection

Basic scientific research at US federal agencies has been an enduring feature of the American government since the post-World War II period, and federal data collection systems trace their roots back to the mid-19th century (Pielke 2010; NRC 2002). But this critical function of government is being stressed

under the Trump administration in many ways, including outright cessation of data collection efforts. This undermines public health and safety, as data and evidence are necessary to better manage vital public health and environmental functions.

The collection of and public access to robust scientific federal data are critical to environmental justice.

FAILING TO ASSESS HOW CHANGES TO MEDICAID WILL AFFECT PEOPLE'S HEALTH

One prominent example of the Trump administration's actions hindering our ability to understand and address communities' challenges was when the administration issued several approvals of state plans to implement a work requirement for Medicaid participants that failed to comply with the federal requirement of collecting data (UCS 2019h; Levey 2019). Not only does Medicaid provide substantial health benefits for low-income Americans, but it serves as a major source of health care for young adults of color, women of color, and children of color (Young Invincibles 2018; Planned Parenthood 2019; Wagnerman and Brooks 2017). Federal regulations issued in 2012 require the collection and analysis of specific kinds of data before the Centers for Medicare and Medicaid Services can approve a state's plans to modify Medicaid, since such policy changes can affect public health (CMS 2013a; CMS 2013b). Nevertheless,



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Medicaid is a major source of healthcare for low-income households and people—especially women and children—of color. In 2012, federal regulations were enacted to prevent states from modifying requirements to enroll in Medicaid without specific data collection and analysis, a rule designed to protect the health and insurance status of underserved communities. And yet, under the Trump administration, states have been allowed to implement work requirements without engaging in this research first.

all state requests to implement work requirements for Medicaid have been deemed “complete” under the Trump administration even if they did not fulfill the law’s requirements.

The Centers for Medicare and Medicaid Services failed to enforce data collection requirements in eight states that passed Medicaid work requirements, making it nearly impossible to assess whether improved health outcomes for Medicaid enrollees, which the agency described as the stated goal of the work requirement, occurred (CMS 2018). Since health policies require rigorous scientific evaluation in order to ensure that they are safe and effective, the Trump administration’s failure to enforce these evaluations is likely to leave many low-income Americans without health coverage.

ORDERING SCIENTISTS NOT TO COLLECT AIR POLLUTION DATA AFTER HURRICANE HARVEY

The Trump administration sidelined the collection of robust data by explicitly denying scientists at the National Aeronautics and Space Administration (NASA) the chance to collect data on the air pollution in Houston in the days following Hurricane Harvey’s landfall in 2017 (Rust and Sahagun 2019; UCS 2019b). In August, it was widely reported that the hurricane damaged industrial facilities, which in turn caused a large increase in the release of hazardous air pollutants such as the known cancer-causing pollutant benzene (Mufson 2017). NASA scientists offered the EPA and Texas authorities the ability to measure air pollutant levels over Houston using NASA’s DC-8 aircraft, considered the world’s most sophisticated method to measure air pollution (Gray 2018). Michael Honeycutt—then director of

the Toxicology Division of the Texas Commission on Environmental Quality and now chair of the EPA’s Science Advisory Board—rejected NASA’s proposal on the grounds that the data would cause “confusion” and might “overlap” with their own analysis showing that pollution levels were “well below levels of health concern” (Reed 2017b; EPA 2017a). The EPA agreed, deferring to Honeycutt’s judgment. The Houston air pollution data previously collected by the EPA and the state of Texas was based on ground measurements (mobile bus units and crews with hand-held devices) and a single-propeller plane that takes photos, uses infrared technology to detect chemical plumes, and can gather some basic chemistry from about 24 species of air-pollutant compounds. These data showed only a few, isolated spots of concern. However, NASA scientists say that the DC-8 aircraft would have provided a more comprehensive, detailed analysis of air quality in the region at that critical moment, thereby leading to a more thorough understanding of the situation (Rust and Sahagun 2019).

Low-income communities and communities of color are disproportionately affected by exposure to chemical pollution in Houston, and this was likely exacerbated in the aftermath of Hurricane Harvey (White et al. 2016; Mufson 2017) (Box 3, page 23). But because the EPA and Texas authorities explicitly declined the collection of data from NASA’s more sophisticated method of determining levels of toxic air pollutants, it will never be known whether more robust data would have led to a different conclusion. The collection of scientific data by NASA could have led to more evidence-based decisions that would have offered the needed protections for the health and safety of Houston residents, especially low-income communities and communities of color.



Associated Press

In Houston, low-income communities and communities of color are disproportionately affected by air pollution from petrochemical plants, a problem that was exasperated during Hurricane Harvey. The hurricane damaged places like the Arkema chemical plant (pictured above), leading to an explosion of toxic fumes into the air. The EPA and Texas authorities refused to allow NASA to use sophisticated technology to measure the air pollution and help impacted communities.

Communities Take Action on Chemical Facility Safety, Despite Delay Tactics by the Administration

Co-produced with Yvette Arellano of Texas Environmental Justice Advocacy Services (t.e.j.a.s.)

Communities at the fenceline of petrochemical facilities around Houston, Texas, have been working for cleaner air and water for years. Actions by the Trump administration, coupled with a significant increase in petrochemical feedstock plastic production and expansions along the Houston ship channel and the impacts of climate change, present new challenges that threaten communities' progress (DemocracyNow.org 2018).

Emergency management is one such challenge. In August 2017, Hurricane Harvey hit Houston and caused widespread flooding (Hayhoe et al. 2018). But the water was not the only risk to public health and safety. Chemical facilities suffered extensive damage and exposed Houston residents to a cesspool of hazardous chemicals. The Houston Valero refining facility released benzene, among other hazardous toxins, into the air when excessive rainfall damaged its roof. The Arkema plant in Crosby, Texas, released organic peroxides in an explosion after the floodwaters knocked out the power to the refrigeration units of temperature-sensitive chemicals, a scenario for which the facility was not prepared and which dramatically increased the communities' exposure to harmful chemicals (UCS 2017). With climate change contributing to accelerating sea level rise, intensifying storms, and increases in heavy rainfall, such scenarios are only going to become more common (Fleming et al. 2018; USGCRP 2018; Van Oldenborgh et al. 2017; Risser and Wehner 2017). Fenceline communities in Houston, the majority of whose residents are people of color and people who live in poverty, are already at risk of adverse health effects due to exposure to hazardous chemicals (White et al. 2016). Chemical facilities must be required to have clear emergency plans in place to prevent future storms from inundating communities with further chemical exposures.

Additionally, fenceline communities face risks from a lack of maintenance and oversight of many chemical plants. On March 17, 2019, a large chemical fire erupted at the Intercontinental Terminals Company and devastated several parts of the greater Houston area, closing six school districts and two charter school systems. It released cancer-causing benzene, toluene, xylene, 1-butene, 2-butene,

isoprene, isobutylene, 1,3-butadiene, acetone, and other chemicals as a heated air plume spread across the region measuring 47 miles long and 17 miles wide. Two weeks after the plume was controlled, however, the KMCO chemical plant in nearby Crosby erupted in flames, killing one person and injuring two others. This plant had a series of environmental violations dating back to 2012, including a failure to conduct certain required inspections (Arellano 2019). In addition to emergency plans, accident-prone facilities that pose dangers to human life must be held accountable for ensuring safety.

One rule, finalized by the Obama administration, could have prevented hundreds of residents from exposure to toxic chemicals in the aftermath of Hurricane Harvey and could have set in motion plans to address broader safety and maintenance concerns at these types of chemical plants. The EPA's Risk Management Plan rule identified the potential effects of a chemical accident, identified the steps a facility should take to prevent an accident, and spelled out emergency response procedures should an accident occur (EPA 2019e). However, the EPA under the Trump administration announced that it would delay implementation of this rule and later propose a new version that would reportedly delete "all preventative measures" from the rule, common-sense measures that first responders, industrial workers, and community members support and openly advocate for (Gutierrez 2019). Thus, risk assessment and emergency planning procedures that could have prevented some of the damage from Hurricane Harvey were not in place—and still are not—leaving Houston and other areas vulnerable to future storms.

Since long before Hurricane Harvey made landfall, Texas Environmental Justice Advocacy Services (t.e.j.a.s.) has advocated for citizens who live near such chemical facilities. From air monitoring to community education, they empower residents to learn about these facilities and the effects that they have on their health and safety (Gutierrez 2019; t.e.j.a.s. 2019a). The organization keeps communities updated about recent chemical accidents, an all-too-frequent occurrence, via social media and provides information on community monitoring of air quality and

BOX 3 (CONTINUED).

Communities Take Action on Chemical Facility Safety, Despite Delay Tactics by the Administration

Co-produced with Yvette Arellano of Texas Environmental Justice Advocacy Services (t.e.j.a.s.)

instructions about how to shelter-in-place (t.e.j.a.s. 2019b). t.e.j.a.s. partnered with the Union of Concerned Scientists on a report on the threats facing their neighborhoods and ways to strengthen laws that can protect them (White et al. 2016). A representative from t.e.j.a.s. offered testimony to Congress in favor of chemical safety measures included as part of the Chemical Facilities Anti-Terrorism Standards program, sharing the stories of their community and demanding better protections from accidents, especially in the face of EPA indifference (Arellano 2018). Change happens when movements center the voices of frontline communities, which can effectively pressure governments and companies to better protect the health and safety of not only their own communities, but similar communities across the nation.



Children of Manchester playing at Hartman Park in an environmental justice community in Houston, TX. Manchester sits on the banks of the Houston Ship Channel home to the largest petrochemical complex in the nation, surrounded by Valero Refining, Contanda Chemical, 26 lanes of rail carrying hazardous chemicals, Texas Port Recycling a metal scrapyard and beneath the 6-10 ship channel bridge.

NO LONGER RECORDING HARMFUL EMISSIONS FROM LARGE FARMS

The Trump administration is jeopardizing the health of low-income communities, Indigenous communities, and communities of color by halting the collection of air emissions data from animal waste on large farms (Held 2019). The animal waste contained in large industrial farms—especially CAFOs (concentrated animal feeding operations)—is of such a large volume that it fails to break down naturally and results in air emissions of more than 168 gases. Some of these gases are hazardous to human health, like ammonia and hydrogen sulfide. Prior to this cessation of data collection, local emergency responders could use these data to respond to dangerous spikes in the air pollution levels and help reduce community exposure to harmful gases. The data helped protect residents living near large farms emitting 100 pounds or more of ammonia or hydrogen sulfide per day into the air.

The people who live near a CAFO, predominantly those in rural communities, are known to experience negative health effects associated with CAFO emissions, such as elevated blood pressure, impaired mental health, and respiratory issues, including elevated levels of asthma in children (Wing, Avery Horton, and Rose 2013; Donham et al. 2007; Casey et al. 2015). It is also well documented that CAFOs are

disproportionately likely to be located near low-income communities, communities of color, and Indigenous communities, with the health impacts potentially compounded by CAFOs' malodorous emissions that result in decreased property values, lower quality of life, and a diminished ability to enjoy the outdoors (Nicole 2013; Wing and Johnston 2014; Donham et al. 2007). Prior to the administration's action to limit the reporting of hazardous waste emissions from farms, the EPA posted a draft of the new rule for public comment and received 87,473 comments, 99 percent of which were in opposition to the new rule (Held 2019). The Trump administration ignored these comments, as well as the scientific evidence, when it passed the rule to forego data collection on these air emissions that will negatively affect the health and wellbeing of low-income communities, Indigenous communities, and communities of color living near these large farms (Mufson 2017).

Halting and Burying Research

In addition to stopping data collection, the Trump administration is suppressing, halting, or burying studies whose findings could inform policies intended to safeguard the public. Low-income communities, Indigenous communities, and communities of color use scientific studies as evidence of

disproportionate health and safety burdens borne by their community members. The suppression of this research limits the ability of communities to advocate for change and the ability of decisionmakers to manage these burdens.

IMPEDING RESEARCH ON THE HEALTH EFFECTS OF COAL MINING ON NEARBY COMMUNITIES

While some previous administrations have also engaged in the halting or suppression of scientific research, the Trump administration's efforts to halt two studies by the National Academies of Sciences, Engineering, and Medicine may represent an unprecedented action by the federal government (Berman and Carter 2018). Established by President Lincoln, the National Academies are the nation's premier institutions for advising the federal government and the public on the state of scientific evidence concerning key scientific issues, including public health and the environment. Studies conducted by the National Academies are considered some of the most robust, independent, and comprehensive assessments in the world, and their results are often integral to the establishment of evidence-based policies by the federal government.

In August 2017, the Department of the Interior halted a National Academies study that it was funding to examine the potential relationship between increased health risks and living in proximity to mountaintop-removal mining sites in the Appalachian Mountains (Rosenberg 2017). The reason given by political officials for halting the study was a decision to review all studies being funded by the department that were in excess

Mountaintop-removal mining can contaminate drinking water sources.

of \$100,000 because of a “changing budget situation” (Owens to Eide 2017). However, only the National Academies study was halted (Fears 2018). The unspent money from the study will eventually revert back to the US Treasury (Fears 2018), providing no financial benefit to the agency.

Mountaintop-removal mining can send debris filled with heavy metals and other toxins raining down on nearby homes and waterways, but the health effects of this form of coal mining in nearby communities has not been scientifically assessed in a rigorous and comprehensive way (Fears 2018). This need prompted two West Virginian agencies to request a National Academies study. Mountaintop-removal coal mining is of great concern to low-income Appalachian communities situated near mining sites (OSMRE 2016; Zullig and Hendryx 2011). In February 2019, residents from affected communities in West Virginia and Kentucky testified before the House Natural Resource Committee, stating that the study should continue in order to provide answers to residents' concerns about air and water quality from coal mining operations (Young 2019). The residents told the House committee that until research examining the health effects associated with mountaintop removal coal mining is completed, regulatory agencies need to



Kate Wellington/Creative Commons (Flickr)

Mountaintop-removal mining, which occurs predominantly in low-income Appalachian areas, is of great concern to communities. This form of coal mining can cause toxic debris to rain down on nearby communities, contaminating the water and air, but the effects on health is less understood. In 2017, the Department of the Interior canceled a study that would have assessed the health effects of the toxic dust on nearby communities.

place a moratorium on mountaintop-removal mining to protect the health and safety of the nearby communities. To date, the study has not resumed.

HAMPERING THE EFFORTS TO STUDY SEX TRAFFICKING IN INDIGENOUS COMMUNITIES

Another study terminated by the Trump administration would have examined sex trafficking in Indigenous communities, set to become the first such federally funded research on a national scale (Pachelli 2019). The National Institute of Justice—the research, development, and evaluation agency of the Department of Justice—awarded funding for the study in late 2016. Despite providing assurances in March 2017 to the research team that the study could go ahead, one month later the study was terminated with little explanation beyond irreconcilable “administration issues.” The study would have provided a wealth of information for Indigenous groups, law enforcement, decisionmakers, scientists, and the public. According to the study description, the type of study design was specifically requested by leaders in Indigenous communities and would have been conducted with active participation from Indigenous groups and tribal coalitions from across the country. A network of more than 80 tribes had signed on to participate in the study (NIJ 2019; Pachelli 2019).

Another study terminated by the Trump administration would have examined sex trafficking in Indigenous communities.

A report on sex trafficking in Indigenous communities was needed because data collection on this issue remains scarce. Both the Government Accountability Office and the National Institute of Justice have provided some evidence that violence and trafficking is a major problem in Indigenous communities (GAO 2017a). For example, a report from the National Institute of Justice shows that 83.3 percent of Indigenous women have experienced violence in their lifetime (Rosay 2016). The Government Accountability Office criticized the Department of Justice and two other agencies on their lack of data collection on the human trafficking of Indigenous people in a report published in 2017 (GAO 2017a). Carrying out robust research on the issue, in coordination with Indigenous communities,

is necessary to create evidence-based approaches to tackle this problem.

HIDING EVIDENCE THAT A RULE WOULD HURT RESTAURANT SERVICE WORKERS

In another example, the Department of Labor was forced to bury a study that looked at the effects of a proposed rule that would allow employers to control service employees’ tip income (Rosenberg 2018). In late 2017, the Trump administration appeared set to carry out policies that benefited restaurant owners and managers at the expense of their service workers. Thirteen percent of tipped workers are in poverty compared with six percent of non-tipped workers (Allegretto and Cooper 2014). The administration proposed a rule to rescind a 2011 rule that had banned the controversial practice of “tip pooling,” the practice of some business owners to control employees’ tip money and distribute the money as they saw fit, which could include using the money customers leave for workers for other business purposes (Fu 2017). Economists at the Department of Labor analyzed the tip pooling proposal, finding that billions of dollars of employees’ tips could transfer to businesses as a result of the proposal. Political officials ordered the analysts to revise the data methodology to lessen the expected impact; however, even this revised analysis proved unsatisfactory to the Department of Labor officials, and they received permission from the White House’s Office of Management and Budget to publish the proposed rule without the economic analysis (DLR 2018).

BURYING A STUDY SHOWING POSITIVE ECONOMIC IMPACTS OF REFUGEES

A similar situation occurred at the Department of Health and Human Services in September 2017 in which Trump administration officials suppressed a study on the economic impacts of refugees (Hirschfeld Davis and Sengupta 2017). A cost-benefit analysis found that refugees had a net positive impact on government revenues of \$63 billion over a 10-year period. In contrast, the final report submitted by the department considered only the costs of refugees, saying that “in an average over the 10-year period, per-capita refugee costs for major Health and Human Services programs totaled \$3,300.” In an internal email exchange, an administration official stated that “senior leadership is questioning the assumptions used to produce the report.” It was reported that President Trump’s chief political advisor, Stephen Miller, had personally intervened in the discussions on the refugee cap, which sets the number of refugees that will be allowed into the country during the fiscal year, in order to ensure that only the costs, and not the benefits, were considered (Hirschfeld Davis and Sengupta 2017).

Conclusion

The Trump administration has attacked the most underserved communities in our country, exacerbating existing inequities in public health and safety by sidelining science, scientists, and long-standing processes that ensure that policies are informed by the best-available science. Scientific experts have been censored, publications and reports have been suppressed, and the communication of scientific information to the public has been restricted at a frequency, breadth, and level that far outpaces previous administrations (Berman and Carter 2018). As a result, public health, the public's safety, and the environment have been put at serious risk.

Low-income communities, Indigenous communities, and communities of color have a long history of standing up to fight for justice and pushing back against disproportionate impacts of environmental pollution and other threats to community wellbeing. But the Trump administration has escalated these issues by taking steps to ensure that long-standing advisory committees that aim to include communities in decisionmaking are sidelined; that government data are not made available or even collected, eroding efforts of marginalized communities to advocate for safeguards; that established programs intended to support impacted communities are defunded; and that typical enforcement of safeguards in disenfranchised communities does not occur. There are real world consequences when the public interest is not prioritized in decisionmaking: hazardous chemicals are more likely to end up in our backyards, our air and water are dirtier, and we have fewer resources to prepare and respond to natural disasters and the impending effects of climate change. The public at large will be harmed by the Trump administration's actions, but low-income communities, Indigenous communities, and communities of color will bear the brunt of the administration's sidelining of science.



Congressional leaders must support marginalized communities by stepping up to provide oversight of the Trump administration and its attacks on science.

Decisions informed by science are good for everyone, but they especially help to address the inequities in public health and safety for low-income communities, Indigenous communities, and communities of color. Even in 2019, the best predictor of health is zip code, and this shouldn't be the case (Ducharme

and Carter 2018). We have the information, the data, the research expertise to help decisionmakers prioritize policies that safeguard disenfranchised and vulnerable communities. But we are hindered by an administration that refuses to give impacted communities a seat at the decisionmaking table and is hostile to science-based policies. It is time to recognize the disproportionate harms this administration has had on low-income communities, Indigenous communities, and communities of color by sidelining science, and act to bring science-based decisionmaking back to center stage.

Recommendations for Congressional Leaders

Congress has the power to halt and repair damage experienced by marginalized communities. Its oversight role is crucial in revealing instances in which agencies have exacerbated harms to underserved communities by ignoring or manipulating scientific findings. In the past, leaders in Congress such as Congressman Raul Grijalva (D-AZ-3), Chairman of the House Natural Resources Committee, have long championed efforts to address environmental justice issues on many fronts, including the processes by which marginalized communities are able to inform the legislative process. Chairman Grijalva, along with Congressman Donald McEachin (D-VA-4), have already announced their intention to introduce a new environmental justice bill that will rely heavily on public input. Congress can help create a lasting legacy that helps alleviate the many injustices that underserved communities have endured for years by passing laws that codify strong scientific integrity and environmental justice policies and that create adequate enforcement mechanisms for those policies. In addition to conducting strong oversight of Trump and future administrations' actions, below are specific legislative solutions that members of Congress can carry forward.

THE ENVIRONMENTAL JUSTICE ACT

In July 2019, Senator Cory Booker (D-NJ) and Congressman Raul Ruiz (D-CA-36) introduced the Environmental Justice Act of 2019, a reintroduction of a similar policy originally released in 2017, which specifically calls for federal actions “to address environmental justice [and] to require consideration

of cumulative impacts in certain permitting decisions” (US Congress 2017). Senator Booker has stated that one of the reasons that the passage of the bill is so important is the current failure to consider the science showing the link between pollution and harms to marginalized communities: “We now have a lot more longitudinal data about some of the challenges and crises that are being caused by these environmentally toxic places. As our science is getting better, we now know that there’s no excusing the lack of moral urgency to do something about this environmental crisis” (Mock 2017).

In a press release announcing the reintroduction of this legislation, Senator Booker stated, “We cannot achieve economic justice or social justice in this country without simultaneously addressing environmental justice. Clean air and clean water shouldn’t be luxuries for the privileged, yet every day, communities of color, low-income communities, and Indigenous communities disproportionately face environmental hazards and harmful pollutants. This reality has largely been ignored, and the affected communities have been left without the legal tools to protect their rights. The Environmental Justice Act of 2019 is an important first step in returning power to these communities” (Booker Offices 2019).

Many of the provisions set forth by the Environmental Justice Act could prevent science from being sidelined in decisions that impact low-income communities, Indigenous communities, and communities of color, and ensure that communities are supported throughout the decisionmaking process. For example, the bill ensures that the National Environmental Justice Advisory Council will continue to convene and provide input on decisions that affect environmental justice. This is a needed provision given that President Trump issued an Executive Order that will eliminate one-third of all advisory committees across the federal government, which could potentially include the council (Reed 2019b). The National Environmental Justice Advisory Council has historically given community voices a place at the decisionmaking table, and Senator Booker and Congressman Ruiz’s bill would ensure that those voices continue to be there.

The Environmental Justice Act also would require federal agencies to consider cumulative pollutant levels and their impacts on communities during the decisionmaking process. Historically, federal agencies have not relied on data on the

We are hindered by an administration that refuses to give impacted communities a seat at the decisionmaking table and is hostile to science-based policies.



Dylan Blake

Communities affected by environmental injustice have a long history of fighting back for clean air and water but the Trump administration has exacerbated existing harms, setting communities back even further. Here, Edgar Sandoval speaks to residents of Waukegan, Illinois, at a local rally for environmental justice held by Clean Power Lake County.

totality of pollutants already affecting a community before making certain decisions such as permitting the development of a hazardous chemical facility in the area, an oversight that can result in areas with extremely high levels of pollutants and high rates of health disparities, such as those seen in “Cancer Alley” (Booker Office 2019; Blackwell, Drash, and Lett 2017). Policies informed by data representing the cumulative impacts of all hazardous substances in an area would be more effective in safeguarding the public health of disenfranchised communities.

Additionally, the Environmental Justice Act would codify Executive Order 12898 into law (EPA 2019g). The executive order was issued by President Clinton in 1994 to “focus federal attention on the environmental and human health effects of federal actions on minority and low-income populations.” This order requires that federal agencies consider the disproportionate impacts faced by marginalized communities in their decisionmaking processes, and it has helped bring attention and legitimacy to environmental justice issues since its passage. Whereas only four states had policies on environmental justice before the order was passed (Louisiana, Connecticut, Virginia, and Texas), as of 2014, policies and safeguards were in place in all 50 states to ensure that their governing bodies consider environmental justice in state-level decisionmaking (Bonorris 2010). But the order has been weakly enforced by the federal government, often leaving the brunt of the work to the communities themselves. Codifying the order would protect it from being revoked by current or future presidents, ensure that it is

Addressing cumulative effects on communities is crucial for advancing environmental justice.

enforced at all levels, and be a step in the right direction to make sure that marginalized communities have the safeguards they deserve. It is important to note that the Environmental Justice Act is not the only piece of environmental justice legislation currently underway.

THE SCIENTIFIC INTEGRITY ACT

In March 2019, Senator Brian Schatz (D-HI) and Congressman Paul Tonko (D-NY-20) introduced legislation that would be a step forward in protecting federal agency scientists and their work from political interference. While the Scientific Integrity Act does not explicitly address the inequities that underserved communities have long faced, it provides a mechanism through which such issues may be more effectively addressed by ensuring that science remains the backbone of policies. The Scientific Integrity Act would codify and bolster scientific integrity policies already in place at science-based federal agencies. The act requires that an agency’s scientific integrity

policy ensure that no individual at a federal agency that funds, conducts, or oversees scientific research will “suppress, alter, interfere, or otherwise impede the timely release and communication of scientific or technical findings” (US Senate 2019).

The Scientific Integrity Act may have prevented many of the Trump administration’s attacks on science that stand to harm low-income communities, Indigenous communities, and communities of color. For example, one provision says that agency policies must ensure that “scientific conclusions are not made based on political considerations.” There have been several examples of science being sidelined in favor of political judgments, resulting in policies that fail to protect the public from harm, that undo reproductive health measures, or that put our environment’s health at risk. One such example is the lack of consideration of science in allowing the poultry business to increase the line speeds that workers, the majority of which identify as Latinx, are subjected to, which will likely increase poultry workers’ injuries (NCFH 2014).

The Scientific Integrity Act may have prevented many of the Trump administration’s attacks on science that stand to harm marginalized communities.

The Scientific Integrity Act has other provisions that would make sure that science remains at the forefront of policy decisions and help protect the health and safety of the public, including disenfranchised communities. For example, the act protects the ability of federal scientists to speak more openly and freely about their work to the public, in conferences, and through scientific peer-reviewed journals. We also know that it is critical that scientists be allowed to discuss their work publicly, especially during emergencies or natural disasters when the public may require information from a scientific expert. The Scientific Integrity Act has several provisions that would allow federal scientists to make their work more transparent to the public and prevent the censorship of scientific information. It would ensure that scientists at federal agencies have “the opportunity to review” public statements for “technical accuracy.” The Scientific Integrity Act also provides scientists with the right to work with the agency’s

communications department to correct any inaccuracies present in publications. If such provisions are codified, these protections would prevent many of the attacks on science from politics, helping to protect public health and safety.

Recommendations for Leaders at the State and Local Levels

Improvements in regulatory and public policy are needed at the state and local levels to address the health and wellbeing of underserved communities. Codifying environmental justice policies and strengthening science-based policies can help alleviate the harms experienced by communities if our decisionmakers use science in the public interest. Several policies that have already been proposed may help states and local governments address public health and safety inequities faced by low-income communities, Indigenous communities, and communities of color.

PREVENTING HARM TO COMMUNITIES FROM CHEMICAL FACILITIES

Chemical facilities can adversely affect the health of nearby communities, posing serious risks such as untreated chemicals leaching into communities’ water supply, long-term exposure and spikes in hazardous air pollution, and accidents in facilities that can result in deadly fires and explosions. Decisionmakers at the state and local levels should take steps to reduce such risks and prevent health harms to communities. They should consider requiring chemical facilities to:

- focus on risk reduction and prevention wherever possible;
- use safer chemicals and technologies in their operations;
- share information on their emergency response plans with nearby communities;
- continuously monitor and publicly report fence-line-area emissions and health hazards; and
- prevent the construction of new or expanded chemical facilities near homes and schools, especially in those areas already affected by chemical pollution.

REDUCE THE BURDEN OF CUMULATIVE IMPACTS ON COMMUNITIES

A focus on cumulative impacts is a cornerstone of environmental justice. Decisionmakers, in conjunction with community stakeholders, should employ policies that use the best-available science to address and mitigate cumulative impacts on marginalized communities. The policymaking process should incorporate health impacts assessments examining the potential impact of unplanned chemical releases and the cumulative impacts of daily air pollution exposures on the health of nearby

communities. Affected communities should be provided with the tools and resources they need to fully engage in the assessment process, and political leaders should use science-based stakeholder processes that center community voices in decisionmaking.

Decisionmakers at the local and state levels should also strengthen the enforcement of existing environmental and workplace health and safety regulations. Better oversight and enforcement will help state governments, local municipalities, and the public hold companies accountable if they fail to address identified hazards and control the emission of toxic pollution. Locally, cities and counties must do a better job of enforcement in areas of jurisdictional overlap.

THE EQUITABLE AND JUST NATIONAL CLIMATE PLATFORM

Developed by a coalition of more than 70 environmental justice advocates and national environmental organizations, the Equitable and Just National Climate Platform was released in 2019 (EJNCP 2019a). The National Climate Platform “highlights a shared vision and calls for national climate action that confronts racial, economic, and environmental injustice as it enacts deep cuts in climate pollution and accelerates a pollution-free energy future that benefits all communities” (EJNCP 2019b). Fundamental to the National Climate Platform are several tenets that local governments could follow, including:

- enacting solutions that address the legacy of pollution;
- making justice and equity a priority;
- reducing global warming pollution;
- reducing transportation pollution; and
- demanding a just national climate agenda.

The national platform calls out “systemic racism and injustice that has left economically disadvantaged communities, tribal communities, and communities of color exposed to the highest levels of toxic pollution from the burning of fossil fuels.” It also highlights the fact that impacted communities have the fewest resources to prepare for and recover from the effects of climate change.

Recommendations for Scientists and Technical Experts

Scientists and technical experts can use their training and position in society to help fight inequities, especially when science is being misused to create or exacerbate inequities. Scientists can improve community access to technical information, support environmental justice advocacy by researching environmental hazards that pose potential health harms for communities, and work with communities directly on environmental justice.

Scientists and technical experts can use their training and position in society to help fight inequities.

For scientists whose work touches on environmental or health outcomes that have potential impacts on marginalized communities, it is important to consider partnerships with community members (UCS 2019j). Collaboration between scientists and community members can increase the robustness and effectiveness of the research when community members are given the opportunity to provide input on the data collection and methodologies. Given that impacted communities often have the least access to scientific expertise and are disproportionately harmed by environmental and health hazards, scientist-community partnerships can help level the playing field for communities that are being shut out of important policy discussions. Scientist-community partnerships can also be used to provide community-supported scientific information to decisionmakers, which can aid in the creation of science-based policy decisions able to lessen the burdens borne by impacted communities.

It is also important that scientists and technical experts consider environmental justice and equity goals in their scientific work (UCS 2019k). Science is a human endeavor that can reflect the biases and power structures prevalent in society at any given moment in history and can sometimes lead scientists to exploit or exclude marginalized groups in their pursuit of knowledge. These implicit biases also have likely resulted in limited support to scientists from underrepresented groups who experience disproportionate challenges and barriers in their fields and have important perspectives to share (Carter 2018). An important part of scientists and technical experts’ considering environmental justice and equity in their research is doing this work in partnership with the communities that have first-hand experience dealing with these issues every day of their lives. Resources should be dedicated to encouraging people that are underrepresented in the sciences to join the field and resources should be dedicated to support them as they progress in their education and training to become a scientist. Scientists also have the ability to push their institutions and scientific societies to become more inclusive of and accessible to impacted communities and scientists from underrepresented groups by providing resources and sharing spaces to support their efforts (see Box 4, page 32).

BOX 4.

Federal Scientists Are Beginning to Appreciate the Importance of Environmental Justice Issues in Science, but the Trump Administration is Hampering these Efforts

Increasingly, the scientific community has recognized the importance and urgency of addressing environmental justice issues and that more effort is needed (Chakraborty, Collins, and Grineski 2016). Federal science agencies have provided publicly accessible data and analysis that highlight how low-income communities, Indigenous communities, and communities of color are burdened with higher exposures to environmental hazards at the places where they live, work, and play. For example, in July 2015, the National Institute of Environmental Health Sciences issued a report looking at efforts to address environmental justice concerns in the context of research grants (NIEHS 2015). In December 2016 the EPA published a comprehensive report laying out a research roadmap on environmental justice, describing the interface between environmental justice and science and outlining opportunities for scientific research that links environmental equity and technology (SHCRP 2016).

But under the Trump administration, federal scientists have been discouraged from working on environmental justice issues. In a 2018 survey by the Union of Concerned Scientists of scientists across 16 federal agencies, several EPA scientists expressed frustration at an inability to carry out environmental justice research under the Trump administration, with one saying, “It is my understanding that initiatives designed to learn about environmental justice are no longer being prioritized or funded” and that “environmental justice used to place a huge role in decisionmaking; however, now it’s a low priority” (Carter, Goldman, and Johnson 2018). Other respondents noted the de-emphasis of programs and projects focused on environmental justice or aimed at serving communities of color. A scientist at the National Oceanic and Atmospheric Administration said that “there is no appetite to address disproportionate impacts to communities of color; therefore, the topic is an automatic no-go.” A scientist from the US Geological Survey noted that the ability to monitor environmental degradation in low-income communities has been compromised, saying that the “effects are there when environmental degradation disproportionately

affects poor communities and we decide to stop measuring those environmental parameters.”

Despite this discouraging climate, some federal scientists continue to elevate the importance of environmental justice in their scientific work. In 2018, EPA scientists published an important study finding that industrial facilities that emit particulate matter air pollution are disproportionately located in communities of color (including Indigenous communities) and low-income communities (Mikati et al. 2018). The study cited historical racism and economic inequality as major factors for the disparity, due to the locations of industrial facilities (Green 2018).

Another prominent example is the 2018 National Climate Assessment, an authoritative and comprehensive scientific report on how and why the climate is changing in the United States (USGCRP 2018; Licker 2018). The report, authored by federal scientists across 13 agencies, declared in no uncertain terms that justice and equity need to be at the center of climate-related policies. In the introduction, the report states that those “who are already vulnerable, including lower-income and other marginalized communities, have lower capacity to prepare for and cope with extreme weather and climate-related events and are expected to experience greater impacts” and recommended that the nation prioritize “adaptation actions for the most vulnerable populations [which] would contribute to a more equitable future within and across communities.” This is the first time that the National Climate Assessment has placed issues of environmental justice at the forefront of the report (Bullard 2018).

In an op-ed, Robert Bullard, considered to be the “father of environmental justice,” praised the scientists who wrote the report and said that it was good “to finally see environmental justice so comprehensively woven into a report of this magnitude” (Bullard 2018; Dicum 2006). Bullard added, “After decades of working on climate and environmental issues, I’ve never seen such widespread concern among the scientific community. I’m hopeful, then, that this represents a major shift in how we think about responding to climate change.”



James Finch/UCS

More and more, the scientific community is starting to recognize the importance of incorporating environmental justice issues into federal science, but this process is being undermined by the Trump administration. In 2017, scientists and activists took to the streets during the March for Science protests in Washington, DC.

But the federal government must play a much larger role in ensuring that scientific data and analysis are accessible to communities and address inequities in health, safety, and environmental pollution for low-income communities, Indigenous communities, and communities

of color. Congress and the executive branch must play a large role in ensuring that government scientists have the resources, capacity, and guidance to prioritize environmental justice issues.

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Abandoned Science, Broken Promises

How the Trump Administration's Neglect of Science Is Leaving Marginalized Communities Further Behind

The Trump administration's attacks on science are disproportionately harming the most underserved communities in our country.

While all communities are affected, low-income communities, communities of color, and Indigenous communities bear the brunt of the consequences of the Trump administration's anti-science actions. The Trump administration has consistently sidelined, dismantled, or poorly enforced science-based decisionmaking processes and laws that are designed to keep our air breathable, our water drinkable, and our homes and workplaces safe from hazards. Marginalized communities have faced generations of systematic racism and environmental injustice that far predate the Trump administration. However, because the administration's attacks on science are disproportionately harming the most underserved communities in our country, they are exacerbating existing inequities faced by marginalized communities.

We are hindered by an administration that is hostile to science, one that refuses to give impacted communities a seat at the decisionmaking table. But disenfranchised communities are pushing back, using information, data, and research expertise to encourage decisionmakers to prioritize policies that safeguard neighborhoods across the nation. It is time to recognize the disproportionate harms this administration has had on low-income communities, Indigenous communities, and communities of color by sidelining science, and aid community efforts to bring science-based and people-centered decisionmaking to the forefront.

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