

A SHEEP IN THE CLOSET

The Erosion of Enforcement at the EPA

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EXECUTIVE SUMMARY

This report by the Environmental Data and Governance Initiative (EDGI) examines environmental enforcement at the U.S. Environmental Protection Agency (EPA) in the first two years of the Trump administration. It draws upon EPA's own reportage about its enforcement as well as the EDGI interviewing project. Since Donald Trump was elected, EDGI researchers have been conducting confidential interviews with EPA employees and recent retirees in various parts of the agency to learn about the Trump administration's efforts to reshape environmental policy and regulation at the federal level. To date, we have conducted one hundred and two in-depth interviews, most lasting from one to two hours, covering major changes that are taking place at the EPA. The majority of those interviews were conducted during the transition. This report, however, is informed by twenty-seven interviews with staff and recent retirees conducted over the last year since Trump has been in office and the agency has been headed by either Scott Pruitt or Andrew Wheeler. It also draws upon in-depth wide-ranging research into EPA data and documents as well as news coverage.

Our chief finding: the EPA has already lost significant capability to fulfill its mission to ensure competent enforcement of federal environmental laws. In place of that “gorilla in the closet” role characterized by its first administrator, William Ruckelshaus, it has become more of a sheep in the closet. The EPA's retreat, which shows little sign of stopping, has all but ensured significant deterioration of our nation's public health and environment in the years ahead.

During the interviews with EPA employees and recent retirees conducted over the last year, we heard repeatedly that enforcement in the agency across most or all programs is sharply down and that the agency is failing to ensure that key federal laws such as the Clean Air Act and the Clean Water Act are being properly enforced across the United States.

Further, EPA staff told us they are gravely concerned about strong messages coming from management telling them to step back from enforcement and let the states take over. They also report that they are getting increased pushback on enforcing environmental laws from the regulated community. Combined with budget cuts and dramatic staff losses, this is creating a situation where enforcement has sharply

declined and the agency is at risk of failing in its mission to protect public health and environment from a wide range of threats.

To assess the oft-repeated claim of staff that enforcement is sharply down at the EPA, we examined data from the agency including internal documents and reports published by the EPA's Office of Compliance and Enforcement Assistance (OECA).¹

The data show that under the Trump administration, which has guided the EPA in all of fiscal year (FY) 2018 and most of FY 2017, EPA achieved historically low enforcement numbers. While FY 2017 numbers gained attention for being very low, numbers in FY 2018 were even lower by most measures and much lower than FY 2016. In historical perspective, the major enforcement metrics for FY 2018 – inspections, civil cases, criminal cases, compliance costs, penalties, defendants, sentencing – are some of the lowest recorded in decades.

Measures of civil enforcement indicate a historically weak enforcement program. Cases, compliance costs (injunctive relief), and penalties (fines) have all fallen compared to the last two fiscal years and are very low compared to long-term averages:²

- Civil case initiations (new civil cases opened by the EPA) declined to 1,838, the lowest number since 1982 and just 56 percent of the mean number of annual civil case initiations from FY 1975 to 2016.
- There were just 110 civil judicial referrals to the Department of Justice (the most serious new civil cases opened by the EPA) in FY 2018 and FY 2017, the

¹ This revised version of our report first released in November 2018. Our original report relied on provisional data from EPA's Enforcement and Compliance Online (ECHO) database because final enforcement numbers were not available at the time. In addition to using provisional data, we inadvertently undercounted civil case conclusions (and data related to them) from the ECHO database. In this report we use final, published (and thus easily-verifiable) data on enforcement in FY 2018 from the EPA. (The only exception is data on "informal enforcement actions," for which there is not published data available). Importantly, this adjusted and newer data all confirm the basic findings and conclusions in the November 2018 report. In addition to updating and correcting our use of ECHO data, new data allows us to present FY 2018 data in longer-term historical perspective. The published data also allows us to include data not available in ECHO (e.g., criminal cases, fines, sentencing; total inspections; estimates of environmental benefits; civil case initiations). Finally, we have taken this opportunity to simplify some of our analysis, removing complicated breakdowns of civil cases by types of administrative actions (Administrative Compliance Orders, Administrative Penalty Orders, and so on).

² See [Section 3, The Plummet in Enforcement](#), for explanations and examples of EPA enforcement actions and outcomes.

lowest numbers since 1976. These were just 43 percent of the mean number of annual civil judicial referrals from 1975 to 2016.

- Civil case conclusions fell to the lowest since 1994 and, because the record only goes back to 1994, were the lowest on record. They were 53 percent of the mean number of annual civil case conclusions from 1994 to 2016.
- Civil penalties declined to \$69 million in FY 2018, the lowest they have been since 1987 (adjusted for inflation). The penalties were just 47 percent of the median annual penalties between 1989 and 2016.
- The costs to comply with civil enforcement actions (injunctive relief) fell to \$3.95 billion, the lowest level since 2003 (adjusted for inflation). The costs were only 62 percent of the median annual compliance costs from FY 1995 to 2016.
- In FY 2018, civil enforcement of the Superfund program resulted in commitments by responsible parties to pay about \$533 million for future and past cleanup of contaminated sites. These commitments were the lowest cleanup commitment going back to at least 1994, and were just 35 percent of the median annual Superfund cleanup commitments from FY 1994 to 2016.

Measures of criminal enforcement also indicate a historically weak enforcement program. Cases, defendants charged, sentencing, and penalties are all generally down compared to the last two fiscal years and compared to long-term historical averages.

- Criminal case initiations were the second lowest since 1992 (FY 2017 initiations were the lowest), and were just 42 percent of the mean annual cases opened from 1989 to 2016.
- In FY 2018, 105 criminal defendants were charged, the lowest number since 1991. That was just 43 percent of the mean annual number of defendants charged between 1989 and 2016.
- Criminal sentences (years of incarceration) were the fourth lowest since 1990, and 62 percent of the mean annual years of incarceration between FY 1989 and 2016.

- Criminal penalties in FY 2018 were 5 percent above the median amount of annual criminal penalties given between 1989 and 2016, but were 42 percent lower than the mean for that period.

Drops in enforcement have happened across most EPA programs. An internal EPA analysis obtained by EDGI showed important declines in civil enforcement cases started (“initiations”) and in cases concluded in most major programs between midyear 2017 and midyear 2018. (The main exception was the Safe Drinking Water Act.) Among the hardest hit are some of its largest and most significant programs:

- The Resource Conservation and Recovery Act (RCRA) hazardous waste program showed a 17 percent decline in case initiations and a 23 percent decline in case conclusions.
- The Clean Water Act National Pollution Discharge Elimination System showed a 36 percent decline in case initiations and a 38 percent decline in case conclusions.
- The Clean Air Act Stationary Source program showed a 52 percent decrease in case initiations and a 38 percent decline in case conclusions.

Enforcement fell off significantly in all regions of the United States between midyear 2017 and midyear 2018.

The largest percentage decreases in civil enforcement came in:

- Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, and ten tribal nations), which experienced a 26 percent decline in case initiations and a 42 percent decline in case conclusions.
- Region 3 (Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, and West Virginia), which experienced a 40 percent decline in case initiations and a 38 percent decline in case conclusions.
- Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, and six tribal nations), which experienced a 49 percent decline in case initiations and a 48 percent decline in case conclusions.

- Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming, and twenty-seven tribal nations), which experienced a 53 percent decline in case initiations and a 24 percent decline in case conclusions. Region 8 has traditionally been viewed as a region that is strong on enforcement.

Estimated environmental benefits from enforcement actions in FY 2018 illustrate that EPA's flagging enforcement means more toxic waste and contaminants remain in the environment.

- In FY 2018, enforcement actions were estimated to yield 809 million pounds of pollutants and hazardous waste reductions, treatments, eliminations, and proper disposals. That is the second lowest number on record (with the record going back to 2008) after FY 2017.
- In FY 2018, enforcement actions were estimated to yield the clean up of about 244,584 cubic yards of contaminated soil and water. That is the fifth lowest amount since 2004, and is just 53 percent of the median (37 percent of the mean) from 2004 to 2016.
- In FY 2018, enforcement actions were estimated to protect 505,000 people through enforcement of the Safe Drinking Water Act (SDWA). FY 2018's number was just 22 percent of the median (9 percent of the mean) annual number of people protected by enforcement of the SDWA from FY 2002 to 2016.

The enforcement situation is likely to get worse in the next year because inspections—the starting point for enforcement—were also way down in FY 2018.

- At 10,612, inspections in FY 2018 were the lowest on record since 1994, and only about 55 percent of the mean number of inspections from 1994 to 2016.
- EPA staff say that the declines in inspection will almost certainly mean that enforcement actions will fall further in the future.

The EPA's public justification for enforcement declines at best partly accords with the facts:

- The EPA argues that recent enforcement declines are part of a decade-long drop.
 - *However, declining trends do not justify further declines, especially to the extremely low levels reached under the Trump administration. Moreover, other trends, such as penalties and compliance costs, were increasing under Obama before reversing in FY 2017 and 2018.*
- The EPA argues it is taking more informal initiatives to help industry comply with regulations.
 - *But recorded informal compliance actions have also declined sharply under Trump.*
- The EPA argues that while it is stepping back on enforcement, states are stepping up.
 - *But there is very little evidence to support this claim.*
 - State environmental agencies are often poorly resourced, and many have also suffered funding cuts; therefore, they are ill-equipped to do more if the EPA does less.
 - State enforcement programs can be vulnerable to political interference from industry and elected officials.
 - Some states are not equipped to conduct complex inspections and enforcement actions; they do not have appropriately trained and experienced staff and they may not have the requisite equipment to inspect certain types of sites.
 - The EPA can generally impose larger fines on polluters than can states, which can act as a stronger deterrent.
 - Trump's FY 2020 EPA budget, as with his previous ones, pursues deep cuts in state aid, which would further hamstring states.

In fact, as internal EPA documents show, EPA officials know that enforcement is in steep decline. Internally, they also acknowledge that these declines may well be due to changes made to the agency under Trump, including the greater leeway and solicitude for regulated industries, shrinking resources for enforcement, and the

stepped-up oversight, inhibiting policies, and discouraging tone and rhetoric emanating from EPA leadership.

EPA staff have their own perspectives on the significant enforcement decline at the EPA, many of them overlapping with reasons discussed internally by EPA management. Among the interacting factors they see as contributing to the downturn are:

- the anti-regulatory philosophy of the Trump administration;
- the industry ties of key leaders;
- the threat of steep budget cuts along with significant loss of staff and expertise;
- increased industry influence within the agency and via the White House;
- increased pushback from industry against enforcement efforts;
- a “cooperative federalism” that in practice has meant extreme deference to states, with the EPA refusing to back up states in federal environmental law enforcement; and
- in the face of ongoing rule reconsiderations, uncertainty about which laws and rules to enforce.

Staff are deeply skeptical that states will be able to take over the EPA’s enforcement role. They point out the large variability that already exists in state enforcement efforts and suggest this will only grow under the Trump administration’s version of cooperative federalism. A state’s ability to enforce depends on its own political will to provide its environmental agencies with staff and resources for the task. While some state governments will step up, many—if not most—will not. The EPA’s own retreat from its backup enforcement or “gorilla” role is thereby likely to make our nation’s environmental protection increasingly unequal—still rigorous in some states but ever-more porous and feeble in others.

Alongside the steep cuts to EPA budgets and staff and curbed rules the Trump administration has inaugurated and continues to seek, plummeting enforcement at the EPA under Trump rounds out a concerning picture of what has happened to this agency over the last two years.

INTRODUCTION

The EPA remains an agency in crisis. With the personal foibles and excesses of former EPA Administrator Scott Pruitt no longer in the headlines, the axe-waving hostility of the early Trump administration against the agency has given way to a quieter but no less destructive approach presided over by current Administrator Andrew Wheeler. With less spectacle and more competence, Wheeler has continued to undermine the EPA's long-standing role as a mainstay of our nation's environmental stewardship.

Today, a few months past the midpoint of Trump's presidential term, the switch in EPA leadership from Pruitt to Wheeler has turned out to be more superficial than substantive. It has not so much halted as sustained the pro-industry, anti-regulatory remaking of the EPA begun under Pruitt. At risk are the protections this agency has provided to millions of Americans, not just from the impending threat of climate change but from pollutants, toxic products and wastes, and a host of other environmental dangers.

Now led by a former coal lobbyist and erstwhile chief of staff for Senator James Inhofe, Washington's best-known climate-change denier, the EPA quietly continues to be transformed in ways that turn the original rationale for the agency on its head. The EPA was formed in 1970 precisely because states were not enforcing tighter environmental regulations themselves. Burning rivers and choking air pollution were the most obvious manifestations of the failures of state-based environmental governance, and of the need for a strong federal agency. The Republican tapped as the first EPA administrator, William Ruckelshaus, famously saw the EPA's role as that of a "gorilla in the closet," prepared to take action against polluters when states either could not or would not take action.³

While not always living up to the Ruckelshaus ideal, the EPA's partnership with the states, undergirded by its ability to lean on polluters when states do not, has been

³ William D. Ruckelshaus, "William D. Ruckelshaus Oral History Interview," Michael Gorn, interviewer, *EPA Web Archive*, January 1993, <https://archive.epa.gov/epa/aboutepa/william-d-ruckelshaus-oral-history-interview.html>. There is now a sizeable scholarly literature on this notion, summarized in Paul Verbruggen, "Gorillas in the Closet? Public and Private Actors in the Enforcement of Transnational Private Regulation," *Regulation and Governance* 7, no. 4 (December 2013): 512-532, <https://onlinelibrary.wiley.com/doi/abs/10.1111/rego.12026>.

critical to the gains in environmental quality since the 1970s. But the EPA under Trump has not just refused to play “gorilla”; it has been systematically dismantling its very capacity to do so.

This study follows up on our earlier investigation, [EPA Under Siege](#), released in June 2017.⁴ Here we draw upon twenty-seven subsequent interviews conducted with current and recently retired EPA staff over the past twelve months as well as the EPA’s own data and documents and media reports. Our evidence points to a major thread tying together the multifarious ways that the EPA’s charges, capabilities, and practical work are being reconfigured during the Trump era. They are turning the agency into a different animal altogether, not so much a gorilla as a sheep in the closet.

As the Trump administration has consolidated its control over the EPA, it has become increasingly effective in shearing the agency’s reach and power along many fronts, from budget and staff reductions to political appointments to a systematic reconsideration of earlier rule makings to proposed new restrictions on its use of science. Chief among its targets, we have found, yet little noted in recent media coverage, has been that part of the agency’s work that has long ensured its “gorilla” role: enforcement.

As the agency’s overseeing and punishing arms, its claws and teeth, enforcement capacities and actions are critical to effective environmental and health protections. Without enforcement our laws as well as the regulations implementing them become meaningless, too easy to circumvent. Official efforts to encourage voluntary compliance will likely prove ineffective if there is little or no prospect of more forceful follow-up.⁵ Yet, while passing legislation, approving budgets, and drawing up regulations all require public reportage and feedback, the EPA’s general enforcement practices do not, even though they are ultimately its chief means for

⁴ Christopher Sellers, Lindsey Dillon, Jennifer Liss Ohayon, Nick Shapiro, Marianne Sullivan, Chris Amoss, Stephen Bocking, Phil Brown, Vanessa De La Rosa, Jill Harrison, Sara Johns, Katherine Kulik, Rebecca Lave, Michelle Murphy, Liza Piper, Lauren Richter, and Sara Wylie, *EPA Under Siege: Trump’s Assault in History and Testimony* (Environmental Data and Governance Initiative, June 2017), <https://100days.envirodatagov.org/epa-under-siege/>.

⁵ Joel A. Mintz, *Enforcement at the EPA: High Stakes and Hard Choices*, rev. ed. (Austin: University of Texas Press, 2013), 1–2; Dietrich H. Earnhart and Robert L. Glicksman, *Pollution Limits and Polluters’ Efforts to Comply: The Role of Government Monitoring and Enforcement* (Palo Alto, CA: Stanford University Press, 2011), 4; and *Fiscal Year 2007 Performance and Accountability Report Highlights: Environmental and Financial Progress*, EPA-190-R-08-001 (Washington, DC: U.S. Environmental Protection Agency, January 2008), 27.

compelling adherence to its rules and laws.⁶ Additionally, what information the Trump-era EPA does release about its enforcement activities comes buried in obscure enumerations and legal terminology whose real significance may be downplayed or distorted, making accountability doubly difficult.

But as this updated version of our report shows, publicly released enforcement figures for the fiscal year ending September 30, 2018 confirm what our interviews as well as earlier publicly released data showed. Over the first two years of the Trump administration, EPA enforcement has pitched into a historic nosedive.

⁶ The public can comment on specific settlements and consent decrees.

RECONSIDERING, REDUCING, AND REORGANIZING

The EPA now bears the imprint of a White House that, since January of 2017, has made no secret of its disdain for this agency and its work. Over and over again in this administration's tenure, the EPA has described its own regulations as "intrusive" and so burdensome to industry as to "kill jobs."⁷ The agency itself has thereby taken up a kind of rhetoric pitting the environment against the economy wielded by the agency's detractors within extractive and polluting industries and their lobbyists. Not just Trump and Pruitt but the new administrator have largely embraced this rhetoric about the EPA, also long circulating among the Heritage Foundation and other right-wing think tanks, and the anti-regulatory agenda that follows from it. Thereby, they are placing our nation's public health and the future of our planet in increasing jeopardy.⁸

Rewriting Rules

In more subdued tones than his predecessor, Andrew Wheeler has nevertheless added his voice to the chorus of Trump political appointees seeking to correct their agencies' alleged excesses, to curb regulations seen as needless, burdensome for industry, and harmful to the economy. Among the changes with the new administrator, career staff have welcomed Wheeler's greater kindness and solicitude toward them, at least initially, and he was more vocal and fluent than Pruitt in promising, for instance, that the "EPA takes its Clean Air Act responsibilities seriously" and will not touch "health-based standards." Yet he too prioritizes a promise of "regulatory certainty" for those regulated, disregarding the many toxic uncertainties this agency's retreat is imposing on communities that have long counted on its protection.⁹ And under Wheeler, EPA advisors have aggressively

⁷ White House, "Fact Sheets: President Donald J. Trump's Year of Regulatory Reform and Environmental Protection at the EPA," December 14, 2017, <https://www.whitehouse.gov/briefings-statements/president-donald-j-trumps-year-regulatory-reform-environmental-protection-epa/>.

⁸ "Heritage Foundation: Background," *Desmog* (blog), n.d., <https://www.desmogblog.com/heritage-foundation>, accessed October 18, 2018; and Timothy Cana, "EPA Chief Defends Rule Rollbacks While at Children's Health Event," *The Hill*, October 1, 2018, <https://thehill.com/policy/energy-environment/409280-epa-chief-defends-rule-rollbacks-at-childrens-health-event>.

⁹ Andrew Wheeler, "Andrew Wheeler: EPA Offers Regulatory Certainty," *Toledo Blade*, August 25, 2018, <https://www.toledoblade.com/opinion/Op-Ed-Columns/2018/08/25/Andrew-Wheeler-Environmental->

questioned health studies of air pollution, and the agency has disinvested in those of the environmental health of children that could make for stricter EPA standard-setting.¹⁰ While less reluctant than his predecessor to speak of all the benefits gained from our investment in clean air, clean water, and clean soil, Wheeler has continued nearly all of the strategies initiated by Pruitt for curbing its capacity to regulate and protect.

The major reconsiderations of EPA rule makings begun under Pruitt ([Figure A, Appendix](#)) are still going forward. While the proposed weakening of fuel-efficiency rules for cars and trucks was announced under Pruitt, the Wheeler-led EPA has formally proposed other major rule reconsiderations: an Affordable Clean Energy rule (to replace the Obama administration's Clean Power Plan), and the weakening of rules covering mercury emissions from power plants and monitoring and repair of methane leaks in oil and gas production. All of these measures promise to lighten the agency's duty to enforce.

Wheeler promised that the writing of new agency rules will return to what was deemed the standard best practice in earlier administrations, with those composing them "encouraged to reach out broadly for the views of interested parties" first within the agency and then beyond.¹¹ Yet he has not applied that standard retroactively to any of the rule rollbacks begun under Pruitt.

Pruitt-era reconsiderations were written in ways that "completely abandoned, subverted, [and] disregarded . . . the long-established regulatory development process . . . that has been in place in the agency for . . . decades."¹² Stories circulate within the agency about how Pruitt and other political appointees like Bill Wehrum, now chief of the air office, huddled in hallways to settle upon key rule revisions, leaving the agency's own scientists and legal and policy experts out of the loop. As one EPA staff member we interviewed described it, "you don't really meet with these people. They meet with themselves . . . there's this cocoon around them."¹³ As the

[Protection-Agency-EPA-offers-regulatory-certainty/stories/20180825054](#) ("responsibilities"; "certainty"); Cana, "EPA Chief Defends Rule," ("health-based").

¹⁰ Jeff Tollefson, "Air Pollution Science under Siege at US Environment Agency," *Nature*, March 28, 2019, <https://www.nature.com/articles/d41586-019-00937-w>; Sara Reardon, "US Environment Agency Cuts Funding for Kids' Health Studies," *Nature*, May 13, 2019, <https://www.nature.com/articles/d41586-019-01491-1>.

¹¹ Andrew Wheeler, "Message from the Acting Administrator," *EPA Website*, August 2, 2018, <https://www.epa.gov/sites/production/files/2018-08/documents/wheeler-messageontransparency-august022018.pdf>.

¹² Confidential interview with EPA employee, conducted by EDGI staff.

¹³ Confidential interview with EPA employee.

agency's political appointees have taken it upon themselves to rewrite major rules and other policy directives that had been finalized only after years of scientific and public input, the results have closely conformed to changes called for by industries and conservative think tanks and have augured fewer and laxer rules for the agency to enforce.

While few documents are as yet publicly available to corroborate who *has* had the most input on these decisions, there are numerous indications that conservative think tanks like the Heritage Foundation as well as the host of industrialists, trade groups, and lobbyists flocking to meet with top appointees have indeed been influential.¹⁴ Among the examples, coal magnate Robert Murray has long pushed for a reconsideration of a 2011 mercury emissions rule for coal-fired power plants that is now ongoing.¹⁵ And as the *Washington Post* has confirmed, the agency's own Office of the Science Advisor was not consulted as officials crafted a rule to restrict the kinds of science on which the EPA could rely, even though Pruitt held closed-door meetings on the measure at Heritage. While we don't know exactly what was said there, we do know that the Heritage Foundation as well as the chemical and energy industries strongly supported the unsuccessful legislation on which the proposed rule is based.¹⁶

Also with little input from their own agency's technical experts, EPA political appointees have taken it upon themselves to rewrite long-standing policy directives below the level of formalized rule makings. Such is the case, for instance, with a "Once In, Always In" rule for toxic polluters under the Clean Air Act, consolidated through a 1995 guidance memo to ensure continuing oversight of facilities that have emitted large quantities of the most toxic pollutants like lead, arsenic, and benzene. It has been overridden by Trump political appointees. With large swaths of industry no longer obliged to comply with the law's strict requirements for updated pollution

¹⁴ Judith Eilperin, "Emails Reveal Close Rapport between Top EPA Officials, Those They Regulate," *Washington Post*, July 1, 2018, https://www.washingtonpost.com/national/health-science/emails-reveal-close-rapport-between-top-e-pa-officials-those-they-regulate/2018/07/01/6c5a62b6-7642-11e8-805c-4b67019fcfe4_story.html?utm_term=.7e85ebb03776.

¹⁵ Coral Davenport and Lisa Friedman, "The EPA's Review of Mercury Rules Could Remake Its Methods for Valuing Human Life and Health," *New York Times*, September 7, 2018, <https://www.nytimes.com/2018/09/07/climate/epa-mercury-life-cost-benefit.html?module=inline>.

¹⁶ Stefan Mufson and Chris Mooney, "EPA Excluded Its Own Top Science Officials When It Rewrote Rules on Using Scientific Studies," *Washington Post*, October 3, 2018, https://www.washingtonpost.com/energy-environment/2018/10/03/epa-excluded-its-own-top-science-officials-when-it-rewrote-rules-using-scientific-studies/?utm_term=.7e7542421b0d; and Robin Bravender, "Pruitt to Unveil 'Secret Science' Effort Today—Sources," *E&E News*, April 24, 2018, <https://www.eenews.net/stories/1060079891>.

controls, one study suggests that if California were to adopt this change,¹⁷ twice as much toxic air pollution would be emitted each year in that state alone—exposing many to greater risks of cancer, birth defects, and brain damage.¹⁸ A host of other efforts to curb the EPA’s reach have carried over from Pruitt to Wheeler via delays, extended deadlines, and withdrawals from pending lawsuits.

Although Wheeler initially put the Pruitt-proposed rule limiting regulatory science on the back burner, a recent “guidance” issued by the White House Office of Management and Budget may give it new legs. This as well as a revision of the mercury rule that is still ongoing may have a similarly constricting impact on many future EPA rule makings.¹⁹ Reportedly, the new rule will only allow the EPA to count benefits from reducing exposures to toxics explicitly targeted by a given rule—in this case, mercury emitted by power plants—and not the co-benefits that are also likely, such as from reduced particulate pollution. That would constitute another revision of a long-standing agency practice, with far-reaching consequences for rule makings to come.²⁰ All these changes add up to a comprehensive campaign to shorten both current and future versions of the EPA’s “gorilla” arms.

¹⁷ California is unlikely to adopt this rule change given the state’s support for environmental quality and public health; however, the study illustrates the magnitude of the potential problem.

¹⁸ EPA, “Reducing Regulatory Burdens: EPA Withdraws ‘Once in Always in’ Policy for Major Sources under Clean Air Act,” January 25, 2018, <https://www.epa.gov/newsreleases/reducing-regulatory-burdens-epa-withdraws-once-always-policy-major-sources-under-clean>; “Once In Always In” Guidance for Major Sources under the Clean Air Act,” *Environmental Law at Harvard*, 2018, accessed October 15, 2018, <http://environment.law.harvard.edu/2018/02/always-guidance-major-sources-clean-air-act/>; Meredith Hankins, “Trump Administration’s Quiet Policy Change Could More Than Double Hazardous Air Pollution in California,” *Legal Planet*, October 9, 2018, <https://legal-planet.org/2018/10/09/trump-administrations-quiet-policy-change-could-more-than-double-toxic-air-pollution-in-california/>.

¹⁹ Timothy Cana, “EPA Puts Science ‘Transparency’ Rule on Back Burner,” *The Hill*, October 17, 2018, <https://thehill.com/policy/energy-environment/411839-epa-puts-science-transparency-rule-on-back-burner>; Marianne Lavelle, “How a New White House Memo Could Undermine Science in U.S. Policy,” *Inside Climate*, April 25, 2019, <https://insideclimatenews.org/news/25042019/trump-omb-secret-science-policy-memo-pollution-health-studies-heritage-foundation-vought>.

²⁰ Davenport and Friedman, “The EPA’s Review of Mercury Rules”; Amena Saiyid, “EPA Effort to Undo Mercury Limits Challenged at Hearing,” *Bloomberg Environment*, March 18, 2019, <https://news.bloombergenvironment.com/environment-and-energy/epa-effort-to-undo-mercury-limits-challenged-at-hearing>.

Sheep in Gorilla's Clothing?

The EPA's current political leadership has itself drawn heavily from regulated industries' hires and allies, contributing to the speed and precision with which changes are being made (Figure 1). Pruitt's replacement, Andrew Wheeler, has come under scrutiny for his years spent as a powerful energy lobbyist. The pattern extends beyond the EPA's current administrator to appointed leaders of the EPA's most important offices. A list compiled by the Center for Public Integrity shows that a majority of the approximately four dozen political appointees to the EPA previously worked for coal, oil, and chemical industries or for climate-change-denying politicians, most notably the ubiquitous Oklahoma senator, Inhofe.²¹ Worryingly, many of those in charge of fulfilling the agency's "gorilla" role have backgrounds of encouraging a sheepish solicitude toward the former clients and employers they now regulate.

Nancy Beck, for instance, now deputy assistant administrator of the Office of Chemical Safety and Pollution Prevention (OCSPP), oversees implementation of the nation's laws on toxic substances and pesticides. Beck was previously a senior director for the American Chemistry Council, a powerful industry group that repeatedly challenged the EPA's science on toxic substances and pressed for the agency to narrow the scope of its risk evaluations.²² Working with Beck at the OCSPP is Erik Baptist, also a deputy assistant administrator as well as senior counsel. Baptist previously served as a lawyer for the American Petroleum Institute where he lobbied in favor of deregulating the oil and gas industry and worked to roll back policy on renewable fuels.²³

Then there is Bill Wehrum, now heading the Office of Air and Radiation and thereby responsible for administering the Clean Air Act. As a lawyer, he fought to weaken air pollution rules on behalf of Koch Industries, notorious opponents of environmental regulations and funders of far-right groups and politicians as well as trade

²¹ The Center for Public Integrity, "Most of the 46 Political Appointees Working at EPA Previously Worked for Climate Change Doubters or Industry," <https://web.archive.org/web/20181027115901/https://publicintegrity.org/2017/11/09/21274/most-46-political-appointees-working-epa-previously-worked-climate-change-doubters>.

²² Eric Lipton, "Why Has the EPA Shifted on Toxic Chemicals? An Industry Insider Helps Call the Shots," *New York Times*, October 21, 2017, <https://www.nytimes.com/2017/10/21/us/trump-epa-chemicals-regulations.html>.

²³ Michael Biesecker, Juliet Linderman, and Richard Lardner, "What Swamp? Lobbyists Get Ethics Waivers to Work for Trump," *AP News*, March 8, 2018, <https://www.apnews.com/2e23b380a1ec4232abde917d8796d7a6>.

associations such as the American Petroleum Institute, the American Fuel and Petrochemical Manufacturers, and the Utility Air Regulatory Group. In his EPA post, Wehrum has moved quickly to implement rule and policy changes that benefit his former clients.²⁴

Similarly, OECA is headed by Susan Parker Bodine, a former lawyer and lobbyist. In her earlier job she defended a host of companies and trade groups directly affected by the Superfund, Clean Air, and Clean Water Acts. While some EPA staff respect her professionalism, she previously represented the American Forest and Paper Association, whose member companies have hundreds of EPA enforcement actions issued against them, and she also worked as chief counsel for the Senate Environment and Public Works Committee under Senator Inhofe.²⁵

Working alongside Bodine at OECA is Deputy Assistant Administrator Patrick Traylor. Traylor was previously a lawyer who defended Koch Industries and other energy industry giants, including Dominion Energy and TransCanada, responsible for the contested Atlantic Coast and Keystone XL pipelines, respectively.²⁶

Most of the top officials currently at the Office of Water, which is responsible for implementing the Clean Water Act and Safe Drinking Water Act, have worked to protect industry from environmental protections. This includes Assistant Administrator David Ross who, as former assistant attorney general of Wyoming, challenged the EPA's Clean Water Rule and represented agricultural interests in a lawsuit over EPA's Chesapeake Bay cleanup plan.²⁷ Also in high-ranking positions at this office are Dennis Lee Forsgren, a former attorney for a fossil fuels lobbying firm;²⁸ Ann Wildeman, a former dairy lobbyist; and Owen McDonough, who worked for

²⁴ Eric Lipton, "As Trump Dismantles Clean Air Rules, an Industry Lawyer Delivers for Ex-Clients," *New York Times*, August 19, 2018, <https://www.nytimes.com/2018/08/19/us/politics/epa-coal-emissions-standards-william-wehrum.htm>.

²⁵ Kevin Bogardus, Corbin Hiar, and Arianna Skibell, "EPA: Enforcement Pick Shrugs off Conflict-of-Interest Concerns," *E&E News*, July 31, 2017, <https://www.eenews.net/stories/1060057347>; and Sharon Lerner, "Donald Trump's Pick for EPA Enforcement Office Was a Lobbyist for Superfund Polluters," *Intercept*, May 24, 2017, <https://theintercept.com/2017/05/24/donald-trumps-pick-for-epa-enforcement-office-was-a-lobbyist-for-superfund-polluters/>.

²⁶ Bogardus, Hiar, and Skibell, "EPA: Enforcement Pick Shrugs off Conflict-of-Interest Concerns."

²⁷ Ariel Wittenberg, "Possible Water Chief 'a Lawyer's Lawyer' Who Sued the EPA," *E&E News*, July 27, 2017, <https://www.eenews.net/stories/1060058019>.

²⁸ Lee Fang, "EPA's new Water Safety Official Is a Lobbyist with Deep Ties to the Dakota Access Pipeline," *Intercept*, June 28, 2017, <https://theintercept.com/2017/06/28/epas-new-water-safety-official-is-a-lobbyist-with-deep-ties-to-the-dakota-access-pipeline/>.

the National Association of Homebuilders and challenged the Clean Water Act's impact on developers.²⁹

Another political appointee plucked from the Koch brothers' universe, David Dunlap, is currently leading the EPA's Office of Research and Development (ORD). Dunlap, a longtime chemical and fossil fuel executive, serves as deputy assistant administrator overseeing a major reorganization of ORD offices to create a "smaller, more streamlined division."³⁰

At the EPA's Office of General Counsel, which is the chief legal advisor to the EPA, is David Fotouhi, a former industry lawyer with clients such as General Electric and the petroleum refinery company Tesoro Corp. (now Andeavor),³¹ and Justin Schwab, a former lawyer whose past clients include the utility giant Southern Company. Schwab has been a central actor in the repeal of the Clean Power Plan.³²

Appointees with similar backgrounds have also led the Department of Justice (DOJ), which works closely with EPA enforcement by taking over many civil and criminal cases and also advocates on behalf of EPA policies in court. When he was a senator, Jeff Sessions, the Attorney General until November 2018, often intervened to oppose EPA enforcement action, especially on behalf of Alabama's Drummond Coal.³³ The DOJ's environment division, which handles its EPA-related work is headed by the attorney who defended BP after the Deepwater Horizon oil spill, Jeffrey Bossert Clark.³⁴

²⁹ Merrit Kennedy, Trump Aims to 'Eliminate' Clean Water Rule", *NPR*, February 28, 2017, <https://www.npr.org/sections/thetwo-way/2017/02/28/517016071/trump-aims-to-eliminate-clean-water-rule>.

³⁰ Kevin Bogardus, "EPA Reorganization Shakes Up Research Office," *E&E News*, March 8, 2019, <https://www.eenews.net/stories/1060123563>.

³¹ Kevin Bogardus and Amanda Reilly, "Pruitt Aide Didn't Have to Sign Trump Ethics Pledge," *E&E News*, March 20, 2018, <https://www.eenews.net/stories/1060076851/print>.

³² Robin Bravender, "A Specialist in Greek Drama Is Killing the Climate Rule," *E&E News*, September 11, 2017, <https://www.eenews.net/stories/1060060183>.

³³ Russ Choma and Nick Schwellenbach, "Jeff Sessions Has a Huge Conflict of Interest in a Federal Bribery Case—and It Keeps Getting Worse," *Mother Jones*, March 8, 2018, <https://www.motherjones.com/politics/2018/03/jeff-sessions-has-a-huge-conflict-of-interest-in-a-federal-bribery-case-and-it-keeps-getting-worse/>.

³⁴ Dino Grandoni, "The Energy 202: Trumps Puts Former BP Oil Spill Lawyer in Charge of Environmental Law Enforcement," *Washington Post*, October 12, 2018, <https://www.washingtonpost.com/news/powerpost/paloma/the-energy-202/2018/10/12/the-energy-202-trump-puts-former-bp-oil-spill-lawyer-in-charge-of-environmental-law-enforcement/5bbf88411b326b7c8a8d1948/>.

Given their current bosses, career staff working in enforcement in both the EPA and the DOJ have good reason for becoming more cautious about their pursuit of polluters, whatever their own convictions about how aggressively they should be working. With so many who have long fought EPA's "gorilla" function now in charge of it, those laboring under them have been forced to contemplate how sheeplike they should become.

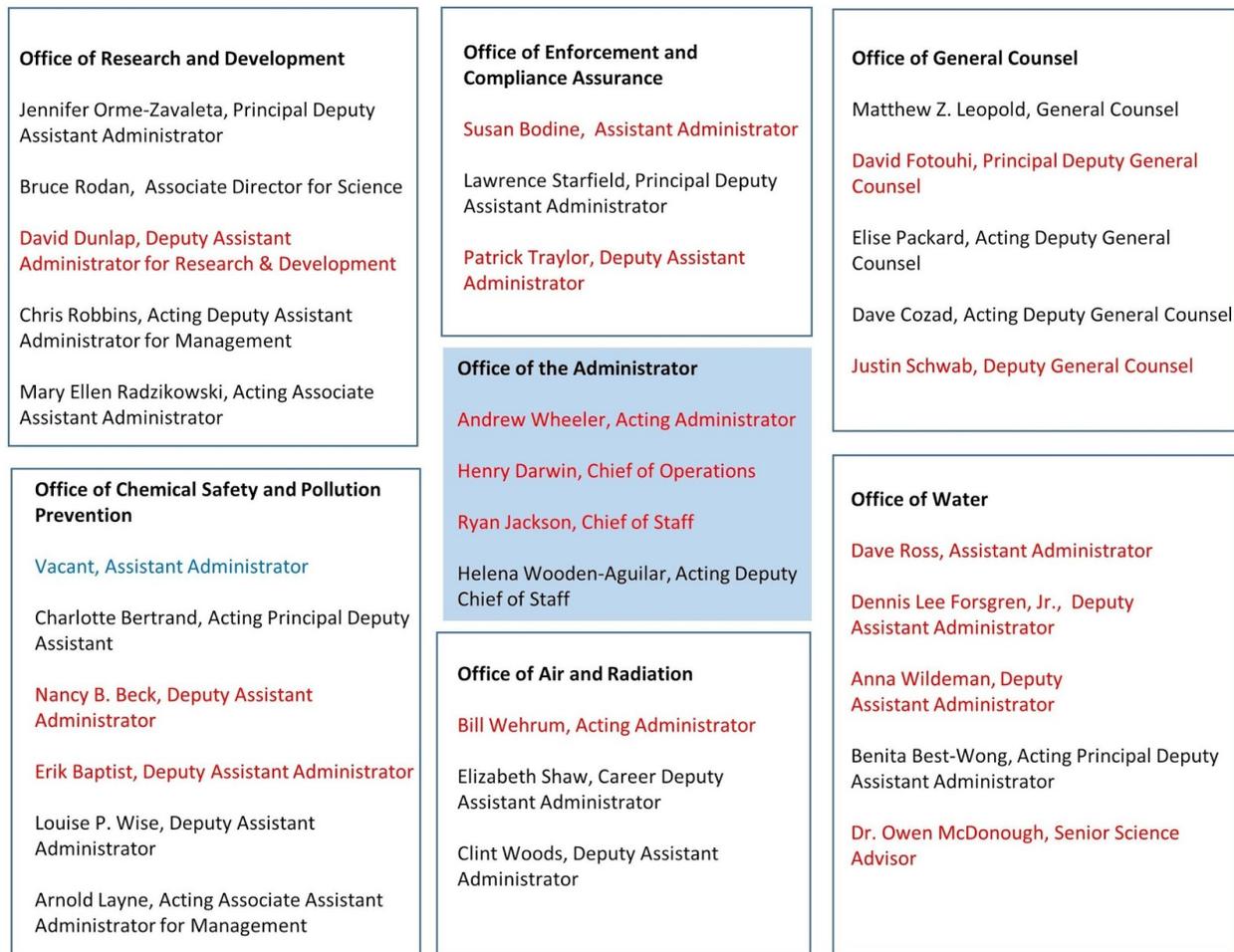


Figure 1: Organizational chart for key EPA offices and their top staff. Highlighted in red are political appointees who previously worked for fossil fuel, chemical, agricultural, or real estate industries that challenged environmental protections or alongside top D.C. climate-change deniers. Vacant seats are in blue. **Sources:** The Center for Public Integrity, "Most of the 46 Political Appointees"; and Center for Responsive Politics, "Lobbyists in (and out of) the Trump Administration," Opensecrets.org, accessed November 1, 2018, <https://www.opensecrets.org/trump/lobbyists>. For other sources, see footnotes in text discussion of these individuals.

Reducing Capacity and Expertise

In addition to installing industry-aligned insiders in top regulatory positions, the administration retains overall designs for the agency that are reflected in its continuing resolve to drastically shrink the EPA's budget and workforce. While the Republican Congress restored most EPA funds that the administration sought to cut for FY 2018 and FY 2019,³⁵ Trump officials again asked for large cuts for FY 2020 across most of the agency's programs. This time they are seeking a 31 percent reduction in overall funding, which would draw down the agency's budget by \$2.76 billion (more than their FY 2019 proposal). They are also proposing to reduce the number of EPA employees to 12,451 full-time equivalents (FTEs), to bring staffing levels to their lowest level since the Reagan cuts of the early 1980s. While Congress has already pushed back against the administration's extreme cuts proposed for FY 2019, even the Senate's alternative, maintaining FY 2018 levels, will make for one of the agency's smallest budgets of the last thirty years in real dollars.³⁶

Budget cuts are not the only way to shrink a government agency. The absence of new hiring has combined with a buyout offered in September 2017, taken by over seven hundred employees, to shrink the EPA workforce by attrition. It fell by 8 percent between fiscal years 2017 and 2018 alone (measured in FTEs). (The federal fiscal year runs from October 1 of the previous year, to September 30 of the year included in the fiscal year's name). The agency's total workforce is down by 16 percent since 2013 and 21 percent since peaking around 2000.³⁷

The EPA offices with the biggest workforce reductions over the last year (FY 2017 and FY 2018) suggest which parts of the agency are being most targeted for

³⁵ Our earlier report, *EPA Under Siege*, reflects on the severity of the threat and possible consequences of the Trump administration's 31 percent proposed cut for FY 2018. Congress did not adopt many of these cuts, but the agency was in a state of budgetary limbo for months under continuing budget resolutions.

³⁶ EPA, "FY 2020 EPA Budget in Brief," March 2019, <https://www.epa.gov/sites/production/files/2019-03/documents/fy-2020-epa-bib.pdf>; for analysis and comparisons see Environmental Protection Network, "Understanding the Full Impacts of the Proposed FY 2020 EPA Budget," April 8, 2019, <https://www.environmentalprotectionnetwork.org/wp-content/uploads/2019/03/FY2020-Budget-19-pg-Analysis-4.pdf>.

³⁷ Email from Daniel Coogan to Rachel Stanton, "FW: FTE's--Re: Freedom of Information Act Request EPA-HQ-2018-006907," May 16, 2018, available at <https://envirodatagov.org/wp-content/uploads/2019/05/email-EPA-HQ-2018-006907.pdf> (from FOIA request EPA-HQ-2018-006907, <https://foiaonline.gov/foiaonline/action/public/submissionDetails?trackingNumber=EPA-HQ-2018-006907&type=request>); and Sellers et al., *EPA Under Siege*, Figure 3, "Total EPA Workforce."

downsizing. The largest drops, of just over 15 percent, came in the Office of International and Tribal Affairs (OITA) and in the Office of Inspector General (OIG). Already the smallest office at headquarters, OITA was also slated in the FY 2019 budget to lose most, if not all, support for tribal and U.S.–Mexico border programs. The OIG reviews EPA operations and expenditures and had drawn attention for its scrutiny of decisions made by former Administrator Pruitt. Three other offices lost more than 10 percent of their staff during FY 2018: the Office of Air and Radiation (in charge of regulation of air pollution and radiation threats including greenhouse gases), Office of Research and Development (which handles much of the agency’s in-house as well as contracted scientific work), and, not surprisingly, Office of Enforcement and Compliance Assurance.³⁸

The Pruitt-initiated, systematic effort to diminish the agency’s long-standing reliance on science and evidence-based policymaking has shown few signs of slowing under Wheeler. While the push to restrict science used in rule making through a “transparency” standard has been delayed until 2020, Wheeler has shown no interest in revoking directives and appointments that have tilted advisory boards toward scientists on industry payrolls. Investigators holding EPA grants are still not allowed on the Science Advisory Board, even as Wheeler has also shut down the Office of the Science Advisor (which includes a science integrity office, by folding these into the Office of Science Policy).³⁹ Other long-serving scientists on advisory boards and in key positions, such as Ruth Etzel of the Office of Children’s Health Protection, continue to be pushed or rotated out.⁴⁰

As agency scientists and engineers read the writing on the wall, many are leaving of their own accord. Among departing staff, they comprise the largest chunk counted as attrition (excluding buyouts): 43.4 percent of those leaving in FY 2017 and 45.5 percent in FY 2018.⁴¹ As this expertise drains away, the EPA is losing its ability to grapple both with older environmental problems that have proven recalcitrant, like

³⁸ Email from Daniel Coogan to Rachel Stanton, “FW: FTE’s.”

³⁹ Dan Boyce, “EPA to Dissolve Office of Science Adviser,” *NPR*, September 26, 2018, <https://www.npr.org/2018/09/29/653013054/epa-to-dissolve-office-of-science-advisor>.

⁴⁰ Coral Davenport and Roni Caryn Rabin, “E.P.A. Places the Head of Its Office of Children’s Health on Leave,” *New York Times*, September 26, 2018, <https://www.nytimes.com/2018/09/26/climate/epa-etzel-children-health-program.html>.

⁴¹ “Attrition FOIA December 1 2016 to Mar 31 2018 final”

(Excel spreadsheet), available at

<https://envirodatagov.org/wp-content/uploads/2019/05/attrition-dec1-mar31-EPA-HQ-2018-006907.xlsx> (from FOIA request EPA-HQ-2018-006907, <https://foiaonline.gov/foiaonline/action/public/submissionDetails?trackingNumber=EPA-HQ-2018-006907&type=request>).

lead and toxic air pollutants, and with unanticipated newer ones, from climate change to perfluorooctanoic acid (PFOA).

Losing this expertise alongside other staff and budget reductions—being starved and shrunken, losing weight and shedding muscles—the EPA is progressively jettisoning its ability to act gorilla-like.

Reorganizing

Ever since President Trump's Executive Order 13781 (March 31, 2017) for "reorganizing the Executive Branch," EPA leadership has deliberated extensively over which programs to eliminate as "unnecessary" as well what current functions would, as the executive order puts it, "be better left to State or local governments or to the private sector through free enterprise."⁴² The most drastic plans floated for the EPA's reorganizing have targeted its regional offices, where most enforcement as well as interaction with state agencies happens. By report of our interviewees, reorganization planners have considered transferring all regional administrative work back to headquarters, merging or closing some of the regional offices, and moving some regional EPA employees into state environmental agencies.

Members of Congress from both sides of the aisle pushed back against the rumors of regional office closures in their own districts. Back in April 2017, for instance, Rep. Fred Upton joined Republican as well as Democratic colleagues in decrying a report that Chicago's Region 5 office might be closed.⁴³ Riders voted onto budget legislation explicitly forbade the agency from doing so. Thus far, with the EPA regional offices largely left out of the administration's formal reorganization plan for the executive branch, political pressures appear to have stymied the most aggressive designs for them.⁴⁴ Staff reductions in the regional offices over FY 2018 have stuck near the 8

⁴² Executive Office of the President, "Executive Order 13781, Comprehensive Plan for Reorganizing the Executive Branch," *Federal Register*, March 13, 2017, <https://www.federalregister.gov/documents/2017/03/16/2017-05399/comprehensive-plan-for-reorganizing-the-executive-branch>.

⁴³ Michael Sneed, "Sneed exclusive: City Could Lose Its EPA Regional Office," *Chicago Sun-Times*, April 25, 2017, <https://chicago.suntimes.com/news/sneed-exclusive-city-could-lose-its-epa-regional-office/>; and Michael Gerstein, "Mich. Reps Urge Pruitt to Keep Chicago EPA Office," *Detroit News*, April 27, 2018, <https://www.detroitnews.com/story/news/politics/2017/04/27/epa-letter-pruitt/100993862/>.

⁴⁴ Eric Katz, "EPA's Planned Office Closure Could Run Afoul of Congressional Mandate," *Government Executive*, April 3, 2018, <https://www.govexec.com/management/2018/04/epas-planned-office-closure-could-run-afoul-congre>

percent average for the agency as a whole, ranging from 7.4 percent to 9.4 percent—with the Chicago region losing 7.6 percent.⁴⁵

The reorganization plan now underway in the regions appears more anodyne. All regional offices are rearranging their structure to more closely mirror that at EPA headquarters, after decades of autonomous development.⁴⁶ However, current and former EPA employees suspect the reshuffling is laying groundwork for a further shearing of staff and operations, even as the political leadership tightens its reins on regional monitoring and enforcement work. In Region 5, for instance, which is now having to organize a separate enforcement division, employees worry the change will enable the office to “get away with less enforcement.”⁴⁷

Smaller reorganizations already accomplished may also be affecting enforcement as well as cleanup activities. Early in Pruitt’s term, the Office of Environmental Justice was shifted out of OECA (which oversees enforcement) into the administrator’s office, removing it further from day-to-day work of inspecting, permitting, and fining. Have overburdened and at-risk communities, the main concern of this Environmental Justice office, paid a price? One other change, the shrinkage and then closure of a project office in Hanford, Washington, suggests that some may have: the neighbors of one of the largest and most toxic former nuclear facilities at Hanford.⁴⁸ The appointment to the agency’s environmental justice advisory committee of an executive at CH2M Hill, a private waste handler working at Hanford,

[ssional-mandate/147170/](#); and Office of the President, *Delivering Government Solutions in the 21st Century Reform Plan and Reorganization Recommendations*, June 2018, <https://www.performance.gov/GovReform/Reform-and-Reorg-Plan-Final.pdf>.

⁴⁵ Email from Daniel Coogan to Rachel Stanton, “FW: FTE’s.”

⁴⁶ “EPA Readies Regional Office Reorganization Plan For Congress’ Review,” *Inside EPA*, October 5, 2018,

<https://insideepa.com/daily-news/epa-readies-regional-office-reorganization-plan-congress-review/>;

Kevin Bogardus, “Employees Brace for ‘Organized Chaos,’” *E&E News*, April 12, 2019,

<https://www.eenews.net/stories/1060155923>.

⁴⁷ Abby Smith, “Trump’s EPA Makeover Could Put Regional Offices on Shorter Leash,” *Bloomberg Environment*, September 26, 2018,

<https://news.bloombergenvironment.com/environment-and-energy/trumps-epa-makeover-could-put-regional-offices-on-shorter-leash/>; Bogardus, “Employees Brace” (quote).

⁴⁸ Jordan DeWitt, “Who’s Watching Hanford? EPA Presence Dwindling,” *Northwest Public Broadcasting*, November 15, 2017,

<https://www.nwpb.org/2017/11/15/whos-watching-hanford-epa-presence-dwindling/>; and

Reorganizational Proposal [Abandonment of Hanford Project Office], March 12 [?], 2018, available at <https://envirodatagov.org/wp-content/uploads/2019/05/2018-Reorg-Proposal-R10-ECL.docx> (from FOIA request EPA-HQ-2018-006907,

<https://foiaonline.gov/foiaonline/action/public/submissionDetails?trackingNumber=EPA-HQ-2018-006907&type=request>).

raises further questions about the EPA's operations at one of the nation's most challenging hazardous waste sites.⁴⁹

Through these many changes, as the new leadership has tightened its grip over the EPA, it has deliberately set out to curb its regulatory capabilities and character. Even as career staff and Congress have often stood in their way, Trump political appointees seem determined to alter the agency's very DNA, to render it less aggressive or effective against environmental malefactors and less protective of our air, water, soil, and health. Not surprisingly, the consequences have been accumulating, none more so than in that realm where the EPA exercises its sharpest bites.

⁴⁹ Emily Atkin, "The EPA's New Environmental Justice Adviser Has a Plutonium Problem," *New Republic*, March 8, 2018, <https://newrepublic.com/article/147325/epas-new-environmental-justice-adviser-plutonium-problem>.

THE PLUMMET IN ENFORCEMENT

The EPA's enforcement of federal environmental laws is plummeting, alarming staff responsible for ensuring clean air, water, and other protection from toxic hazards for people and communities. The EPA's own figures show enforcement downturns across the board in almost every health-protecting federal environmental program from the Clean Water Act, the Clean Air Act, and Superfund to the Resource Conservation and Recovery Act (RCRA, a program mandating the safe handling and disposal of hazardous waste).

How EPA Enforcement Works

To understand what these numbers show, a brief explanation is in order of how EPA enforcement works. In 1970 President Richard Nixon created the EPA as a “strong, independent agency” tasked with a “broad mandate” to control pollution. Congress then passed a raft of environmental legislation that it charged the EPA with administering, a job that included conducting research, writing regulations, and enforcing those regulations.⁵⁰ For most environmental laws, the EPA and the states divvy up enforcement duties. In general, states have carried out, and continue to carry out, most enforcement actions while the EPA takes on bigger cases, often with the help of the DOJ.

The details of federally run enforcement practices vary across laws, but generally they happen as follows. The EPA assists regulated entities (businesses, municipalities, and so on) to facilitate their complying with the law while also monitoring them for violations. Monitoring may consist of information requests and self-reporting from industries, electronic data collection, and on-site inspections. The EPA also gathers tips from citizens. If it finds a violation, its teeth and claws start to show. It may initiate an informal enforcement action, such as sending a notice of

⁵⁰ Leif Fredrickson, Christopher Sellers, Lindsey Dillon, Jennifer Liss Ohayon, Nicholas Shapiro, Marianne Sullivan, Stephen Bocking, Phil Brown, Vanessa De La Rosa, Jill Harrison, Sara Johns, Katherine Kulik, Rebecca Lave, Michelle Murphy, Liza Piper, Lauren Richter, and Sara Wylie. “History of US presidential Assaults on Modern Environmental Health Protection.” *American Journal of Public Health* 108, no. S2 (2018): S95–S103.

violation or a warning letter.⁵¹ Or it may initiate formal enforcement actions, which are of two main types: *civil* cases (for violations of civil code) and *criminal* cases (for violations of the criminal code).

For civil violations, the EPA can pursue *administrative* or *judicial* cases. The most common enforcement actions are administrative, which entail the agency itself issuing a formal notice of violation or an order requiring compliance. There are many different categories of administrative enforcement actions, reflecting the variety of mechanisms available for compelling compliance. Civil judicial cases are those cases pursued in court outside the EPA's administrative apparatus. While less common than administrative cases, judicial cases are usually the most serious civil cases. The DOJ takes the lead on these cases, and so when these cases are initiated they are counted as "civil judicial referrals" to the Department of Justice. These cases typically end in consent decrees, which are a form of court-ordered negotiated settlement.

Both administrative orders and court orders, including consent decrees, can impose civil penalties on violators and can require them to come into compliance. The EPA tracks the fines (penalties) levied in civil cases and estimates the compliance costs (also called "injunctive relief") that result from orders and settlements. EPA also tracks the amount of money committed for Supplemental Environmental Projects (SEPs), another potential outcome of cases. SEPs require violators to fund projects to improve environmental or human health in affected communities.

Finally, in addition to *civil* actions (administrative and judicial) the EPA may pursue *criminal* enforcement actions, which is where it exercises its most gorilla-like might. It undertakes these actions against the most egregious violators of environmental laws. As in civil judicial cases, the DOJ prosecutes these on behalf of the EPA, working closely with EPA criminal investigators. Criminal cases can result not just in monetary penalties but in prison time for those held responsible.

For most laws, the EPA can delegate authority to enforce the law to the states (as well as tribal governments). Most states have gained authorization to enforce federal environmental laws, such as the Clean Air Act and Clean Water Act, which is why most environmental enforcement actions are undertaken by state environmental agencies. Authorized states get federal funding to help them pursue

⁵¹ For Clean Air Act violations, the EPA is required to issue a notice of violation (an informal enforcement action) before formal enforcement actions. For other environmental laws, it has discretion to start with either an informal or a formal action.

enforcement. In states without authorization, the EPA enforces federal environmental laws. The EPA also takes up cases in authorized states when cases are too big or too complex for states or in situations when states are not adequately enforcing laws. Even when the EPA takes the lead on cases, settlements may include penalties paid to state and local governments. And vice versa: when states lead on cases, some settlement penalties may be paid to the federal government.

Enforcement Numbers

The OECA's 2017 annual report showed that the number of civil cases, criminal cases, defendants charged, and inspections had all declined considerably, in some cases to the lowest points in a decade or more.⁵² Released in early 2018, those numbers drew considerable attention from the media and alarm among former EPA staff and environmental groups. The enforcement metrics now available for FY 2018 show even lower figures on almost all counts.

On February 8, 2019, OECA released its 2018 annual report.⁵³ The report highlighted a few of OECA's figures for 2018 and asserted that "a strong enforcement and compliance assurance program is essential to achieving positive public health and environmental outcomes."

But while OECA's report declared that its enforcement program was strong, the data it reported about itself conveys just the opposite. Compared to past data on EPA enforcement – published in the agency's own reports – 2018 was one of the weakest, perhaps the weakest, enforcement year in decades.

Assessing overall EPA enforcement is a challenge because the agency enforces across a variety of environmental media and environmental laws. Moreover, enforcement is a process, with different measurements for different parts of that

⁵² Suzy Khimm, "EPA Enforcement Actions Hit 10-Year Low in 2017," *NBC News*, February 8, 2018, <https://www.nbcnews.com/politics/white-house/epa-enforcement-actions-hit-10-year-low-2017-n846151>; Umair Irfan, "How Trump Is Letting Polluters off the Hook, in One Chart," *Vox*, February 22, 2018, <https://www.vox.com/energy-and-environment/2018/2/22/17036114/pollution-fines-trump-pruitt-epa>; and Public Employees for Environmental Responsibility, "EPA Agents Fighting Eco-Crime Drop as Security Detail Grows," *PEER*, June 21, 2018, <https://www.peer.org/news/press-releases/epa-agents-fighting-eco-crime-drop-as-security-detail-grows.html>.

⁵³ EPA, "EPA Enforcement Annual Results 2018," (February 8, 2019), <https://www.epa.gov/enforcement/enforcement-annual-results-fiscal-year-2018>.

process. Some measures are more important than others. Overall measures of enforcement cases or costs of compliance, for example, are more indicative of strong enforcement than narrower measures, such as the cleanup of contaminated soil. But there is no single measure that tells all.

Instead, it is necessary to look at the measures holistically, to see how the EPA is doing at different points in its enforcement process. We also compare these numbers to past in several ways.

First, we look at how FY 2018 numbers compare to the very recent past: fiscal years 2017 and 2016. FY 2017 was a year of shared administration, with the Barack Obama administration managing the EPA in that fiscal year from October 2016 to mid-January 2017, and the Donald Trump administration managing the agency from mid-January 2017 to September 2017. In addition, since many enforcement actions take months or years to come to conclusion, actions initiated under the Obama administration have affected outcomes (and thus numbers) in the Trump administration (both in FY 2017 and 2018).

The numbers for FY 2017 are generally reflective of the Trump administration. This is particularly true of case initiations, both civil and criminal. But new administrations can also influence the conclusion of cases initiated under previous administrations. They can conclude them more quickly (or slowly) and can have influence on the penalties and compliance requirements (and hence the estimated compliance costs and environmental benefits). FY 2018 is more reflective of the Trump administration, since it was the sole manager of the EPA in that year and the lagging effects of the Obama administration were less prevalent. FY 2016 (and many years before), on the other hand, reflects more purely the Obama administration, though as we discuss later, it also reflects the budgetary authority of Congress.

Comparing FY 2018 to fiscal years 2017 and 2016 is useful to get a sense of some recent trends. But because these are only comparisons to single years, and there can be substantial variability in measures from year to year, it is important to compare FY 2018 to a longer span of time in the past. To do so, we have drawn on published historical enforcement statistics from the EPA. (The sources for these statistics and web links to them are included in the Appendix so that they may be easily verified.) To compare the Trump administration more clearly to past administrations, we have excluded FY 2017 from the averages, starting instead with FY 2016 and working back. Because the EPA's enforcement programs and data collection procedures have evolved over time, the starting point for the time span

we use varies by enforcement metric. But with the exception of environmental benefits, our comparison data goes back at least several decades.⁵⁴

For historical data, we compared FY 2018 to both the mean and the median of the comparison time period. The median is particularly useful for metrics, such as civil penalties, where there are outliers that have a large effect on the mean. In addition, we rank FY 2018 (and FY 2017) numbers in terms of how close they are to being the lowest or highest compared to past years.

In what follows, we compare FY 2018 enforcement numbers to the past by starting with the beginning of the enforcement process (inspections), followed by the initiation and conclusion of cases, and then looking at the outcomes (penalties and costs) and the estimated environmental benefits resulting from cases. (For examples of some of the terms used below, see Figure 2).

⁵⁴ The starting point for date ranges is determined in many cases by when the EPA began collecting the data. For civil and criminal cases, we started the comparison after these enforcement programs had emerged from their infancy. For civil enforcement that was around the mid-1970s. For criminal enforcement, that was around the late 1980s.

Examples of Enforcement Actions and Enforcement Outcomes

Civil Judicial Case: The EPA and the DOJ file a case in federal court against a paper company with factories in several states that are in violation of the Clean Air Act.

Consent Decree: After the EPA and DOJ file a case in federal court against a brass foundry that was in violation of the Resource Conservation and Recovery Act (RCRA), the federal government and the business agree to a set of measures requiring the foundry to certify that it is no longer illegally handling hazardous waste and develop a closure and cleanup plan for its illegal waste dumping operation. The agreement also includes penalties that will accumulate for each day the company is in violation of the agreed upon plan. The agreement is lodged in a court, and the court enters the agreement as a consent decree, making the agreement enforceable by the court in the same way a court order is.

Administrative Order: The EPA issues an penalty order requiring a fertilizer factory to pay a fine of \$30,000 per day until the factory produces a Risk Management Plan, as required by the Clean Air Act, after the company failed to produce the plan as stipulated in an earlier compliance order from the agency.

Superfund Cleanup Commitment: The EPA remediates lead-contaminated soil at a former smelter site and then orders the responsible party (the company that bought the smelter) to reimburse the agency for its past cleanup costs (often called "cost recovery"). Or the EPA may pursue a court case against a responsible party, resulting in a settlement that requires the party to commit funds to clean up the soil in the future.

Informal Enforcement Action: EPA sends a power plant a notice of violation of the Clean Air Act and gives the plant thirty days to come into compliance before issuing fine a or a formal order to comply with the law.

Compliance Cost: The EPA and DOJ file a case in court against a municipality that is in violation of the Clean Water Act for discharge of excess sewage due to a faulty wastewater treatment plant. The parties negotiate a consent decree that requires the municipality to come into compliance with the law, which entails spending \$500 million to repair its treatment plant.

Supplemental Environmental Project (SEP): In addition to requiring compliance in the above case, the parties negotiate a reduced civil penalty in return for the city spending \$5 million to connect failing septic systems to the city sewer system, a project (SEP) that will yield health and environmental benefits for the community.

Criminal Case: The EPA and DOJ file a criminal case in court against a chemical manufacturer that, in violation of the Clean Water Act, did not take reasonable steps to ensure that toxic chemicals it manufactured would not leak into the nearby river. The chemicals did leak, endangering the water supply of the city downstream and bringing the local economy to a halt. The company was fined \$1 million in criminal penalties and its president was sentenced to two months in prison.

Figure 2: Examples of enforcement actions and enforcement outcomes. To read about actual civil and criminal cases, see "Cases and Settlements," <https://www.epa.gov/enforcement/cases-and-settlements>.

Inspections

To begin enforcement, EPA must identify facilities that are in non-compliance (for example, emitting more mercury from an incinerator than is allowed under the law). There are several ways that non-compliance can come to the attention of the

agency, but inspections by EPA staff are a critical tool and the place where a strong enforcement program begins. However, the EPA conducted only 10,612 inspections in 2018, the lowest in 25 years (since 1994). EPA did not record inspection numbers before 1994, so 2018 inspections were actually the lowest inspection counts on record. The number of inspections in FY 2018 fell 11 percent since FY 2017, 23 percent since FY 2016, and were just 55 percent of the mean (54 percent of the median) annual numbers of inspections (19,200) from FY 1994 to 2016.

Civil Case Initiations and Conclusions

Another critical measure of enforcement strength is the number of cases initiated and the number concluded. If inspections or other monitoring find non-compliance, EPA typically initiates an enforcement case. For civil violations, EPA may initiate an administrative case or, for more serious cases, the EPA may refer the case to the DOJ to pursue in court.

Total civil case initiations in FY 2018 declined to 1,838, the lowest number since 1982 (Figure 3). They were down 5 percent from FY 2017 and 24 percent from FY 2016. Even averaging back from 2016 to 1975—when EPA’s civil enforcement program was still very young—the numbers for FY 2018 were still low by comparison: just 56 percent of the mean (54 percent of the median) for that time period.⁵⁵

Civil judicial referrals make up a small part of the overall initiations, but they are the most serious civil cases. There were only 110 civil judicial referrals each year in 2017 and 2018, down 28 percent since FY 2016. One has to go back in the record four decades, to 1976, to find a year with fewer civil judicial referrals than 2017 and 2018. FY 2018 numbers were just 43 percent of the mean (42 percent of the median) number of annual civil judicial referrals from 1975 to 2016.

⁵⁵ Civil case initiations are technically the sum of civil judicial referrals, administrative penalty order complaints (APOCs), and administrative compliance orders (ACOs). Before 1994, APOCs and ACOs were lumped together in OECA annual reports as “Administrative Actions.” From 1996 to 2003, EPA often counted RCRA “Field Citations” separate from APOCs. Field Citations have been added to APOCs in this period as necessary to make them consistent with post-2003 data (National Enforcement Trends Report, E-6). From 1991 to 2002, EPA gave “extra credits” to some civil case initiations (National Enforcement Trends Report, E-2). Civil judicial referrals for 1999 to 2002, and administrative cases for 2001 to 2002, were adjusted in the NET Report to remove these extra credits. However, the extra credits remain for the other years, slightly inflating the total civil case initiations for those years as well as the overall average and median. Nevertheless, this inflation does not change the fact that FY 2018 civil case initiations are extremely low by historical standards.

Civil case conclusions, meanwhile fell to 1,817, the lowest since 1994 and, because the record only goes back to 1994, the lowest on record (Figure 3). FY 2018's numbers were down 7 percent from FY 2017, 23 percent from 2016, and were just 53 percent of the mean (55 percent of the median) number of annual civil case conclusions from 1994 to 2016.⁵⁶

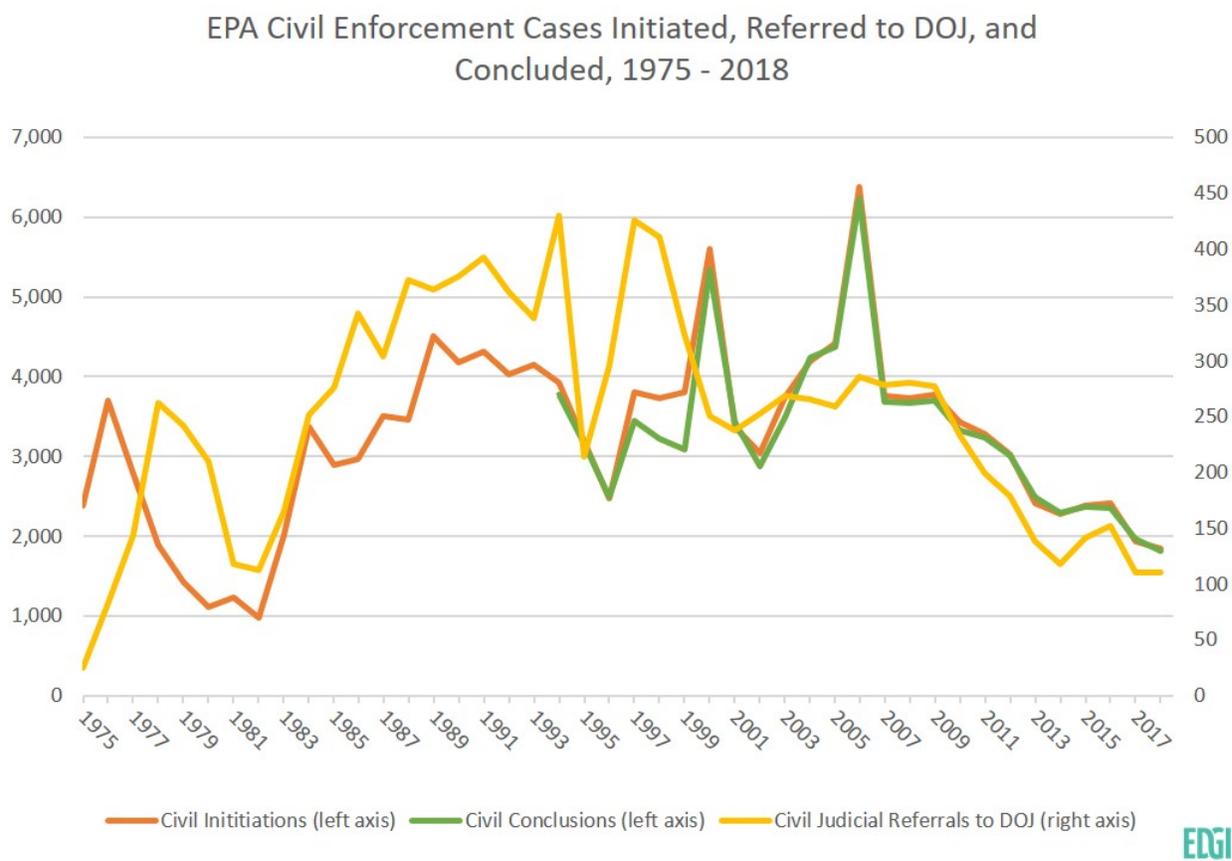


Figure 3: Civil case initiations (including judicial referrals to the DOJ) and conclusions carried out by EPA. As the graph shows, these actions declined to their lowest levels in decades in FY 2018. **Source:** See Appendix.

⁵⁶ Civil case conclusions are technically the sum of civil judicial conclusions, final administrative penalty order complaints (FAPOs), and administrative compliance orders (ACOs).

Criminal Cases, Defendants Charged, Years Sentenced

The number of criminal cases brought by the Trump-era EPA has also declined steeply. Criminal case initiations were up 12 percent compared to FY 2017, but with just 129 cases, FY 2018 was the second lowest year since 1992 (FY 2017 was the lowest). FY 2018 criminal case initiations were down 24 percent since FY 2016, and were just 42 percent of the mean (41 percent of the median) annual cases opened from 1989 to 2016.

Another measure is number of criminal defendants charged. In FY 2018, there were 105 charged defendants, the lowest since 1991. These numbers were down 24 percent since FY 2017, 44 percent since FY 2016, and were just 43 percent of the mean (42 percent of the median) annual defendants charged between 1989 and 2016.

In addition to assessing the number of cases and defendants, it is important to look at the outcomes of cases. Criminal sentences (years of incarceration) fell to 73, down 52 percent from FY 2017 and 44 percent from FY 2016. FY 2018 was the fourth lowest year since 1990, and was just 62 percent of the mean (77 percent of the median) annual criminal sentences between FY 1989 and 2016 (Figure 4).

EPA Criminal Enforcement Cases Initiated, Defendants Charged, Years Sentenced, 1989-2018

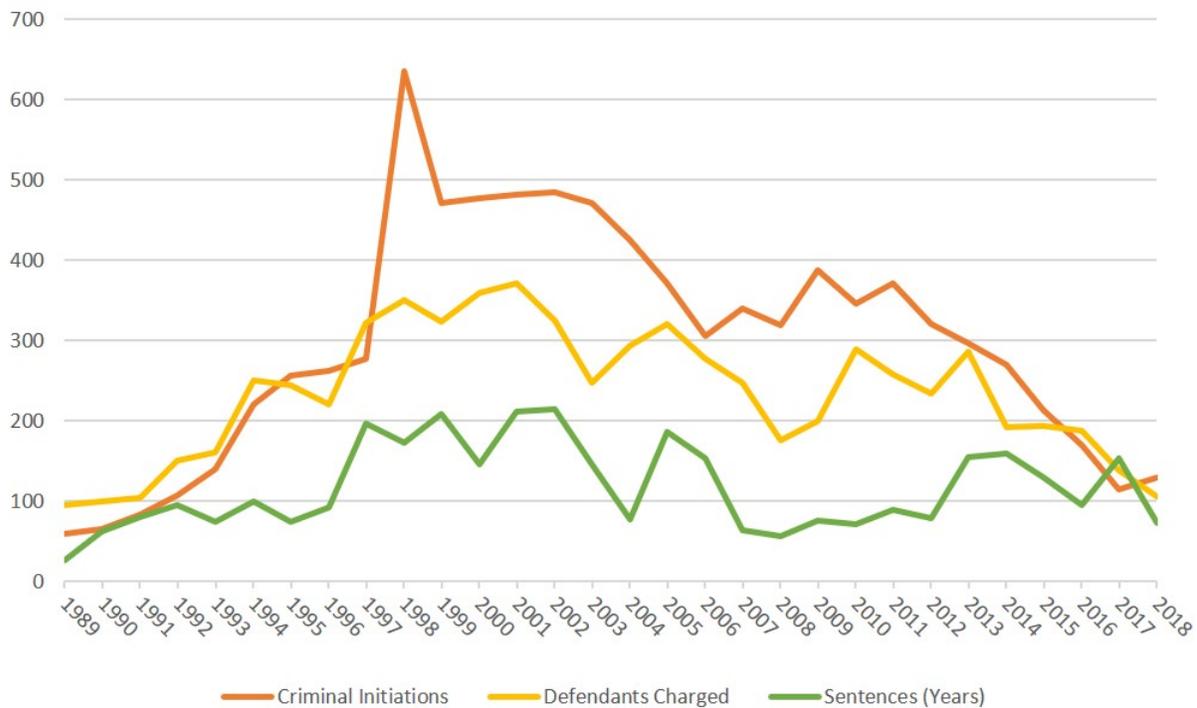


Figure 4: Criminal case initiations, defendants charged in criminal cases, and years sentenced in criminal cases. As the graph shows, criminal case initiations and defendants charged in FY 2017 and 2018 were the lowest they have been in decades. **Source:** See Appendix.

Penalties and Supplemental Environmental Projects (SEPs)

A key outcome of both civil and criminal cases is the penalty (fine) given to parties. Thus one way to measure enforcement is through the penalties levied against violators of environmental laws, when the gorilla’s arm reaches into polluters’ pocketbooks. Civil penalties declined to \$69 million in FY 2018, the lowest they have been since 1987. (All monetary values adjusted for inflation, in 2018 dollars).⁵⁷ Penalties were down 96 percent from FY 2017, 99 percent from FY 2016 and were just 47 percent of the median (17 percent of the mean) annual penalties between

⁵⁷ Following the EPA, we used the Consumer Price Index (CPI) to adjust monetary values for inflation. We made 2018 the base year. The CPI deflator table and source is listed at the end of this document.

1989 and 2016. The collapse of FY 2018 penalties is even more stark if one adds in the billions of dollars of penalties from big settlements initiated and pursued during the Obama administration, with BP (over the Deepwater Horizon oil spill) and Volkswagen (over the diesel emissions scandal).

Criminal penalties, at \$86 million in FY 2018, were down 97 percent from FY 2017 and 60 percent from FY 2016. This penalty level was 5 percent above the median amount of annual criminal penalties given between 1989, but was 42 percent less than the mean for that period. Finally, SEPs are sometimes negotiated to be a partial reduction in penalties. Thus we have included SEPs along with penalties in the Figure 5 graph.

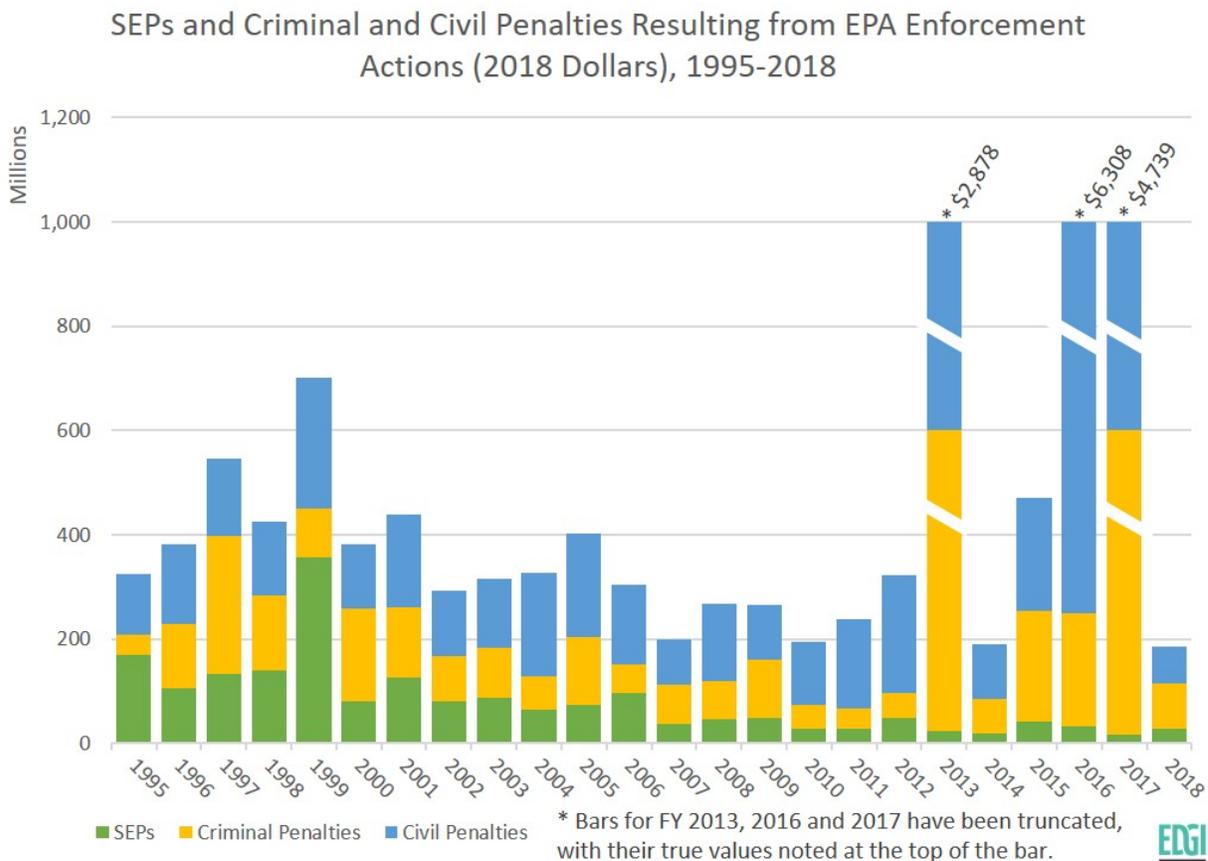


Figure 5: Costs of SEPs and civil and criminal penalties resulting from the EPA’s civil and criminal enforcement actions. The huge settlements from BP and Volkswagen in fiscal years 2013, 2016, and 2017 have been truncated (number by asterisk gives total for amount of SEPs and penalties in those years). As the graph shows, penalties were rising before FY 2018 before falling precipitously in that year. Civil penalties fell to the lowest level in decades (since 1987). **Source:** See Appendix.

Compliance Costs (Injunctive Relief) and Superfund Cleanup

The cost incurred by polluters and other violators to comply with EPA legal actions and directives offers another measure of the agency's assertiveness. When regulated entities clean up their act, it costs them money, at least in the short term. Compliance costs reflect the degree to which the EPA is forcing industries to spend what they otherwise would not, to invest in reducing their pollution and other negative impacts on environmental and human health.

By that measure, Trump's EPA has been doing much less to change how polluting entities operate. The costs to comply with civil enforcement actions (injunctive relief) fell to \$3.95 billion in FY 2018, the lowest level since 2003 (adjusted for inflation). Compliance costs were down 81 percent from FY 2017, 72 percent since FY 2016 and were just 62 percent of the median (49 percent of the mean) annual amount of compliance costs from FY 1995 to 2016 (Figure 6).

Related to compliance costs is the requirement that parties responsible for contaminating land with hazardous waste pay to clean up that land. This requirement stems from the Superfund program, formally known as the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Once the EPA identifies a severely contaminated site that needs to be cleaned up, the agency may clean up the site itself or force the responsible party to clean it up. In the case where the agency cleans up the contamination, the agency may then seek to identify and force responsible parties to pay the agency back for the costs the EPA incurred in its cleanup.

In our analysis (and in Figure 6), we have combined future and past commitments by responsible parties to cleanup contaminated sites. In FY 2018, enforcement of CERCLA resulted in commitments by responsible parties to pay about \$533 million for future and past cleanup of contaminated sites. That was the lowest cleanup commitment going back to at least 1994. It was down 62 percent from FY 2017, 52 percent from FY 2016, and was just 35 percent of the median (32 percent of the mean) annual Superfund cleanup commitment from FY 1994 to 2016.

Costs of Compliance and Commitments to Superfund Cleanup from EPA's Enforcement Actions (2018 Dollars), 1995-2018

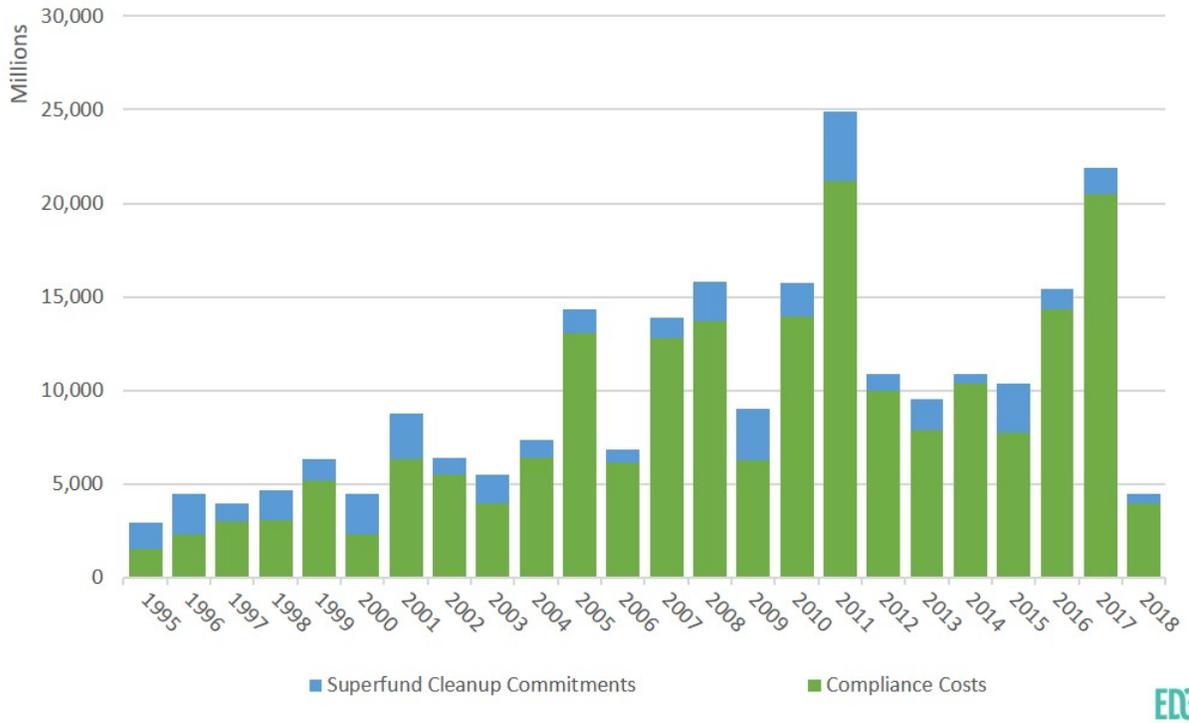


Figure 6: Costs of compliance resulting from EPA's civil enforcement actions alongside commitments from private parties to fund the cleanup of Superfund sites. The chart reveals a sharp drop in compliance costs and Superfund cleanup costs in FY 2018. Compliance costs were increasing in the years before FY 2018. **Source:** See Appendix.

Environmental Benefits

A final measure of enforcement is the estimated environmental benefits that come from enforcement. Among other things, these estimates tally how much pollution, waste and contaminated soil and water were cleaned up, reduced, or prevented, as well as how many people were protected from unsafe drinking water.

In FY 2018, the EPA estimated enforcement actions resulted in 809 million pounds of pollutants and hazardous waste reductions, treatments, eliminations, and proper disposals. That is the second lowest number on record (with the record going back to 2008) after FY 2017. FY 2018's number was just 15 percent of the median (7

percent of the mean) annual reduction in pollution and hazardous waste from 2008 to 2016.⁵⁸

In FY 2018, enforcement actions were estimated to yield the cleanup of about 244,584 cubic yards of contaminated soil and water. That is the fifth lowest since 2004, and is just 53 percent of the median (37 percent of the mean) annual cleanup of contaminated soil and water from 2004 to 2016.⁵⁹

In FY 2018, enforcement actions were estimated to protect 505,000 people through enforcement of the Safe Drinking Water Act (SDWA). That is the third lowest on record (with the record going back to 2002). FY 2017 was the second lowest on record. FY 2018's number was just 22 percent of the median (9 percent of the mean) annual number of people protected by enforcement of the SDWA from FY 2002 to 2016.⁶⁰

⁵⁸ EPA began collecting data on pollution reduction in the 1990s, but its current method for calculating pollution reduction extends back only to 2002 ("Fiscal Year 2012 EPA Enforcement & Compliance Annual Results," December 17, 2012, page 3). EPA's "Fiscal Year 2018 EPA Enforcement and Compliance Annual Results" document states that "Starting in FY 2012, EPA changed the way it stores environmental benefit information in the ICIS data system. Therefore, data are not comparable for years prior to FY 2012." However, this data problem has not been noted in any previous annual report. OECA's FY 2012 annual report does not state that a new method of storing pollution reduction data has been initiated. Rather, it states that the method current in 2012 was consistent back to 2002. Similarly, there is no previous indication that hazardous waste reduction data collection changed in 2012. The only specified change in data collection, noted in the FY 2018 report, is that, in 2016, EPA began including non-hazardous waste in its estimates. Thus, numbers for 2016 - 2018 may be inflated compared to previous years. The FY 2017 report from OECA compares numbers for pollution and hazardous waste reduction back to 2008. (2008 is the year EPA began collected hazardous waste reduction data.) We have followed that practice. Note also that FY 2012 pollution reduction is listed as 751.56 million pounds in the FY 2018 report. However, every annual report before this has listed this year as having a pollution reduction of about 2,195 million pounds. Therefore, we have used the latter number.

⁵⁹ In its FY 2018 report, EPA also claimed that contaminated soil and water data comparisons before 2012 were not valid (see footnote 58). There is no further explanation of this problem and previous EPA reports have compared data from before and after 2012. We compare data back to 2004, when data collection began.

⁶⁰ In its FY 2018 report, EPA also claimed that drinking water data comparisons before 2012 were not valid (see footnote 58). There is no further explanation of this problem and previous EPA reports have compared data from before and after 2012. We compare data back to 2002, when data collection began.

A Concluding Word about the Data

No single enforcement measure captures everything about the strength of the EPA enforcement program in a given year. For various reasons, metrics can fluctuate considerably from year to year. In some cases, this may be the result of an intentional focus by the agency. For example, the agency may focus on some large, complex civil cases at the expense of pursuing more civil cases in general. As a result, the agency's enforcement actions might yield a smaller count of civil cases, but a larger amount of penalties and compliance costs. That is what happened in the last two years of the Obama administration, when the Volkswagen emissions scandal was an important focus. The agency may also direct its focus in other ways, toward specific programs, like Superfund, for example. And there may also be some random variation resulting from when cases are concluded. For any of these reasons, in any given year, EPA's enforcement metrics might show some numbers being above average and others being below average.

But, that is not the case with fiscal year 2018. At virtually every point in the enforcement process, and across different types of enforcement cases, outcomes and benefits, EPA enforcement in the Trump administration was comparatively weak rather than strong. Since 2016, every measure discussed above, except the estimated cleanup of contaminated soil and water, has decreased since 2016. Almost all of those reductions were substantial—at least 20 percent if not more. Compared to averages for historical periods from before 2017, the numbers are even worse. Every metric discussed above is lower than the historical mean. Only one, criminal fines, is above the historical median, and it is above by 5 percent, meaning it is basically average. The divergences from the historical means and medians in 2018 are drastic. For most of the metrics, FY 2018 numbers are only about half the historical mean and median. Many key measures in FY 2018 were the lowest they have been in over a quarter century, and in some cases lower than they have been since the early 1980s and late 1970s. Other key measures were, if not at the bottom compared to the past few decades, very close to the bottom or below the average for past administrations. This approach to enforcement appears to put public health and positive environmental outcomes in jeopardy, rather than in safe hands.

WHY THE DROP?

The EPA under Trump has offered several public explanations for these declines. Their public justifications offer a selective reading of the Trump administration's actual record. Over summer 2018, the OECA, the agency's enforcement arm nevertheless initiated more realistic internal research and discussions about the agency's wilting enforcement numbers. These internal discussions considered explanatory factors that the agency's official spokespeople have never broached, likely because they implicate the agency's own leadership. The interviews we conducted in the last year and a half with EPA staff members and recent retirees shed still more telling and persuasive light on just what has happened with EPA enforcement over the past two years, and why.

The EPA Administration's Public Explanations of Decline

Current EPA leadership has sought to explain, justify, contextualize, and, in some cases, deny declines in enforcement numbers.

After the release of FY 2017 enforcement figures, EPA spokespeople, including OECA Assistant Administrator Susan Bodine, claimed the EPA had simply changed its priorities, that some lower numbers were the result of a new emphasis on criminal cases that were especially egregious, complex, highly significant, or high-impact. As evidence, she and other agency officials pointed to a rise in criminal fines and incarceration as well as substantial civil penalties. But the numbers Bodine was defending from FY 2017 actually included three months of the Obama administration. Moreover, as we have seen, the huge civil penalties netted in FY 2017, like that from the Volkswagen settlement that became the second-largest in agency history, were the final fruit of enforcement actions begun, and in some cases nearly completed, during Obama's presidency. Likewise, \$2.8 billion of the \$2.94 billion in criminal fines in FY 2017 came from Volkswagen.⁶¹

⁶¹ Brady Dennis, "EPA Brings in Billions in Enforcement Fines—but Most Stem from Obama Era," *Washington Post*, February 8, 2018, <https://www.washingtonpost.com/news/energy-environment/wp/2018/02/08/epa-brings-in-billions-in-enforcement-fines-but-most-stem-from-obama-era/>; and Khimm, "EPA Enforcement Actions."

When Trump's EPA administration has acknowledged declining enforcement numbers, it has sought to explain them away. First, Administrator Bodine has argued that media reports on declines in enforcement do not acknowledge the longer-term historical decline in enforcement numbers.⁶² Some enforcement metrics have been generally declining for the past five or ten years, such as civil cases. On the other hand, penalties and compliance costs were climbing up again in the several years before the Trump administration, only to fall starkly in 2017 and further decline in 2018. Moreover, civil and criminal penalties were trending upward in the ten years before FY 2017, which was true even removing the huge penalties related to the Volkswagen and BP cases. Finally, it is unclear why a general downward trend in previous years should justify further enforcement decline, especially when those numbers fall to the lowest levels in decades.

In the press and guidance memos, also in Susan Bodine's February 2019 testimony before Congress, EPA spokespeople have insisted that the declines reflect its shift to informal enforcement actions, which agency leadership claims will bring about compliance more quickly than more formal initiatives.⁶³ Yet the agency's own recorded numbers do not show that the agency has ramped up informal enforcement as an alternative to formal enforcement actions—on the contrary.⁶⁴ The number of informal enforcement actions taken in FY 2018 was the second lowest in over twelve years, with FY 2017 the lowest. Recorded informal actions, now touted as the Trump EPA's priority, were actually many times more common in the Obama administration than they are now. To tell from their own public record, the current administration has ratcheted down both informal and formal enforcement actions to their lowest in over a decade (Figure 7).

⁶² Dennis, "EPA Brings in Billions."

⁶³ "Testimony of Susan Parker Bodine Before the House Committee on Energy and Commerce Subcommittee on Oversight and Investigations," February 26, 2019, <https://energycommerce.house.gov/sites/democrats.energycommerce.house.gov/files/documents/EP-A-Bodine%20Testimony-%20HEC%202-26%20hearing.pdf>.

⁶⁴ Miranda Green, "EPA Pushes Informal Policy to Deal with Polluters Outside Courts," *The Hill*, March 29, 2018, <https://thehill.com/policy/energy-environment/380811-epa-pushes-informal-policy-to-deal-with-polluters-outside-of>.

EPA's Informal Enforcement Actions, 2006-2018



Figure 7: Informal enforcement actions taken by the EPA against regulated entities. Despite a purported emphasis on informal enforcement actions by the current EPA leadership, informal enforcement actions have declined. **Source:** ICIS FE&C Data Set, downloaded from Enforcement and Compliance History Online, Data Downloads, Environmental Protection Agency, accessed May 13, 2019, <https://echo.epa.gov/tools/data-downloads>.

In addition, the EPA claims that it is stepping back to allow states to take the lead in enforcement. However, states have always taken the lead in environmental enforcement, by undertaking the majority of enforcement actions. And the success of state-level enforcement has remained obdurately patchy and uneven. As the General Accounting Office concluded in 2011, “state enforcement programs frequently do not meet national goals and states do not always take necessary enforcement action.” Enforcement programs in many states frequently underperform: “noncompliance is high and the level of enforcement is low.”⁶⁵ As we

⁶⁵ General Accounting Office, “EPA Must Improve Oversight of State Enforcement,” Report No. 12-P-0113, December 9, 2011, <https://www.epa.gov/sites/production/files/2015-10/documents/20111209-12-p-0113.pdf>.

discuss in further detail in Section 5, states we analyzed showed little evidence of stepping into the breach to make up for the declining enforcement of the EPA.

The EPA Administration's Internal View of Decline

While Susan Bodine presented an unapologetic defense of her office's enforcement record to a House subcommittee this past February, internal documents from OECA's leadership show much more apprehension about declining enforcement numbers and much less confidence about the agency's own public explanations of the declines.⁶⁶ The documents also reveal an acknowledgment that many other contributors unmentioned in the agency's public pronouncements may be driving the decline. These contributors include the increased influence of industry, the increased intervention from headquarters, the lack of resources, and the chilling effect on staff of the policies, tone, and rhetoric of EPA leadership.

On June 18, 2018, Lawrence Starfield, the principal deputy assistant administrator for OECA, wrote an email to regional enforcement directors asking for help. Starfield and others had been comparing midyear enforcement numbers for FY 2018 to FY 2017. "As you can see from the attached charts," Starfield wrote, "there are significant decreases in enforcement and compliance activity across almost all programs and in almost every region." Nationwide, there had been a decrease of 24 percent for civil case initiations and 23 percent for civil conclusions. Starfield noted that Bodine would be reaching out to regional administrators to discuss the declines. He also asked the regional enforcement directors for explanations for the decrease in any program that showed a 10 percent decline from the previous year.⁶⁷

The data and charts Starfield attached to his email painted a more detailed, and in some cases more bleak, picture. Every enforcement program showed a decline from FY 2017 to 2018 except the Safe Drinking Water Act Public Water System (SDWA PWS) program. Major enforcement programs showed declines in civil cases started ("case initiations") and in civil cases concluded ("case conclusions"). OECA leadership

⁶⁶ Testimony of Bodine.

⁶⁷ Lawrence Starfield email to Enforcement Directors, Regional Program DDs (Regions 3,4,5, and 7), and OCE Division Directors, "Deliberative—For Internal EPA Use Only," June 19, 2018 [document in EDGI's possession].

explicitly note declines in hazardous waste, clean water, and clean air programs (Figure 8).⁶⁸

Declines in Cases for EPA's Major Civil Enforcement Programs, Midyear FY 2017 to Midyear FY 2018				
Enforcement Program	Initiations (Change in # Cases)	Initiations (Percentage Change)	Conclusions (Change in # Cases)	Conclusions (Percentage Change)
Resource Conservation Recovery Act – Hazardous Waste	-9	-17	-13	-23
Clean Water Act – National Pollution Discharge Elimination System	-64	-36	-71	-38
Clean Air Act – Stationary Source	-36	-52	-24	-38



Figure 8: In the middle of FY 2018, most of the EPA's major civil enforcement programs showed declines in enforcement cases started and cases concluded. **Source:** OECA, "FY17 to FY18 Mid-Year Analysis for Regional Evaluation," June 16, 2018.

As the OECA leadership pointed out, some EPA regions saw much greater declines than others. Case initiations showed the heaviest drops in Regions 3, 4, and 8 (Figure 9). Case conclusions saw the heaviest drops in Regions 1, 3, and 4 (Figure 10).⁶⁹

⁶⁸ The report also noted that the increase in SDWA PWS case initiations may have been the result of a bump in SDWA PWS inspections in FY 2016 and FY 2017. OECA, "FY17 to FY18 Mid-Year Analysis for Regional Evaluation," June 16, 2018 (full document in EDGI's possession; partially redacted version from FOIA request EPA-HQ-2019-000223, <https://foiaonline.gov/foiaonline/action/public/submissionDetails?trackingNumber=EPA-HQ-2019-000223&type=request>, available at <https://envirodatagov.org/wp-content/uploads/2019/05/mid-year-analysis-EPA-HQ-2019-000223.pdf>.

⁶⁹ OECA, "FY17 to FY18 Mid-Year Analysis."

Percentage Decline in Civil Enforcement Cases Initiations by EPA Region,
Midyear FY 2017 to Midyear FY 2018

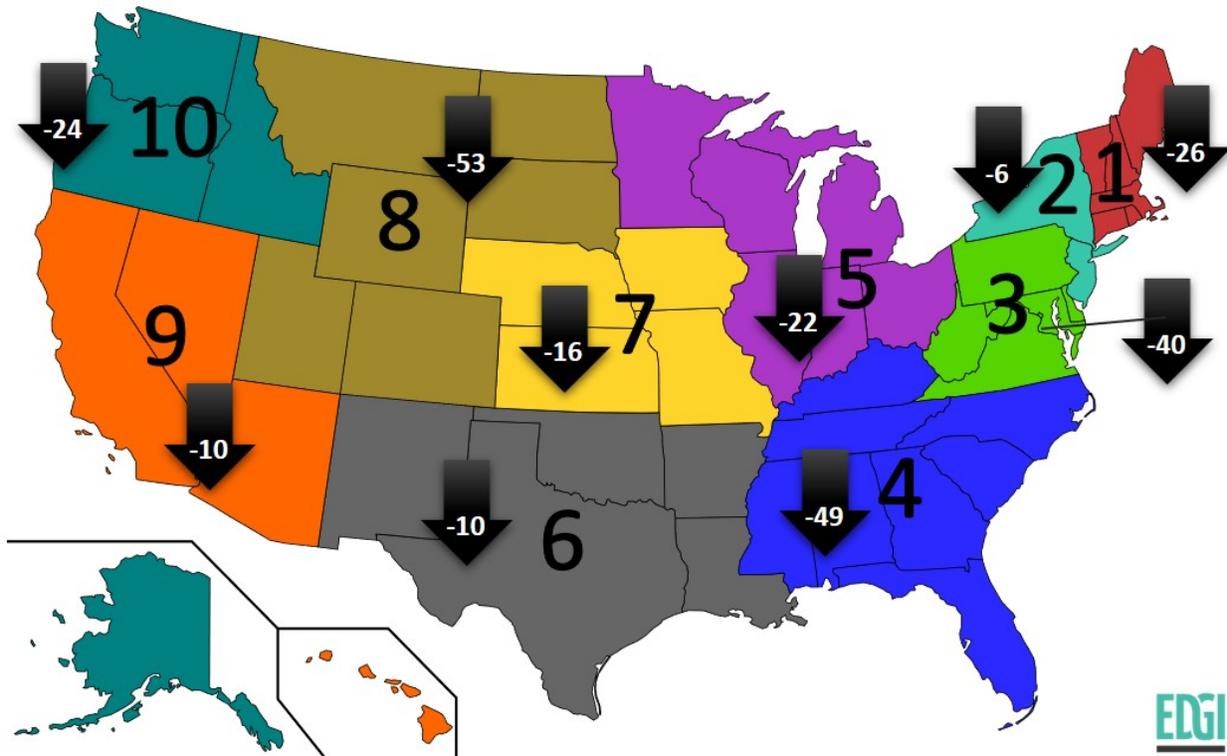


Figure 9: In the middle of FY 2018, all of the EPA regions showed declines in civil enforcement cases initiated. Regions 8, 4, and 3 had especially large declines. **Source:** OECA, "FY17 to FY18 Mid-Year Analysis for Regional Evaluation," June 16, 2018.

Percentage Decline in Civil Enforcement Cases Conclusions by EPA Region,
Midyear FY 2017 to Midyear FY 2018

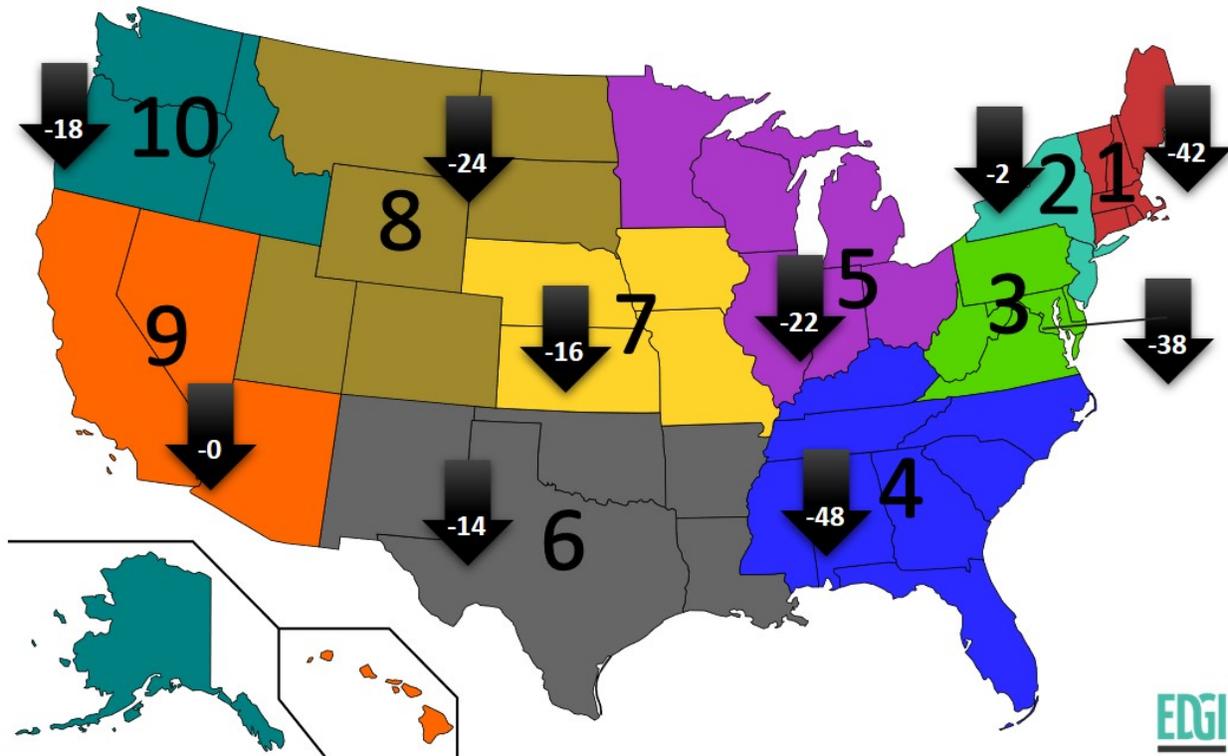


Figure 10: In the middle of FY 2018, all of the EPA regions showed declines in civil enforcement cases concluded. Regions 1, 3, and 4 had especially large declines. **Source:** OECA, “FY17 to FY18 Mid-Year Analysis for Regional Evaluation,” June 16, 2018.

In addition to enforcement actions, inspections—the starting point for enforcement—were way down at the midpoint of the fiscal year. Total inspections were down 33 percent from FY 2017. All the regions had lower inspection numbers at the midpoint of FY 2018 than FY 2017. Regions 1 and 6 saw particularly drastic declines, down 78 percent and 49 percent, respectively.⁷⁰

In a separate EPA internal document from June 14, 2018, titled “Possible Reasons for Decline in Inspection/Enforcement and Ideas for Reversing,” OECA leadership considered various reasons for the abrupt decreases in enforcement action. Overall,

⁷⁰ OECA, “FY17 to FY18 Mid-Year Analysis.”

the document presents seven possible explanations (numbered below) that might be contributing to the dropping enforcement tallies.⁷¹

One reason, according to OECA's document, was "state deferral" (#1). On the one hand, the document notes that regions were "appropriately deferring more to states" on enforcement and inspections in programs where the EPA had authorized states to enforce environmental laws. This deference, the document states, followed from White House guidance and a January 22, 2018, memo from Bodine.⁷² But some regional enforcers also "incorrectly interpreted" this guidance to mean they "should do no inspections and enforcement in authorized states." This, the document suggests, was perhaps due to "inconsistent messaging" by some regional administrators. However, even a correct interpretation of the guidance required EPA regions to discuss any potential inspections and enforcement actions with a state beforehand. That, the document notes, "takes effort, and slows the work."⁷³

The administration's deference to states has also changed how states and regulated entities approach enforcement, according to OECA. States have asked for more deference, and defendants in EPA cases have asked that states take over cases. OECA's document observed that EPA staff "may be less motivated to go the extra mile if they know that their hard work in developing a case could be turned over to the state, and perceive the state may not resolve the violations as effectively as EPA would have." The document indicates that this change in staff attitudes may be "only anecdotal" but that it "becomes more powerful as it spreads among regional enforcement managers."⁷⁴

Related to greater hesitancy of staff was another rationale forwarded by OECA: Industry's view that the administration "would reduce enforcement or become friendlier . . . led some companies to believe that they have more leverage to push back on EPA settlement demands" (#2). This perception has been, according to the document, "amplified by [the] willingness of some senior political leaders to meet

⁷¹ OECA, "Possible Reasons for Decline in Inspection/Enforcement and Ideas for Reversing," June 14, 2018 [document in EDGI's possession].

⁷² Memo from Susan Bodine to Regional Administrators, "Interim OECA Guidance on Enhancing Regional-State Planning and Communication on Compliance Assurance Work in Authorized States," January 22, 2018, <https://www.epa.gov/sites/production/files/2018-01/documents/guidance-enhancingregionalstatecommunicationoncompliance.pdf>.

⁷³ OECA, "Possible Reasons for Decline."

⁷⁴ OECA, "Possible Reasons for Decline."

directly with defendants.” As a result of this pushback, “some settlements are taking longer to conclude.”⁷⁵

Another potential contributor was the “chilling effect,” in the words of OECA, of “various actions/perception of shifts in enforcement direction” (#3). Especially in the first six months of the new administration, there had been a “consistent message” from the administration “to slow enforcement,” OECA’s own officials now internally acknowledge. Initially, the landing team wanted to “pause all enforcement, which then evolved to reviewing all cases, and [then the] Green Red Blue charts.” (These charts were a new system instituted by Trump’s EPA leadership in which regional enforcers sent proposed enforcement actions to regional administrators, who then forwarded them to headquarters, where proposed actions were ranked according to which ones would get the most scrutiny. Staff said this process let them know their work was being scrutinized and slowed work down.)⁷⁶ While “very few cases were intentionally stopped,” the document continues, the compilation and review of cases took resources and “made staff and managers in the regions very cautious on moving forward with inspections and enforcement.” In addition, “senior Agency leadership” had posed questions about enforcement activity while passing along complaints from regulated entities about enforcement. The leadership thereby gave staff the impression they thought that the “EPA was at fault,” more so than the businesses that complained. Finally, in the spring of 2017, headquarters sent a memo requiring that it review all requests from regions for information from regulated companies, often a prelude to inspections or further enforcement actions.⁷⁷ Regional staff, the OECA authors believed, perceived this new oversight as “indicating [there] should be less of these [requests for information from regulated entities].”⁷⁸

Another, dampening influence on enforcement suggested by OECA was that headquarters began “asking more detailed questions about the nature of specific enforcement cases earlier in the process than historically has been done” (#4). This, too, may have sent an “unintentional signal that certain types of cases are not appropriate.”

⁷⁵ OECA, “Possible Reasons for Decline.”

⁷⁶ Confidential interview with EPA employee.

⁷⁷ Susan Shinkman, Director Office of Civil Enforcement, to Regional Counsel, Enforcement Directors, Enforcement Coordinators and OCE Division Directors, “Interim Procedures for Issuing Information Requests Pursuant to Clean Air Act Section 114, Clean Water Act Section 208, and RCRA Section 3007,” May 31, 2017, <https://www.documentcloud.org/documents/4324892-EPA-Clean-Air-Act-and-Its-Power-to-Request.html#document/p60/a392202>.

⁷⁸ OECA, “Possible Reasons for Decline.”

Yet another factor OECA considered was a lack of “resources” (#5). EPA budgets from Congress had been declining over the past eight years, and for more than half of FY 2017, the agency operated under a continuing resolution, with a very real prospect of deep budget cuts. Hence, agency officials curbing expenditures on travel and contracts may have been impeded from developing cases. Loss of expertise due to “extremely limited new hiring” and the exodus of staff through buyouts and attrition also might have curtailed new enforcement efforts.⁷⁹

Two final reasons rounded out OECA’s analysis of the decline in enforcement numbers. First, it observed that headquarters had not shown much interest in enforcement “measures and regional performance” over the past few years (#6). And, second, it noted that “anticipated changes in program direction,” apparently meaning rules and guidance on regulations such as “WOTUS [Waters of the United States] [and] air policy changes . . . may result in less enforcement now” (#7).

These internal documents show how OECA leadership has acknowledged, internally, several important points that it has never been willing to publicly concede:

1. The declines in enforcement have been, and continue to be, severe.
2. Enforcement declines may be resulting from influences for which EPA’s current leadership is wholly or partly responsible: lack of resources; increased industry influence and pushback; intervention from leadership that is slowing work; uncertainty about regulatory changes; and a general perception among staff that enforcement, or certain types of enforcement, are not appropriate, not welcome by the leadership, or are unlikely to be successful under the new administration’s approach.
3. The stakes of declines already under way in EPA enforcement are high. The decline in enforcement cases will lead, according to the document, to a decline in outcomes, including “penalty dollars, injunctive relief and environmental benefits” [emphasis added].⁸⁰ Put bluntly, the dramatic decline of EPA enforcement is a threat to public health.

⁷⁹ These are the Voluntary Early Retirement Authority (VERA) and the Voluntary Separation Incentive Payment (VISIP).

⁸⁰ OECA, “FY17 to FY18 Mid-Year Analysis.”

EPA Staff Explanations of Decline

*"Enforcement, in general, is frankly under siege within the current administration."*⁸¹

In-depth interviews conducted by EDGI researchers between October 2017 and September 2018 provide an insider's perspective on why enforcement numbers have declined so rapidly, and to such historic lows, in the past fiscal year. Interviewees point to a number of interconnected and mutually reinforcing reasons, including the anti-regulatory philosophy of the Trump administration, the industry ties of key leaders, the threat of steep budget cuts along with loss of staff and expertise, increased industry power and influence, a deference to states called "cooperative federalism," uncertainty about which aspects of federal environmental law management will support staff in enforcing, and increased pushback from industry.

Shrinking Enforcement Budgets and Staff

*"EPA is losing its expertise."*⁸²

EPA employees point to budgetary uncertainty and staff loss as factors that help explain the downturn in enforcement under the Trump administration. There is no question that the threats to the budget are real. Since taking office, the Trump administration has repeatedly pushed for deep cuts to the EPA's budget with the blessing of the agency's top administrator. These cuts have targeted, among other programs, the agency's key compliance and enforcement functions. Trump's FY 2018 budget called for about 20 percent in cuts to compliance monitoring and civil enforcement, and 28 percent in cuts to criminal enforcement. As part of these proposed budget cuts, the administration also proposed major cuts to staff in all these divisions (for proposed, enacted, and actual budget and staff for these divisions for the past few fiscal years, see Figures B and C, Appendix). The proposed FY 2020 budget had become less aggressive in these realms, for instance, proposing

⁸¹ Confidential interview with EPA employee.

⁸² Confidential interview with EPA employee.

a cut of about 14 percent in civil enforcement, but has now gone after forensic support for EPA enforcement efforts, with a 20 percent proposed cut.⁸³

The White House FY 2018 budget also proposed \$20 million in cuts to a DOJ fund used for litigation against hazardous waste polluters under the Superfund program—putatively one of Pruitt’s top priorities. And it proposed significant cuts to grants that help assist states in their environmental enforcement programs.⁸⁴ Proposals for severe cuts in these and other enforcement relevant programs recur in the FY 2020 budget proposal. For instance, it would cut EPA’s own hazardous waste management funds by 27 percent even as it also slashed state assistance for hazardous waste by 33 percent.⁸⁵

Even the Republican-dominated Congress, which has generally been sympathetic to Trump’s focus on environmental deregulation, has balked at the deep cuts to the EPA’s budget. Along with congressional gridlock on passing a budget, which resulted in continuing resolutions, the result has been that the EPA’s FY 2018 and FY 2019 enforcement and compliance budgets have basically stayed the same as in previous years.⁸⁶ Unfortunately, that level of funding was already severely low, hobbling enforcement and compliance in the Obama administration. That hobbling has continued and has been exacerbated as a result of the agency’s policy to get staff to leave or retire early, as mentioned previously.

In OECA, since Trump came into office, seventy-three staff members have left, while only four replacement staff have been hired, resulting in a staffing reduction of 15.7 percent between January 2017 and August 2018. Inspectors and staff working on enforcement in the EPA’s ten regional offices, who do the majority of the on-the-ground work to determine compliance with environmental laws at the local

⁸³ Environmental Protection Network, “Understanding the Full Impacts of the Proposed FY 2020 EPA Budget,” April 8, 2019, 12, <https://www.environmentalprotectionnetwork.org/wp-content/uploads/2019/03/FY2020-Budget-19-pg-Analysis-4.pdf>.

⁸⁴ Laura Peterson, “Enforcement of Environmental Laws Drops Under Trump Administration,” *Project on Government Oversight*, February 20, 2018, <https://www.pogo.org/analysis/2018/02/enforcement-of-environmental-laws-drops-under-trump-administration>.

⁸⁵ Environmental Protection Network, “Understanding the Full Impacts...FY 2020 EPA Budget,” 8.

⁸⁶ Environmental Protection Network, “EPA Provisions of FY 2019 Consolidated Appropriations Act,” February 15, 2019, <https://www.environmentalprotectionnetwork.org/wp-content/uploads/2019/02/APPROPRIATIONS-EPA-PROVISIONS-FUNDING-for-fy-2019-.pdf>; Congressional Research Service, “U.S. Environmental Protection Agency (EPA) FY 2019 Appropriations,” *In Focus*, March 28, 2019, <https://fas.org/sgp/crs/misc/IF11067.pdf>.

level, have also left the agency. Region 5 lost five enforcement support employees and three investigators, and Region 7 also lost several enforcement employees. In addition, numerous senior scientists and policy experts who do the complex work of interpreting rules and advising on compliance and enforcement have also retired or resigned.⁸⁷

One unit for which numbers have become available through April 2018 is the EPA's Criminal Investigation Department (CID). Investigators for CID scrutinize the most egregious offenders of environmental laws. But the division has long been understaffed, failing to maintain the 200 investigators required by law under the Pollution Prosecution Act of 1990. But the CID's capacity has eroded even more under Trump, falling from 157 investigators in September 2016 to 140 in April 2018, pushing a long-term decline to the lowest levels since at least 1997 (Figure 11).⁸⁸ In addition, for much of FY 2017 and a few weeks of FY 2018, Pruitt siphoned off up to 10 percent of the criminal investigators for his own personal security detail.⁸⁹

⁸⁷ Andrew Rosenberg, "EPA Can't Stop Polluters When The Trump Administration Cuts Enforcement Staff," *Union of Concerned Scientists*, September 13, 2018, <https://blog.ucsusa.org/andrew-rosenberg/the-epa-cant-stop-polluters-when-the-trump-administrati-on-cuts-enforcement-staff>. For percentage decline, see Brady Dennis, "With a Shrinking EPA, Trump Delivers on His Promise to Cut Government," *Washington Post*, September 8, 2018, https://www.washingtonpost.com/national/health-science/with-a-shrinking-epa-trump-delivers-on-his-promise-to-cut-government/2018/09/08/6b058f9e-b143-11e8-a20b-5f4f84429666_story.html?utm_term=.1e0a6e9fe348.

⁸⁸ Dino Grandoni, "EPA Loses a Tenth of Its Criminal Investigators since Trump's Election," *Washington Post*, June 21, 2018, <https://www.washingtonpost.com/news/powerpost/paloma/the-energy-202/2018/06/21/the-energy-202-epa-loses-a-tenth-of-its-criminal-investigators-since-trump-s-election/5b2aa8ea30fb046c468e6f1a>.

⁸⁹ "EPA Pulls 'Most' Investigators from Pruitt's Security, Hires Dedicated Staff," *InsideEPA*, October 19, 2017, <https://insideepa.com/daily-news/epa-pulls-most-investigators-pruitts-security-hires-dedicated-staff/>; and Amanda Reilly, "Agency Defends Enforcement as Cops Return from Pruitt Detail," *E&E News*, October 20, 2017, <https://www.eenews.net/greenwire/stories/1060064229?t=https%3A%2F%2Fwww.eenews.net%2Fstories%2F1060064229>.

Criminal Investigators at EPA, 1997-2018

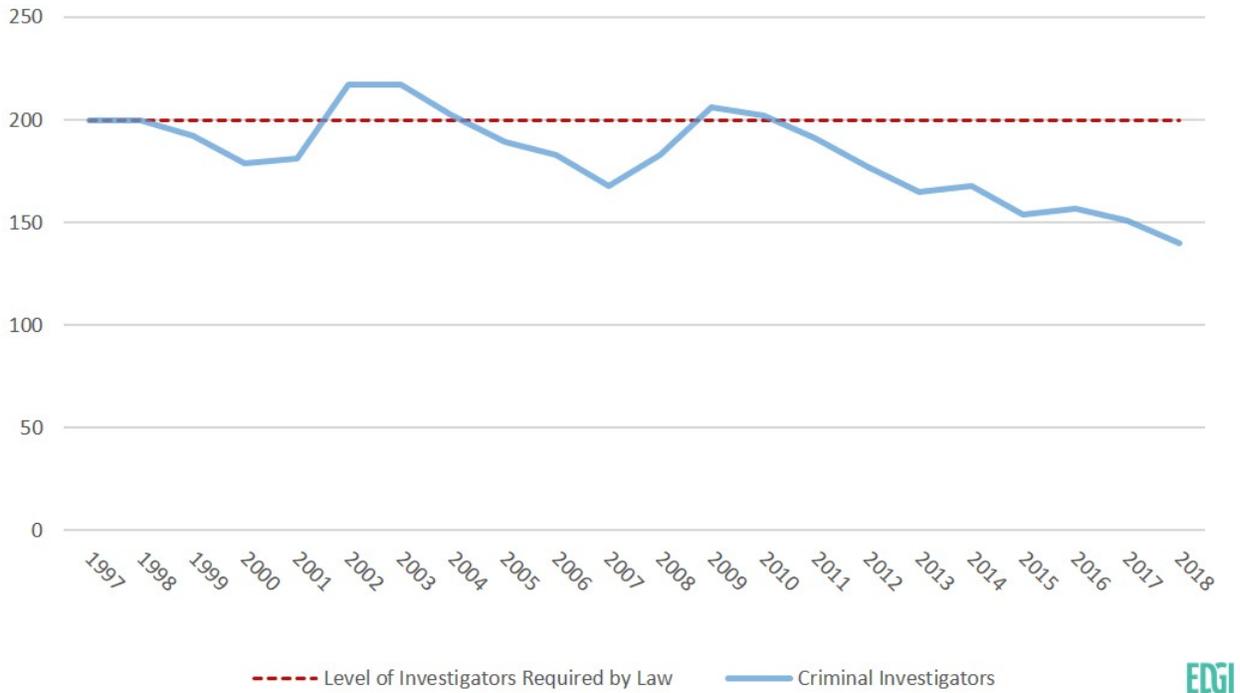


Figure 11: Criminal investigators at the EPA compared to the number of investigators required by law. The EPA’s staff of criminal investigators has fallen to its lowest level in 2018 since at least 1997, dropping to nearly two-thirds of the 200 investigators required by law. **Note:** The 2017 numbers are those reported as of September 12, 2017, and the 2018 numbers are those reported as of April 2018. **Source:** For 1997–2012 data: Robert Esworthy, “Federal Pollution Control Laws: How Are They Enforced?” Congressional Research Service report, October 7, 2014, <https://fas.org/sgp/crs/misc/RL34384.pdf>. For 2013–2016 data: Public Employees for Environmental Responsibility, “Agent Count—8/8/17,” accessed October 15, 2018, https://www.peer.org/assets/docs/8_24_17_CID_special_agent_numbers.pdf. For 2017 data: Renee Schoof, “EPA Adds Agents to Guard Pruitt, While Fewer Fighting Crimes,” *Bloomberg BNA*, September 12, 2017, <https://www.bna.com/epa-adds-agents-n57982087754/>. For 2018 data: Public Employees for Environmental Responsibility, “EPA Agents Fighting Eco-Crime Drop as Security Detail Grows,” *PEER*, June 21, 2018, <https://www.peer.org/news/press-releases/epa-agents-fighting-eco-crime-drop-as-security-detail-grows.html>.

The White House’s budget proposal for FY 2019 again proposed deep cuts to the EPA’s budget and staff. The White House proposed to nix about \$14.7 million and 110 full-time employees from compliance and monitoring, compared to FY 2017,

justifying the cuts by stating that states “conduct the vast majority of inspections” and because the agency planned to “increase reliance on technology rather than on-site inspections.” Civil enforcement is also on the chopping block, for \$30.4 million in cuts and a 223-person reduction (FTEs), again because states are the “primary implementers of our nation’s environmental laws.” Finally, the White House proposed that the criminal enforcement program lose \$4.2 million in funds and 59 full-time employees because the agency plans to “focus on the most egregious cases,” coordinate with civil enforcement more, and sideline cases that “have limited deterrence value.”⁹⁰ While the FY 2020 proposed cuts were more modest, they remained substantial: reductions of 22 staff in the Office of Civil Enforcement and 40 in the Office of Criminal Enforcement, Forensics and Training, with an overall decline from FY 2019 of \$67.5 million or 12 percent for OECA’s entire budget.⁹¹

The impact of staff losses, as described by our interviewees, helps explain why enforcement has been so poor and why we have much to be concerned about in the face of these proposed cuts to budget and staff at the EPA.

Interviewees told us that staff taking buyouts or otherwise leaving is having a significant effect on enforcement work across many different programs including the Clean Air Act, especially the control of hazardous air pollutants, Superfund, RCRA, and matters having to do with environmental justice, among others.

Loss of staff affects work because there are simply fewer people to do the day-to-day work. This means that work either slows down or stops, which can lead to downturns in enforcement. A staff member shared an illustrative example from the Superfund program, which is supposedly one of the priority areas of the agency: “When a technical support staff retires and we can’t replace them, that’s where the clog is because, you know, you—each one of these sites is—generally has groundwater contamination. If you don’t have a hydrogeologist that can get you a response within a couple of weeks, you’re sitting there waiting.”⁹²

⁹⁰ EPA, *Fiscal Year 2019: Justification of Appropriation Estimates for the Committee on Appropriations*, February 2018, <https://www.epa.gov/sites/production/files/2018-02/documents/fy-2019-congressional-justification-all-tabs.pdf>.

⁹¹ EPA, “Fiscal Year 2020: Justification of Appropriation Estimates for the Committee on Appropriations,” March 2019, 849-50, <https://www.epa.gov/planandbudget/fy-2020-justification-appropriation-estimates-committee-appropriations>.

⁹² Confidential interview with EPA employee.

Loss of staff means loss of institutional knowledge. Every time a staff member who had responsibility for an aspect of a particular regulatory program leaves, the EPA's knowledge of how to inspect, interpret, enforce, and defend enforcement actions is diminished. Diminishing know-how is a very acute concern for EPA staff, who are seeing employees with many decades of specialized knowledge leave the agency.

Learning the internal workings of regulatory programs and their implementation can take years or decades. As one person said, "the institutional knowledge [is] just really leaving the agency. . . . People who have been there for thirty years and everything that they know and they have experienced and are ready to—they're just going. They're just leaving, you know? They're just going out the door with very little effective management of the knowledge stocks of the agency."⁹³

In addition, states and industry both rely on EPA technical staff and scientists to answer questions about implementation of environmental regulations. With so many staff leaving, our interviewees report that the agency is losing this type of consultative expertise in various regulatory programs. According to one interviewee: "EPA gets hundreds of questions a year from state and local agencies and similarly we get frequent questions from industry on how to implement federal regulations. However, due to the extensive loss of staff, particularly senior staff, there's no one there to answer these questions on how to correctly and effectively implement these rules. A state inspector will go out and say, "We went and looked at this particular facility and this is what we found. EPA, what do you think? Is that what you meant when you wrote this rule? Does it sound like the rule should apply or that there is a violation?" EPA has lost that level of institutional knowledge at both the regional level and at the headquarters level."⁹⁴

Further, for any one environmental issue there may only be a small number of people with expertise in rule interpretation or enforcement. One example is the asbestos rule. As one staff member said, "We had one guy that coordinated the national asbestos program out of EPA headquarters, asbestos being one of the most toxic hazardous air pollutants. And he was it. He was the expert on our asbestos rule and he walked out the door and he had been running it for twenty years. The agency has no backup depth for staff and virtually no knowledge transfer effort to capture the experience and institutional knowledge regarding effective implementation of

⁹³ Confidential interview with EPA employee.

⁹⁴ Confidential interview with EPA employee.

these complex rules protecting our environment.”⁹⁵ Without other experienced staff to train a new person coming on board, enforcement is likely to suffer.

Another example cited was the loss of scientists and engineers in the Office of Air Quality Planning & Standards. With the people who wrote the rules implementing the Clean Air Act retiring or leaving, and with those few hired to replace them new and inexperienced, the quality and impact of future work in this office are imperiled.

However, it is not merely the loss of expertise and resources that is undermining enforcement at the EPA. A broad array of changes in perspectives, policies, and practices within the EPA as well as among those it regulates have conspired to weaken EPA enforcement programs and to shackle its ability to protect human and environmental health.

Industry Influence, Political Obstruction, and a Chilling Effect on Staff

In interviews, EPA staff told us that they are unequivocally getting the message from management to step back from enforcing environmental laws and to “go easy” on regulated industries. As one staff member said, “What you have now is there are explicit directions not to do certain types of inspections and numbers overall are dropping.”⁹⁶

OECA’s leadership has initiated policies that break with past practices by removing much of the independence of EPA regional offices to initiate or follow through with enforcement actions. In May 2017 OECA instituted a policy that took away regional enforcement officers’ authority to request tests and information regarding clean air, water, and hazardous waste. In March and April of 2018, Bodine sent memos requiring local investigators get approval from headquarters first before referring any cases to the DOJ. In the past these had been sent to DOJ and OECA leadership simultaneously.⁹⁷

⁹⁵ Confidential interview with EPA employee.

⁹⁶ Confidential interview with EPA employee.

⁹⁷ Eric Lipton and Danielle Ivory, “Under Trump, EPA Has Slowed Actions Against Polluters, and Put Limits on Enforcement Officers,” *New York Times*, December 10, 2017, <https://www.nytimes.com/2017/12/10/us/politics/pollution-epa-regulations.html>; and Dino Grandoni, “Trump Appointee at EPA to Scrutinize Which Pollution Cases May Go to Court,” *Washington Post*, June 15, 2018,

Bureaucratic obstacles like these have slowed down enforcement work. Moreover, combined with rhetoric from the White House and EPA leadership deeply critical of the EPA, the industry friendliness of the agency's political leadership and other changes in enforcement policies do indeed have a chilling effect on staff. As one interviewee described:

"The assumption is, okay, well we're supposed to be deferential, we're supposed to be, you know, kind of less confrontational or whatever, probably on the assumption that, okay, well I don't know that these people are politically connected or not but let's assume that they are and that if we're too tough on them or we give them, you know, too rigid an answer on something that they're gonna, you know, go over our head and then we'll be in worse shape than we were before, so we—can we work with them on something or not? At the end of the day—well you just don't know whether or not somebody's gonna have your back or not or whether they're gonna stab you in the back."⁹⁸

Staff assert that they see very little interest from the agency's political leadership in enforcing regulations across the board, particularly with respect to the coal and electric utility industries, oil and gas companies, and the petrochemical industry. For example, one staff member told us that Region 8 employees have been instructed to stop inspecting natural gas drilling sites on state or private lands along the Front Range in Colorado, where thousands of natural gas extraction wells dot the landscape. Inspections of stationary sources under the Clean Air Act were indeed down in Region 8 by about 57 percent at the midpoint of FY 2018 compared to the midpoint of FY 2017.⁹⁹

There, and wherever else EPA inspectors are backing off, the environmental consequences will likely be significant. Emissions of volatile organic compounds from natural gas extraction wells can contribute to violations of federal ozone standards, leaving communities at greater risk from respiratory problems. Methane emissions from leaking wells also exacerbate climate change. The Obama

<https://www.washingtonpost.com/news/powerpost/paloma/the-energy-202/2018/06/15/the-energy-202-trump-appointee-at-epa-to-scrutinize-which-pollution-cases-may-go-to-court/5b22ee7e1b326b3967989aee/>.

⁹⁸ Confidential interview with EPA employee.

⁹⁹ The 57 percent decline is for "partial compliance evaluation" inspections of stationary sources in the Clean Air Act. The other category of stationary source inspection, "full compliance evaluations," could not decline—because they were already at zero at the midpoint of FY 2017. [OECA], "Possible Reasons for Decline in Inspection/Enforcement and Ideas for Reversing," June 14, 2018.

administration was taking steps to address these problems by requiring industry to plug leaks, which could also reduce its loss of product. While much of the oil and gas industry, a key constituency of the Trump administration, had gotten ready to comply, it now opposes these regulations and supports the EPA's current effort to unravel them.¹⁰⁰

The administration has also explored other ways of [favoring its allies in the energy industry through changes in enforcement practice](#). As the *New York Times* reported in January 2018, these industries had been lobbying Pruitt for enforcement slowdowns.¹⁰¹ In April, 2018, E&E News reported that the EPA would be giving more flexibility to oil and gas companies in choosing to self-audit.¹⁰² And on August 21, 2018, OECA Administrator Susan Bodine sent a memo to regional administrators that, among other things, ended the EPA's focus on the energy sector, which had been part of the agency's National Enforcement Initiatives for several years.¹⁰³

But even with the budgetary uncertainty and staff declines, and with increased industry influence at EPA, how have political appointees managed to so quickly transform the EPA's orientation toward enforcement, restraining its potential reach and clout and curbing its inclinations to protect public health?

Cooperative Federalism—or, Leave States Alone

*"I think it's this philosophy that the states, if they have an authorized program, the EPA should just leave them alone, and they just do what they do."*¹⁰⁴

¹⁰⁰ Coral Davenport, "Trump Administration Wants to Make It Easier to Release Methane into Air," *New York Times*, September 10, 2018, <https://www.nytimes.com/2018/06/21/climate/methane-leaks.html>. For Trump's constituency, see Mike Soraghan, "Trump Team Phasing Out Oil Field Enforcement Initiative," *E&E News*, August 21, 2018, <https://www.eenews.net/stories/1060095163>.

¹⁰¹ Lipton and Ivory, "Under Trump."

¹⁰² Miranda Green, "EPA to Unveil Policy Aimed at Avoiding Legal Action over Oil and Gas Polluters: Source," *The Hill*, April 20, 2018, <https://thehill.com/policy/energy-environment/384078-epa-to-unveil-new-policy-aimed-at-avoiding-legal-action-over-oil>.

¹⁰³ Memo from Bodine to Regional Administrators, "Transition from National Enforcement Initiatives to National Compliance Initiatives," August 21, 2018, <https://www.epa.gov/sites/production/files/2018-08/documents/transitionfromneitonci082118.pdf>; and Soraghan, "Trump Team."

¹⁰⁴ Confidential interview with EPA employee.

EPA staff point to a major policy change in the relationship of the EPA's enforcement to state governments, what members of the Trump administration have called "cooperative federalism." The term "cooperative federalism" has long meant federal, state, and local governments working together rather than in separate spheres. It originated in the 1930s as a largely positive way of describing an increased role for the federal government in matters that had formerly been left mostly to the states. The system of environmental laws that emerged in the 1970s, which gave the federal government a much stronger role in anti-pollution control, has long been considered an example of cooperative federalism because of the strong roles it accords both to the federal government and to the states, in whose hands much of our environmental law enforcement has since lain.¹⁰⁵

Given that states have had a continuously strong role in environmental programs since the 1970s, the current administration's use of the term does not indicate a return to the general idea of cooperative federalism in environmental programs—since that has never gone away. Instead, the Trump administration has redefined the term to introduce a brand-new policy of extreme deference to states on matters of regulation and enforcement. Pruitt contrasted the "cooperative federalism" approach to "coercive federalism," but neither he nor others in the administration have described their philosophy in any detail.¹⁰⁶ The spirit of the approach, however, appears to have much in common with the push for "devolution" during the 1980s by conservative think tanks like the Heritage Foundation. Devolution was a call to return most of the EPA programs to the states. Although Ronald Reagan tried to adopt the Heritage Foundation's blueprint for the EPA, devolution was widely rejected by Congress, the public, and even the states. The "cooperative federalism" of the current administration amounts to a backdoor approach to devolution, pursued via policy directives beneath the level of formal rule makings and under-the-radar screens of the media and Congress. Not coincidentally, it served as the pivotal concept in the Heritage Foundation's proposal for the EPA in its *Blueprint for Reform: A Comprehensive Policy Agenda for a New Administration* in 2017. That document laid out a vision for American environmental policy that sidelined the role of the federal government in most areas of

¹⁰⁵ Robert Glicksman, "From Cooperative to Inoperative Federalism: The Perverse Mutation of Environmental Law and Policy," *Wake Forest Law Review* 41, no. 719 (2006).

¹⁰⁶ Zack Colman, "Why the EPA Nominee Wants to be a Political Wrecking Ball," *Christian Science Monitor*, January 28, 2017, <https://www.csmonitor.com/Environment/Inhabit/2017/0118/Why-the-EPA-nominee-wants-to-be-a-political-wrecking-ball>; John Siciliano, "EPA's Pruitt to Governors: The Days of Coercive Federalism are Over," *Washington Examiner*, <https://www.washingtonexaminer.com/epas-pruitt-to-governors-the-days-of-coercive-federalism-are-over>.

environmental policy and practice, essentially strangling the EPA's "gorilla" function. That Heritage proposal has served as a touchstone for the Trump administration's plans.¹⁰⁷

Scott Pruitt made "cooperative federalism" a cornerstone of his approach to the EPA since his Senate confirmation hearings, and Administrator Wheeler has since taken up the torch.¹⁰⁸ Moreover, the idea has become instantiated in EPA policy via multiple pronouncements, including the September 27, 2017, OECA National Program Manager Guidance; a January 22, 2018, memo from Susan Bodine on "Enhancing Regional-State Planning and Compliance"; and the EPA's February 8, 2018, Strategic Plan for FY 2018–2022, which made "cooperative federalism" one of the agency's three strategic goals.¹⁰⁹

"Cooperative federalism," sounds innocuous or even like a laudable approach to working with states, but in practice, EPA staff assert that, to Trump's EPA, "cooperative federalism" actually means "leave them [the states] alone."¹¹⁰ For most states, that means taking the top environmental cop off of the beat, resulting in a substantial weakening of the U.S. environmental regulatory environment. This has been accomplished quickly and quietly through policy directives, avoiding the need for Congress to make legislative changes to weaken environmental laws, which would likely be unpopular with the majority of the public.

¹⁰⁷ Brad Plumer, "The Heritage Foundation Has a Plan for Gutting EPA and the Energy Department. It's Eerily Plausible," Vox, March 1, 2017, <https://www.vox.com/energy-and-environment/2017/3/1/14777536/heritage-budget-trump-epa-cuts>; Heritage Foundation, "President Trump Cites Heritage Research on Paris Climate Change Agreement," May 15, 2017, <https://www.heritage.org/impact/president-trump-cites-heritage-research-paris-climate-change-agreement>; and Jonathan Mahler, "How One Conservative Think Tank Is Stocking Trump's Government," *New York Times*, June 20, 2018, <https://www.nytimes.com/2018/06/20/magazine/trump-government-heritage-foundation-think-tank.html>.

¹⁰⁸ "Environmental Protection Agency Designate E. Scott Pruitt, Senate Confirmation Hearing Opening Statement," January 18, 2017, https://www.epw.senate.gov/public/_cache/files/0e505de4-aa91-4dcc-ba23-dc9ddab01c0b/scott-pruitt-opening-statement-final-.pdf; and Brady Dennis and Juliet Eilperin, "Incoming EPA Chief: 'This Is the Right Job for Me,'" *Washington Post*, July 6, 2018, <https://www.washingtonpost.com/news/energy-environment/wp/2018/07/06/incoming-epa-chief-this-is-the-right-job-for-me>.

¹⁰⁹ OECA, National Program Manager (NPM) Guidance, Fiscal Years 2018–2019, September 29, 2017, <https://www.epa.gov/sites/production/files/2017-10/documents/fy18-19-oeca-npm-guidance.pdf>; EPA, "FY 2018–2022 EPA Strategic Plan" February 12, 2018, <https://www.epa.gov/sites/production/files/2018-02/documents/fy-2018-2022-epa-strategic-plan.pdf>; and Bodine to Regional Administrators, "Enhancing Regional-State Planning."

¹¹⁰ Confidential interview with EPA employee.

The Bodine memo on “regional-state planning” strongly emphasizes deference of the EPA to the states, carving out a circumscribed set of situations “that could warrant EPA involvement in individual inspections and enforcement following close communication and involvement of upper management of both agencies [EPA and the state].” And, in a departure from past practices, the memo requires that when “senior leadership in the Region and the State do not agree . . . the matter should be elevated to the OECA Assistant Administrator for a decision.” As OECA’s assistant administrator, Bodine, who has close relationships to industry groups, has thereby been entrusted with the decision-making power. This seriously undermines the power of regional EPA enforcers to serve as checks on state environmental enforcement since states can strip regions of their prerogatives by disputing their enforcement decisions.¹¹¹

Why is it problematic for EPA to take a hands-off approach at the state level? One reason is that states vary in their political will to turn “gorilla,” to take enforcement actions against industries within their borders. While some states pursue enforcement vigorously, many do not. According to one EPA staffer, “a lot of it gets into the willingness of the political people in the state to confront their own businesses. How willing are they to do that and fine them?”¹¹² Previously, in a state unwilling to inspect and enforce, the EPA would have stepped in, but our interviewees tell us that now there is considerable reluctance: “If a state government decides enforcement isn’t important, in the past EPA might step up its efforts in that state, now we’re really not allowed to unless there is some justification.”¹¹³

Furthermore, the EPA already works closely with states to enforce environmental laws; it is required to do so. But if a state is “authorized” by the EPA to enforce federal environmental law, the EPA’s role has been largely one of oversight, stepping in if technical assistance is needed or asked for. Most states have EPA authorization for key programs such as the Clean Air Act, the Clean Water Act, and the Resource Conservation and Recovery Act.¹¹⁴ This means that, prior to the Trump administration, states were already doing the majority of inspection and enforcement.

¹¹¹ Bodine to Regional Administrators, “Enhancing Regional-State Planning.”

¹¹² Confidential interview with EPA employee.

¹¹³ Confidential interview with EPA employee.

¹¹⁴ EPA, “State Review Framework for Compliance and Enforcement Performance,” December 30, 2016,

<https://www.epa.gov/compliance/state-review-framework-compliance-and-enforcement-performance>

In these authorized states, the critical, required role of the EPA is to check whether state environmental agencies are doing enough to meet federal standards, and it must address the largest and most technically difficult sites, like petrochemical facilities, power plants, and natural gas production sites. The EPA provides assistance to states in the form of highly trained inspectors, technical expertise, and specialized equipment for monitoring or measuring emissions. It also furnishes a national perspective on companies or sectors that operate in multiple states and works to solve interstate pollution issues.

For complex or egregious cases, the EPA can bring in the U.S. Department of Justice if needed and can pursue criminal cases against polluters if warranted. (DOJ's Environmental and Natural Resources Division received its own memo on "cooperative federalism"—i.e., the lack of need for federal involvement—on March 12, 2018).¹¹⁵ A staff member explains how the EPA and states shared the work in the past: "And EPA . . . [would say] . . . we're worried about these five, so we're going to go and do really thorough inspections at these five. We'll probably find three problems there and take cases. Whereas the state's doing like 100, more of a shallow dive, and they might find 10 or 15 things there and they may end up penalizing them with a slap on the wrist. But they're not like the gigantic cases the EPA takes."¹¹⁶

Many state environmental agencies, although they have grown and developed since the 1970s, remain poorly resourced in part because they are so vulnerable to political whims and funding cuts.¹¹⁷ Interviewees underscored the fact that inspectors in many states do not earn high salaries and can thus easily be hired away by industry. The turnover creates a need for constant training of new staff and complicates the agency's ability to build up staff expertise and experience. Competent inspections of complex facilities often require specialized training, advanced degrees such as engineering, and a thorough understanding of the industrial process being observed. They may also require expensive and technically sophisticated equipment, which state environmental programs may not possess.

¹¹⁵ Memo from Jeffrey Wood, Acting Assistant Attorney General, to ENRD Section Chiefs and Deputy Section Chiefs, "Enforcement Principles and Priorities," March 12, 2018, https://www.peer.org/assets/docs/epa/3_29_18_USDOJ_AAG_Memo.pdf.

¹¹⁶ Confidential interview with EPA employee.

¹¹⁷ Robert R. Kuehn, "The Limits of devolving Enforcement of Federal Environmental Laws," *Tulane Law Review* 70, no. 2373 (1996); and Inger Weibust, *Green Leviathan: The Case for a Federal Role in Environmental Policy* (New York: Routledge, 2016).

One example is the use of infrared cameras for detecting methane leaks from gas drilling and processing. Although methane is short-lived in the atmosphere, it is an extremely potent greenhouse gas. Infrared cameras can “see” leaks that are not detectable to the naked eye. However, the cameras are expensive, and not all state environmental programs have access to them. If the EPA is not inspecting gas sites with infrared cameras, state inspectors cannot offer comparable checks on compliance unless their own programs are sufficiently resourced with cameras and unless they are authorized and encouraged to act. One staff member described: “We’ve used it heavily in doing the oil and gas inspections that we were doing in Region 8 and other places, here in the mid-Atlantic, you know, with the Marcellus Shale . . . we’ve had some real successes with that. If we’re not out in the field, [if] we’re not using that stuff, there’s gonna be no real driver for people to be vigilant about that on the corporate side.”¹¹⁸

There are also large differences across states in the percent of inspections that discover violations. The variations happen across specific enforcement programs as well. A staff member explains:

“Some states are pretty diligent in finding stuff, they might find a 20 or 30 percent hit rate. Other states will find 1 percent. Their agencies don’t want to know about problems or the inspectors aren’t very competent. Or they’re not paying them enough and the industry hires them and then you have only junior people doing stuff. So there’s a lot of factors that go into finding a violation for air and RCRA that make it pretty rare. And those rates are going to be somewhere around 1 to 4 percent of the universe. Whereas in the Water Act, it’s more like a quarter of those.”¹¹⁹

Turning inspections and enforcement over to states may also reduce the penalties imposed on industry for noncompliance. Typically, the EPA is more likely to act the part of the gorilla; it tends to levy higher fines on violations of pollution laws than do the states—and is in many instances more likely to impose those fines. State regulators constrained by statute or politics are more likely to turn sheepish, to give a company a slap on the wrist in the form of a small fine. Corporate violators can make the calculation that paying a small fine is cheaper than upgrading equipment or taking other steps to comply with the law.

¹¹⁸ Confidential interview with EPA employee.

¹¹⁹ Confidential interview with EPA employee.

The directives for implementing “cooperative federalism” show that in practice EPA political appointees and elected officials in state government will have more input on the EPA’s inspection and regulatory actions, likely leading to delays or political interference. The January 22, 2018, memo from Bodine instructed the EPA’s ten regional offices, where most inspection and enforcement occurs, on how to work more closely with state elected officials. She stressed the importance of “keeping the state’s political leadership informed . . . [of] . . . high profile inspections and enforcement actions that are planned” and avoiding “surprises.”¹²⁰

Further, Bodine advised that there would need to be more discussion with state elected officials and internally to justify any inspection visits to industrial facilities. Bodine advised that “EPA regions and States” will “provide explanations of why specific facilities are proposed for inspection.” This should lead to conversations between the EPA and the states about the “value and need for the inspections, priorities, and capacity.”¹²¹

This policy makes it easier for state governments that are inclined to protect polluting industries within their borders. Further, making staff justify to agency higher-ups what in the past were considered routine inspections may well be suppressing the numbers of inspections, which are themselves the prelude to most further enforcement actions. An atmosphere where inspections are relatively rare also sends the message to industry that compliance is optional and that, if they do violate the law, the chances are they won’t get caught.

And even though the EPA says it is turning more work over to the states as well as tribes, the agency is not trying to provide them with more resources to meet this stepped-up role. On the contrary, Trump’s 2020 budget proposal would slash State and Tribal Assistance Grants by \$1.44 billion, in part by cutting 32% of general funds for tribal environmental protection programs and over a third of those for public drinking water supervisions.¹²²

EPA staff say there is little to no evidence that most states are increasing their role in inspections and enforcement. One employee even went so far as to say, “I know that there’s a lot of states that are doing almost no enforcement.”¹²³ It is not clear how EPA leadership intends to evaluate the effectiveness of “cooperative federalism,”

¹²⁰ Memo from Susan Bodine to Regional Administrators.

¹²¹ Memo from Susan Bodine to Regional Administrators.

¹²² EPA, “FY 2020 Budget in Brief”, 64-65, 97-98.

¹²³ Confidential interview with EPA employee.

and it is unclear at what point the EPA would step in if the state is not doing a good job of enforcing environmental laws. Staff worry that political leadership will engage in a whitewashing of the dramatic decline in enforcement under Trump. They foresee that there may well be a “concerted effort to message how the states are picking this stuff up when we don’t really have evidence that they are.”¹²⁴

Regulatory Rollbacks, Delays and Industry Pushback

Another factor that staff identify as contributing to dramatic declines in enforcement is the administration’s public statements and actions regarding rolling back or rescinding parts of federal environmental laws. With the status of key rules such as the Clean Power Plan, the Mercury and Air Toxics Rule, the Coal Ash Rule, and the Municipal Solid Waste Landfill New Source Performance Standards up in the air, there is a huge disincentive for industry to make incremental progress toward complying with these rules. While these proposed rule changes still have to go through formal rulemaking processes and will be challenged in the courts, reconsideration itself raises questions about just what federal policies will be in the near future. The uncertainty makes industry less inclined to invest money to comply with rules still on the books but now under challenge. EPA staff is also left wondering what they should be enforcing and, moreover, what management will support them in enforcing. For now, industry can bide its time and not make major investments in certain types of pollution control.

Other strategies being deployed by political appointees to go easier on the regulated community include delays in the implementation of recently approved rules and extensions of deadlines for compliance. An example is methane collection at landfills, another Obama-era policy that Trump’s EPA appears to not be moving forward on.¹²⁵ While delaying implementation does not lead to declines in enforcement, it is another quick, nonlegislative, under-the-radar way to remake environmental policy. As one staff member said “I think they can do an awful lot

¹²⁴ Confidential interview with EPA employee.

¹²⁵ EPA, “Municipal Solid Waste Landfills: New Source Performance Standards (NSPS), Emission Guidelines (EG) and Compliance Times,” October 18, 2017, <https://www.epa.gov/stationary-sources-air-pollution/municipal-solid-waste-landfills-new-source-performance-standards>; and William C. Shillaci, “EPA Sued by State AGs over Delayed Landfill Rules,” *EHS Daily Advisor*, June 12, 2018, <https://ehsdailyadvisor.blr.com/2018/06/epa-sued-state-ags-delayed-landfill-rules/>.

through just non-implementation or—and since there is no congressional oversight—nobody’s gonna call a hearing, saying why aren’t you implementing this rule?”¹²⁶

Finally, the messages coming from the Trump administration and his EPA are leading to a sense of empowerment among regulated industries. Staff members described getting pushback from regulated industries on issues and cases that in the past would likely not have been problematic.

This view has spread not just to big industry but to smaller regulated entities such as landlords, who are required to inform (disclose to) potential renters or buyers about the possibility of lead-based paint in homes they rent. Lead is the number one environmental health threat to children, and in most U.S. communities, lead-based paint is the main source of lead exposure for children. Disclosures to renters or buyers of homes that have lead-based paint in them is a critical public health measure. Yet, as one of our interviewees who worked in lead-based paint inspections and enforcement told us, after the election of Trump, landlords stopped responding to calls about compliance. Before Trump, landlords would agree to set up meetings or, at most, delay them. But, our interviewee said, after Trump, “[Landlords] would say, ‘No,’ and hang up, or they’d start screaming at me.”¹²⁷ Moreover, unlike previous administrations, leadership was not willing to back the inspector up in forcing these meetings to happen.

The administration’s anti-regulation rhetoric has been heard very clearly by industry, and they are pushing back on things they likely would have agreed to comply with under a different administration. Under Trump, they realize that such pushback has a good chance of succeeding.

¹²⁶ Confidential interview with EPA employee.

¹²⁷ Confidential interview with EPA employee.

CAN STATES TAKE OVER THE “GORILLA” ROLE?

If states are left to pick up the slack, can they rise to the challenge? And how well are states already equipped to do so? The answers vary from state to state. The stark differences in environmental law enforcement under the cooperative federalism model of environmental governance are apparent in state environmental law enforcement records. Some states still hew to the more stringent rules of former EPA administrations, while other states are not enforcing environmental rules as effectively under the sheepish oversight of the Trump administration. Depending on which state you live in, you may be breathing less clean air and drinking dirtier water.

On the air pollution front, while some states have remained relatively steady in their compliance and enforcement activities, others have curtailed their programs. Some of the twenty-seven states that sued the federal government over the legality of the Clean Power Plan have stopped enforcing the Clean Air Act as effectively under the Trump administration. Oklahoma, Scott Pruitt’s home state and a major location for oil and gas drilling, is a prime example of looming failures of cooperative federalism that are being compounded by anti-environmental federal leadership.

Oklahoma’s 2017 Department of Environmental Quality (DEQ) annual report reveals that the state’s air pollution enforcement has dropped significantly since the Trump administration took over. The DEQ’s Division of Compliance and Enforcement cut its formal air enforcement actions almost in half from 2016 to 2017, with only fourteen formal actions in 2017 compared to twenty-three in 2016.¹²⁸ Examination of prior years’ data shows that fourteen formal actions is far below average for Oklahoma’s DEQ. The state filed approximately twice as many air enforcement actions each year between 2013 and 2015.¹²⁹ Oklahoma also collected far fewer fines under its air enforcement program in 2017 (\$58,032), an amount that is less than half of prior years’ fines.¹³⁰ For comparison, between 2013 and 2016, the lowest amount

¹²⁸ Oklahoma Department of Environmental Quality (DEQ), Annual Report 2017, pp. 30, 39 <http://www.deq.state.ok.us/mainlinks/reports/2017AnnualReport/2017%20DEQ%20Annual%20Report.pdf>.

¹²⁹ Oklahoma DEQ, Annual Report 2013, p. 31, <http://www.deq.state.ok.us/mainlinks/reports/2013AnnualReport/AnnualReport2013.pdf>; Oklahoma DEQ, Annual Report 2014, p. 37, <http://www.deq.state.ok.us/mainlinks/reports/2014AnnualReport/FINALAP14.pdf>; and Oklahoma DEQ, Annual Report 2015, Agency Statistics Section, <http://www.deq.state.ok.us/mainlinks/reports/2015AnnualReport/AnnualReport2015.html>.

¹³⁰ Oklahoma Department of Environmental Quality, Annual Report 2017, p. 30.

collected was \$134,688 in 2016, and the highest was \$524,909 in 2013.¹³¹ The 2017 fines are abnormally low, showing a steep decline of tens of thousands to hundreds of thousands of dollars compared to previous years. Fewer fines in the environmental enforcement context indicates that fewer violations were addressed and that enforcement was less stringent.

Most alarmingly, Oklahoma's DEQ is only curbing a fraction of the air pollution it once did. Between 2013 and 2016, reductions in air emissions ranged from 4,000 tons in 2013 to 896 tons in 2016.¹³² In sharp contrast, in 2017 the agency's enforcement actions reduced air emissions by only 116 tons.¹³³ It seems that Oklahoma, whose governor prohibited the state from implementing the Clean Power Plan in 2015 by executive order, is so eager to please local industrial enterprises that it has nearly done away with any air emission reduction efforts.

Oklahoma's DEQ is also being starved of funding. The DEQ's budget decreased by \$3.1 million between 2014 and 2017,¹³⁴ and Oklahoma's legislature reduced the state's portion of the Environmental Agency's funding by 11.3 percent.¹³⁵ It is unlikely that enforcement will pick up unless the agency is properly funded.

Like Oklahoma's DEQ, Kentucky's Department of Environmental Protection (DEP) has also cut its environmental enforcement efforts nearly in half. In 2017 the agency reported the fewest environmental enforcement actions since at least 2010.¹³⁶ Kentucky DEP's Division of Enforcement gets its cases through referrals from the State's regional offices, the department's Central Office Programs, and internally from the Compliance and Operation Branch. In 2017 only 266 new cases were referred to the division, a 48 percent decrease from the prior year. Compared to past years, 266 is an extremely low number of case referrals. In the second-lowest

¹³¹ Oklahoma DEQ, Annual Report 2016, p. 39,

<http://www.deq.state.ok.us/mainlinks/reports/2016AnnualReport/AnnualReportFY2016.pdf>;

Oklahoma DEQ, Annual Report 2013, p. 31.

¹³² Oklahoma DEQ, Annual Report 2013, p. 32; Oklahoma DEQ, Annual Report 2016, p. 39; Oklahoma DEQ, Annual Report 2015, Statistics Section; and Oklahoma DEQ, Annual Report 2014, p. 37.

¹³³ Oklahoma DEQ, Annual Report 2017, p. 31.

¹³⁴ Oklahoma DEQ, Annual Report 2017, p. 18.

¹³⁵ Joe Wertz, State Budget Agreement Brings Sharp Cuts to Agencies Overseeing Oklahoma's Environment, *State Impact Oklahoma*, May 26, 2016,

<https://stateimpact.npr.org/oklahoma/2016/05/26/state-budget-agreement-brings-sharp-funding-cut-s-to-agencies-overseeing-oklahomas-environment/>.

¹³⁶ Kentucky Division of Enforcement, Annual Report State Fiscal Year 2018, p. 8,

<https://eec.ky.gov/Environmental-Protection/Enforcement/Enforcement%20Annual%20Reports/Annual%20Report%20FY2018.pdf>.

tally of case referrals from recent years, in 2014, the state still counted 349 referrals, almost 100 more than 2017.¹³⁷

Other state environmental agencies' 2017 data also demonstrates significant drops in enforcement under the Trump EPA's sheepish oversight. West Virginia's Division of Air Quality & Enforcement did far fewer full compliance inspections of air pollution sources in 2017, conducting only 563 inspections and 121 partial evaluations of air pollution sources.¹³⁸ In 2016 the division conducted 871 inspections and 307 partial evaluations of air pollution sources.¹³⁹ The state also issued fewer notices of violations in 2017 (37) than in 2016 (53).¹⁴⁰

In addition to states' enforcement efforts, some states' more informal advisory programs also appear to be shrinking. Indiana's annual reports indicate that the state's compliance advisory panel, charged with ensuring that industries comply with Section 507 of the federal Clean Air Act,¹⁴¹ is doing far less outreach now than it did in past years. The panel aspires to complete at least 250 site visits a year. In 2014 and 2015 the panel exceeded the 250 site visits goal but failed to do so in 2016 and 2017, with the agency reporting "significant turnover" on the panel's outreach staff.¹⁴²

The gradual decline of programs like Indiana's Clean Air Act outreach, along with the decreased environmental enforcement in many states, reveals a pattern of insufficient enforcement. Increasingly deficient state programs are evidence that, when abandoned by the federal government, states will not carry out more robust enforcement even though champions of cooperative federalism claim otherwise. As the Trump administration steps back from enforcing the nation's environmental laws, instead of stepping up, some states are following suit and also stepping back.

¹³⁷ Kentucky Division of Enforcement, Annual Report, 2018, p. 8.

¹³⁸ West Virginia Department of Environmental Protection (DEP), Fiscal Year 2016–2017 Annual Report, p. 1, <https://dep.wv.gov/pio/Documents/2016-17%20Annual%20Report.pdf>.

¹³⁹ West Virginia DEP, Fiscal Year 2015–2016 Annual Report, p. 1, <https://dep.wv.gov/pio/Documents/Annual%20reports/2015-16%20DEP%20Annual%20Report%20Jan%2019%202017.pdf>.

¹⁴⁰ West Virginia DEP, Fiscal Year 2016–2017 Annual Report, p. 1; and West Virginia DEP, Fiscal Year 2015–2016 Annual Report, p. 1.

¹⁴¹ Indiana Code § 13-13-7.1.

¹⁴² Indiana Department of Environmental Management (DEM), Annual Report 2014, p. 23, https://www.in.gov/idem/files/idem_2014_annual_report.pdf; Indiana DEM, Annual Report 2015, p. 21, https://www.in.gov/idem/files/idem_2015_annual_report.pdf; Indiana DEM, Annual Report 2016, p. 19, https://www.in.gov/idem/files/idem_2016_annual_report.pdf; and Indiana DEM, Annual Report 2017, p. 19, https://www.in.gov/idem/files/idem_2017_annual_report.pdf.

The EPA's new cooperative federalism hamstrings the agency's supervision of state programs, and the odds are that states will increasingly be left to their own devices.

When state environmental regulators are left on their own, the environmental and health protections of their citizenry can corrode, since there is no guarantee that environmental rules will be properly enforced. For instance, in Kansas, the state environmental agency failed to report or remediate pollution in a Haysville, Kansas, drinking water well. Even though the Kansas Department of Health and Environment knew about dry-cleaning chemical contamination in drinking water above the federal limit, the state did not act or warn citizens using the well.¹⁴³

When the EPA steps back from its oversight role in the states, industry knows. That awareness serves to weaken the state's hand in negotiations with polluters around compliance. The state can no longer brandish over violators' heads the prospect of the EPA "gorilla" stepping in and potentially imposing greater pollution-control requirements or larger fines if the industry refuses to comply with state regulators. Not having that leverage further weakens the ability of states to enforce environmental regulations.

Finally, states cannot adequately carry out federal environmental programs when they are underfunded. Budget shortfalls shrink the heft and musculature of a regulatory agency, making lax enforcement well-nigh inevitable. That the Trump administration remains so adamant about cutting federal funding for state programs raises serious questions about whether it really does want state regulators to step up where it is backing off. The so-called State and Tribal Assistance Grants would be cut by 16 percent under the president's FY 2019 budget proposal.¹⁴⁴ On average, state environmental programs get 27 percent of their funding from the federal government, and some states receive much more.¹⁴⁵ For example, Oklahoma's DEQ gets 38 percent of its funds through federal grants.¹⁴⁶

¹⁴³ Fernando Salazar, "Kansas Drank Contaminated Water for Years. The State Didn't Tell Them," *Wichita Eagle*, August 26, 2018, <https://www.kansas.com/news/politics-government/article216625720.html>.

¹⁴⁴ EPA, "FY 2019 Budget in Brief."

¹⁴⁵ Environmental Council of the States, "Testimony of the Officers of the Environmental Council of the States before the Senate Committee on Appropriations Subcommittee on Interior, Environment, and Related Agencies Addressing the FY19 Budget for the U.S. Environmental Protection Agency," April 27, 2018, <https://www.ecos.org/wp-content/uploads/2018/05/ECOS-FY19-Senate-Appropriations-Testimony.pdf>

¹⁴⁶ Oklahoma DEQ Annual Report 2017, p. 26.

Funds earmarked for state environmental programs currently make up about 45 percent of EPA's budget.

In practice, what the sum total of the Trump administration's actions seems likely to accomplish is that already underfunded state environmental agencies will struggle even more to inspect and enforce environmental laws. We may well be headed toward an ever-more patchwork system of environmental regulation, where drastic differences in environmental health and safety can be found simply by walking across arbitrary state lines.

CONCLUSION

"The decisions we make today are critical in ensuring a safe and sustainable world for everyone, both now and in the future. . . . The next few years are probably the most important in our history."

— Debra Roberts, co-chair of IPCC Working Group II and an author of the IPCC Special Report Global Warming of 1.5°C

The dramatic declines in EPA enforcement since Trump came into office point to a dangerous direction for environmental protection in the United States—with global impacts. This is not just a blip; this administration is no longer just finding its footing. The consistent data on enforcement declines across program areas and regions bespeaks deep philosophical and practical changes at the agency, carried out by industry-aligned political appointees. They appear determined to remake environmental protection by substituting a sheep for a gorilla in the federal government's "closet," freeing industrial polluters to have their way with environments we all share. This shift has long-term implications for the health of all Americans, from infants in utero to the elderly in every state in the nation. Even if the agency reversed course tomorrow, it would take years to restore the federal government's role and impact on environmental enforcement. As one EPA staff member said, "I think the end-of-year numbers are going to be probably pretty bad and they're gonna get worse in 2019 unless there is a significant philosophical change about how we're doing things and kind of a recommitment to vigorous enforcement."¹⁴⁷

The recent dramatic declines in federal enforcement bring to mind the early Reagan administration, a time when the agency suffered large budget and staffing cuts and was beset by scandal. Back then some environmentalists thought that, as damaging as this onslaught on the EPA was, it would prove more easily reversible than other bigger failings of the Reagan years that they deemed worse. Our nation also lost time, what turned out to be nearly a decade's delay in grappling with a host of large and complex global issues that still threaten us today: "global warming linked to

¹⁴⁷ Confidential interview with EPA employee.

pollution, acid rain, toxic waste, air pollution and the contamination of underground water supplies.”¹⁴⁸

Now, in year two of the Trump administration, it is déjà vu all over again. The Reagan experience clearly showed how long-lasting even just two years of frontal assault on our nation’s premier environmental regulator could prove. What is different today, for one, is that while the Reagan attack on the EPA let up after two years, the current offensive shows few signs of slowing.

Another fundamental difference today is that humanity now has a deadline from the scientific community for addressing climate change. According to the Intergovernmental Panel on Climate Change (IPCC), we have a little over a decade to substantially reduce CO₂ emissions to 45 percent of what they were in 2010. By 2050, CO₂ emissions need to effectively be kept at zero to limit average warming to 1.5°C in order to stave off the most severe effects of climate change such as ecosystem loss, sea-level rise, and even more frequent catastrophic weather events.¹⁴⁹ The IPCC report is a red alert to governments and people that the global community has no more time to lose. We can’t afford the roadblocks thrown up by the Trump administration against any EPA action to curb greenhouse gases, delaying progress this year, the next, and the next.

And it isn’t just climate change that makes the EPA’s ongoing retreat so worrisome. The Trump administration’s attack on the EPA’s current regulations and enforcement capacities is inviting many other far-reaching and detrimental consequences. Children will continue to be exposed to dangerous neurotoxins like mercury; fewer curbs on air pollution will exacerbate asthma and other respiratory problems and cause premature deaths; increased exposures to toxic chemicals in the air we breathe will likely provoke more cancers; and health-protecting cleanups of toxic waste sites across the country will slow, among other impacts. The costs of diminished EPA protection will be borne by all of us, even as industry pays less to curb their pollution.

Rolling back regulations and rewriting the rules to favor industry are the obvious ways that the administration is trying to remake environmental policy. Less recognized, however, is how much Trump’s political appointees have been able to

¹⁴⁸ Philip Shabecoff, “Reagan and Environment: To Many, a Stalemate,” *New York Times*, January 2, 1989, <https://www.nytimes.com/1989/01/02/us/reagan-and-environment-to-many-a-stalemate.html>.

¹⁴⁹ Intergovernmental Panel on Climate Change, *Special Report Global Warming of 1.5°C, Summary for Policymakers*, October 6, 2018, http://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf.

fundamentally change the landscape of environmental regulation by signaling friendliness to industry and launching a wide range of under-the-radar shifts in agency policy and procedures. EPA leadership has thereby accomplished a profound change in the agency's on-the-ground work, as evidenced by the enforcement data.

Publicly, the EPA has claimed that the decreases in enforcement actions reflect a shift to informal enforcement strategies by the agency and stepped-up state-level regulatory efforts. But there is little evidence that either are happening. Further, the downturn in the EPA's enforcement appears to have even alarmed high-level EPA staff. Acknowledging that drastic reductions in enforcement actions are indeed happening and look bad, agency officials have come up with analyses that go beyond any public pronouncements and are much more in line with how both EPA enforcement staff and critics of the agency have explained enforcement declines. Namely, they finger industry influence, deference to states, deregulation, political obstruction, and the chilling effect of the sum of the leadership's actions on its own staff.

They are right to be concerned. Most Americans do care about environmental protection. And many will indeed be shocked to learn that undue industry influence is allowing environmental conditions that threaten their and their children's health, like air and water pollution and lead in drinking water.¹⁵⁰

Even if OECA's leadership were to make genuine changes to recharge enforcement, the situation is likely to get worse before it gets better because of all of the other changes set in motion within the agency, from staff reductions and procedural changes to the change in expectations among staff. The disruptive process of reorganizing regional offices now in the works will, according to one of our interviewees, "probably further suppress numbers of inspections and actions."¹⁵¹ Tellingly, the EPA's Inspector General (IG) recently notified Susan Bodine that the IG's office will begin studying enforcement trends and differences in enforcement across regions and environmental programs.¹⁵²

¹⁵⁰ Monica Anderson, "For Earth Day, Here's How Americans View Environmental Issues," Pew Research Center, April 20, 2017, <http://www.pewresearch.org/fact-tank/2017/04/20/for-earth-day-heres-how-americans-view-environmental-issues/>.

¹⁵¹ Confidential interview with EPA employee. OECA internal documents also noted that the "establishment of a pilot measure for 'state assists' in FY2018 could lead to further reductions in traditional EPA enforcement." OECA, "Possible Reasons for Decline."

¹⁵² Memo from Kathlene Butler, Director, Water Directorate, Office of Audit and Evaluation to Susan Bodine, "Analysis of EPA Enforcement Results from Fiscal Years 2006 Through 2018 Project No. OA&E-FY19-0030," November 5, 2018,

In the near term, enforcement will probably continue to decline. That is because inspections, which are how the enforcement process begins, fell to 10,612 in 2018, down 11 percent since 2017 and 23 percent since 2016. This is the lowest number of inspections in twenty-five years, since the EPA began recording this measure in 1994. And 2018's numbers hover at about 55 percent of the mean and median for 1994 to 2016.

Fewer inspections mean fewer additional enforcement actions will likely be undertaken in the ensuing months and years. As one staff member explains, the drop in inspections ensures that "there's definitely not going to be a lot coming out of the pipelines next year. . . . Among career staff, there's a recognition that 2018 is going to look bad and 2019 is likely to look worse."¹⁵³

With the severe drop in enforcement in FY 2018 auguring even worse numbers in FY 2019, some of our interviewees suggested that leadership may try to reconfigure or spin the numbers. "Sometimes, if the metrics don't look good, then you change the metrics," one said.¹⁵⁴ Another described OECA's leadership as grasping after whatever else they could count to bolster the tallies. "They're kind of going through the couch cushions, trying to find loose change," even as staff continue to insist on keeping the numbers "as accurate as possible."¹⁵⁵

Actions speak louder than words, and the nosedive in enforcement at the EPA over the last two years speaks volumes about the Trump administration's actual designs for this cornerstone of our nation's environmental regulation. So do its budgetary priorities. The dramatic cuts to federal and state funding that it has requested for FY 2019, if passed, will further hamstring both EPA and the states, delivering yet another one-two punch to environmental enforcement.

Evidence has also accumulated of what the Trump administration's cooperative federalism actually means: weakened as well as ever-more uneven and unequal environmental protection across our nation. Already, industry-friendly states have taken the EPA's new hesitancy to oversee or supplement their environmental agencies as an opportunity to step back themselves. Reduced federal assistance and

https://www.epa.gov/sites/production/files/2018-11/documents/epa_oig_notificationmemo_11-5-18_enforcementresults.pdf; Sean Reilly, "IG to audit long-term enforcement trends," *E&E News*, November 6, 2018, <https://www.eenews.net/eenewspm/stories/1060105329/feed>.

¹⁵³ Confidential interview with EPA employee.

¹⁵⁴ Confidential interview with EPA employee.

¹⁵⁵ Confidential interview with EPA employee.

funding will likely exacerbate this trend. States with stronger environmental programs and more environmentally oriented publics will still do their best to uphold current environmental laws. However, the Trump administration is also pushing back against states that want to do more to protect their environments. In practice, their notion of letting the states take the lead seems only to apply if state agencies are being as friendly to industry as the federal EPA has become.¹⁵⁶ As polluters gain greater liberties, environmental inequities will worsen, and, more than ever, your zip code will determine whether you have clean water and air—or not.

The U.S. EPA is on an irresponsible and reckless path, with our country's environment and health at stake. Balanced, transparent, and democratic processes have lost sway over much of EPA's decision making, with polluting industries gaining ever-more decisive power. Greater attention to these issues by national media and hearings called by a Democratic House of Representatives can help illuminate all that has gone wrong. But the only lasting antidote to this is widespread and sustained citizen engagement in elections, in local and state governments, and in the federal government—an aroused civil society across the board. With the IPCC's looming deadline in mind and with the health of our population and planet at stake, we have not a moment to lose.

¹⁵⁶ Jeremy Dillon, "Republicans Push-Back against States Seen as Too Pro-Regulation," *Roll Call*, September 24, 2018, <https://www.rollcall.com/news/policy/republicans-push-back-against-states-seen-as-too-pro-regulation>.

APPENDIX

Summary of EPA Regulatory Rollbacks			
Regulation	Regulation Summary	Mechanism for Rollback	Current Status
Clean Air Act			
Cross-State Air Pollution Rule and Section 126 Petitions	Regulate air pollution sources that cross state lines with the goal of reducing smog from upwind sources	Extending deadlines of and rejecting 126 petitions	Under litigation
Montreal Protocol Hydrofluorocarbons Kigali Agreement	Phase out HFCs as a substitute for CFCs due to HFCs impact on climate change	Proposed new rules Delayed ratifying treaty	Under reconsideration
"Once In Always In" Guidance for Major Sources	Transitions industries classified as major sources of Hazardous Air Pollution (HAP) to minor sources, with less oversight, if they agree to limit their emissions	Weakened pollution control technology requirements through memorandum	Under litigation
Ozone National Ambient Air Quality Standards	Sets stricter ozone standards	Delayed implementation	Under litigation
Mercury and Air Toxics Standards	Limits emissions of mercury and other toxins from power plant emissions	Withdrawing from lawsuit	Under reconsideration
Regional Haze Rule Regional Haze: State Implementation Plans	Regional haze rules are designed to create pollution control plans at the state level to protect air quality and visibility at National Parks	Rule under review Transferring more authority to states	Under litigation Under reconsideration
Chemical Disaster Rule (Risk Management Plan / Accidental Release Prevention Requirements)	Modified chemical facility risk management rules in an attempt to prevent accidents	Delayed rule	Under litigation Under reconsideration
EPA VOC and Methane Standards for Oil and Gas Facilities	Rules targeting the emissions of methane and VOCs for fracked and re-fracked well operations	Proposed withdrawal of technical guidance Amendment to rule Proposed revision	Under litigation Under reconsideration
Power Plant Startup, Shutdown, and Malfunction Rule	Regulates pollutants during the startup, shutdown, and malfunction of power plants	Rule under review	Under litigation Under reconsideration
Clean Water Act			
Power Plant Effluent Limits	Regulates the discharge of toxic pollutants into surface water	Delayed compliance	Under litigation
Resource Conservation and Recovery Act			
Coal Ash Rule	Authorized EPA to regulate coal ash disposal	Amendments to existing rules	Under litigation
Other			
Chesapeake Bay and Nonpoint Source Programs / TMDLs	Provides funding for clean up and pollution controls in the Chesapeake Bay Watershed	Defunding program	Budget allotment under consideration
Clean Power Plan / Carbon Pollution Emission Guidelines	Clean Power Plan committed to 32% decrease in emissions from power sector from 2005 levels by 2030 with flexibility given to states in how to achieve this goal	Executive Order Proposed repeal Proposed replacement rule	Under litigation Under reconsideration
Municipal Solid Waste Landfill New Source Performance Standards and Emissions Guidelines	Requires emission reductions from municipal landfills for methane releases	Reconsidering aspects of rules	Under litigation
Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Power Plants	Regulates carbon pollution from new or refurbished power plants	Executive Order Reviewing the rule	Under litigation (suspended) Under reconsideration

Figure A: Mechanisms Used to Roll Back Environmental Regulations. This figure summarizes the major rules that have been modified since 2017 and the mechanism (litigation, rule review, rule reconsideration, and budget allotment) that have been used by the Pruitt and Wheeler administrations to roll back environmental regulations. **Source:** Environmental Law at Harvard, “Regulatory Rollback Tracker”

<http://environment.law.harvard.edu/policy-initiative/regulatory-rollback-tracker/>.

EPA’s Compliance and Enforcement Budgets (Millions of Dollars - Rounded)			
Compliance Monitoring			
FY	Proposed Presidential	Congressionally Enacted or Continuing Resolution	Actual
2019 (Trump)	86		
2018 (Trump)	86	101	
2017 (Obama)	111	101	98
2016 (Obama)	122	102	104
2015 (Obama)	119	102	103
Civil Enforcement			
FY	Proposed Presidential	Congressionally Enacted or Continuing Resolution	Actual
2019 (Trump)	141		
2018 (Trump)	141	171	
2017 (Obama)	183	171	172
2016 (Obama)	186	171	174
2015 (Obama)	181	171	170
Criminal Enforcement			
FY	Proposed Presidential	Congressionally Enacted or Continuing Resolution	Actual
2019 (Trump)	41		
2018 (Trump)	40	45	
2017 (Obama)	53	46	48
2016 (Obama)	52	46	48
2015 (Obama)	81	47	48

Figure B: Proposed, enacted, and actual budgets for EPA’s Compliance Monitoring, Civil Enforcement and Criminal Enforcement programs. While the enacted (or continuing resolution) budgets for these programs did not decline in FY 2018 compared to the previous

years, the White House pushed for deep cuts in that fiscal year and continues to push for deep cuts in FY 2019. **Source:** EPA's *Budget in Brief and Justification of Appropriation Estimates for the Committee on Appropriations*, for fiscal years 2015 to 2019, accessed October 15, 2018, <https://www.epa.gov/planandbudget/archive>.

EPA's Compliance and Enforcement Staff (Full Time Equivalents)			
Compliance Monitoring			
FY	Proposed Presidential	Congressionally Enacted or Continuing Resolution	Actual
2019 (Trump)	429		
2018 (Trump)	432	539	
2017 (Obama)	540	540	506
2016 (Obama)	540	540	510
2015 (Obama)	535	537	509
Civil Enforcement			
FY	Proposed Presidential	Congressionally Enacted or Continuing Resolution	Actual
2019 (Trump)	857		
2018 (Trump)	858	1080	
2017 (Obama)	1081	1080	1061
2016 (Obama)	1082	1080	1064
2015 (Obama)	1085	1083	1046
Criminal Enforcement			
FY	Proposed Presidential	Congressionally Enacted or Continuing Resolution	Actual
2019 (Trump)	210		
2018 (Trump)	194	269	
2017 (Obama)	268	269	238
2016 (Obama)	267	269	248
2015 (Obama)	269	269	252

Figure C: Proposed, enacted, and actual staffing levels for EPA's Compliance Monitoring, Civil Enforcement and Criminal Enforcement programs. While the enacted (or continuing resolution) staffing levels for these programs did not decline in FY 2018 compared to the previous years, the White House pushed for deep cuts to staffing in that fiscal year and continues to push for deep cuts in FY 2019. **Source:** EPA's *Budget in Brief and Justification of*

Published OECA Reports

All reports authored by EPA's Office of Enforcement and Compliance Assurance (OECA). All documents accessible on the web as of February 22, 2019. Annual reports for enforcement and compliance are listed as "ECAR XXXX" in the tables above. The actual report titles vary from year to year, so these are also given below.

- NETs ("National Enforcement Trends (NETs) Report," August 2011), <https://web.archive.org/web/20120619023221/http://www.epa.gov/compliance/resources/reports/nets/nets.pdf>.
- ECAR 2018 ("Enforcement Annual Results for Fiscal Year 2018"), <https://www.epa.gov/enforcement/enforcement-annual-results-fiscal-year-2018>.
- ECAR 2017 ("Enforcement Annual Results for Fiscal Year 2017"), <https://www.epa.gov/enforcement/enforcement-annual-results-fiscal-year-2017>.
- ECAR 2016 ("Enforcement Annual Results for Fiscal Year 2016"), <https://archive.epa.gov/epa/enforcement/enforcement-annual-results-fiscal-year-2016.html>.
- ECAR 2015 ("Enforcement Annual Results for Fiscal Year (FY) 2015"), <https://archive.epa.gov/epa/sites/production/files/2017-01/documents/enforcement-annual-results-for-fiscal-year-fy-2015.pdf>.
- ECAR 2014 ("Enforcement Annual Results for Fiscal Year (FY) 2014"), <https://archive.epa.gov/enforcement/annual-results/web/pdf/EnforcementAnnualResultsforFiscalYear2014EnforcementUSEPA.pdf>.
- ECAR 2013 ("Enforcement Annual Results for Fiscal Year (FY) 2013"), <https://archive.epa.gov/enforcement/annual-results/web/pdf/eoy2013.pdf>.

- ECAR 2012 (“Enforcement Annual Results for Fiscal Year 2012”),
<https://archive.epa.gov/enforcement/annual-results/web/pdf/eoy2012.pdf>.
- ECAR 2011 (“Compliance and Enforcement Annual Results 2011 Fiscal Year”),
<https://archive.epa.gov/enforcement/annual-results/web/pdf/eoy2011.pdf>.
- ECAR 2008 (“Compliance and Enforcement Annual Results FY2008”),
<https://archive.epa.gov/enforcement/annual-results/web/pdf/eoy2008.pdf>.
- ECAR 2003 (“Compliance and Enforcement Annual Results – FY2003”),
<https://archive.epa.gov/enforcement/annual-results/web/pdf/eoy2003.pdf>.
- ECAR 2002 (“Compliance and Enforcement Annual Results – FY2002”),
<https://archive.epa.gov/enforcement/annual-results/web/pdf/eoy2002.pdf>.
- ECAR 1999 (“Compliance and Enforcement Annual Results – FY1999”),
<https://nepis.epa.gov/Exe/ZyPDF.cgi/5000040Y.PDF?Dockey=5000040Y.PDF>.
- ECAR 1998 (“Enforcement and Compliance Assurance Accomplishments FY98 Report”),
<https://nepis.epa.gov/Exe/ZyPDF.cgi/500008XP.PDF?Dockey=500008XP.PDF>.
- ECAR 1997 (“Enforcement and Compliance Assurance Accomplishments Report, FY 1997”),
<https://nepis.epa.gov/Exe/ZyPDF.cgi/500008DY.PDF?Dockey=500008DY.PDF>.
- ECAR 1996 (“Enforcement and Compliance Assurance Accomplishments Report, FY 1996”),
<https://nepis.epa.gov/Exe/ZyPDF.cgi/500007YR.PDF?Dockey=500007YR.PDF>.
- ECAR 1995 (“Enforcement and Compliance Assurance Accomplishments Report, FY 1995”),
<https://nepis.epa.gov/Exe/ZyPDF.cgi/500007JK.PDF?Dockey=500007JK.PDF>.
- ECAR 1994 (“Enforcement and Compliance Assurance Accomplishments Report: FY 1994”),
<https://nepis.epa.gov/Exe/ZyPDF.cgi/500006TW.PDF?Dockey=500006TW.PDF>.

Consumer Price Index (CPI)

Year	CPI	Year	CPI
1980	0.824	2000	1.722
1981	0.909	2001	1.771
1982	0.965	2002	1.799
1983	0.996	2003	1.84
1984	1.039	2004	1.889
1985	1.076	2005	1.953
1986	1.096	2006	2.016
1987	1.136	2007	2.07342
1988	1.183	2008	2.15303
1989	1.24	2009	2.14537
1990	1.307	2010	2.18056
1991	1.362	2011	2.24939
1992	1.403	2012	2.29594
1993	1.445	2013	2.32957
1994	1.482	2014	2.36736
1995	1.524	2015	2.37017
1996	1.569	2016	2.40007
1997	1.605	2017	2.4512
1998	1.63	2018	2.51107
1999	1.666		

Source: Bureau of Labor Statistics, “Historical Consumer Price Index for All Urban Consumers (CPI-U): U.S. city average, all items, by month,” available at: <https://www.bls.gov/cpi/tables/supplemental-files/historical-cpi-u-201812.pdf>.

Inspections

FY	Inspections	Source
1994	19,542	NETs
1995	14,529	NETs
1996	18,211	NETs
1997	18,706	NETs
1998	23,191	NETs
1999	21,847	NETs
2000	20,337	NETs
2001	17,560	NETs
2002	17,668	NETs
2003	18,880	NETs
2004	21,031	NETs
2005	21,282	NETs
2006	23,231	NETs
2007	21,721	NETs
2008	19,883	NETs
2009	19,724	NETs
2010	21,012	NETs
2011	19,520	ECAR 2018
2012	20,077	ECAR 2018
2013	18,323	ECAR 2018
2014	15,832	ECAR 2018
2015	15,731	ECAR 2018
2016	13,761	ECAR 2018
2017	11,941	ECAR 2018
2018	10,612	ECAR 2018

Civil Case Initiations

FY	Civil Judicial Referrals	Source	Civil Initiations	Source
1975	25	NETs	2,377	ECAR 1999
1976	82	NETs	3,695	ECAR 1999
1977	143	NETs	2,787	ECAR 1999
1978	262	NETs	1,884	ECAR 1999
1979	242	NETs	1,427	ECAR 1999
1980	210	NETs	1,111	ECAR 1999
1981	118	NETs	1,225	ECAR 1999
1982	112	NETs	976	ECAR 1999
1983	165	NETs	2,013	ECAR 1999
1984	251	NETs	3,375	ECAR 1999
1985	276	NETs	2,885	ECAR 1999
1986	342	NETs	2,968	ECAR 1999
1987	304	NETs	3,498	ECAR 1999
1988	372	NETs	3,457	ECAR 1999
1989	364	NETs	4,500	ECAR 1999
1990	375	NETs	4,179	ECAR 1999
1991	393	NETs	4,318	ECAR 1999
1992	361	NETs	4,028	ECAR 1999
1993	338	NETs	4,146	ECAR 1999
1994	430	NETs	3,920	NETs
1995	214	NETs	3,183	NETs
1996	295	NETs	2,466	NETs
1997	426	NETs	3,797	NETs
1998	411	NETs	3,726	NETs
1999	323	NETs	3,804	NETs
2000	250	NETs	5,593	NETs
2001	238	NETs	3,374	NETs
2002	252	NETs	3,035	NETs
2003	268	NETs	3,738	NETs
2004	265	NETs	4,194	NETs
2005	259	NETs	4,424	NETs
2006	286	NETs	6,371	NETs
2007	278	NETs	3,762	ECAR 2017
2008	280	NETs	3,726	ECAR 2017
2009	277	NETs	3,779	ECAR 2017
2010	233	NETs	3,436	ECAR 2017
2011	199	ECAR 2011	3,283	ECAR 2017
2012	179	ECAR 2012	3,027	ECAR 2017
2013	138	ECAR 2013	2,418	ECAR 2017
2014	118	ECAR 2014	2,278	ECAR 2017
2015	141	ECAR 2015	2,378	ECAR 2017
2016	152	ECAR 2016	2,414	ECAR 2017
2017	110	ECAR 2017	1,938	ECAR 2017
2018	110	ECAR 2018	1,838	ECAR 2018

Civil Case Conclusions

FY	Civil Conclusions	Source
1994	3,778	NETs
1995	3,157	NETs
1996	2,482	NETs
1997	3,442	NETs
1998	3,219	NETs
1999	3,089	NETs
2000	5,337	NETs
2001	3,431	NETs
2002	2,883	NETs
2003	3,484	NETs
2004	4,231	NETs
2005	4,366	NETs
2006	6,235	NETs
2007	3,683	ECAR 2017
2008	3,666	ECAR 2017
2009	3,705	ECAR 2017
2010	3,332	ECAR 2017
2011	3,241	ECAR 2017
2012	3,012	ECAR 2017
2013	2,489	ECAR 2017
2014	2,286	ECAR 2017
2015	2,361	ECAR 2017
2016	2,359	ECAR 2017
2017	1,964	ECAR 2017
2018	1,817	ECAR 2018

Criminal Cases, Defendants Charged, Years Sentenced

FY	Cases Initiated	Defendants Charged	Sentences (Years)	Sources
1987	41	66	38	ECAR 1999
1988	59	97	23	ECAR 1999
1989	60	95	27	ECAR 1999
1990	65	100	62	ECAR 1999
1991	83	104	80	ECAR 1999
1992	107	150	95	ECAR 1999
1993	140	161	74	ECAR 1999
1994	220	250	99	ECAR 1999
1995	256	245	74	ECAR 1999
1996	262	221	93	ECAR 1999
1997	278	322	196	ECAR 1999
1998	636	350	173	NETs
1999	471	324	208	NETs
2000	477	360	146	NETs
2001	482	372	212	NETs
2002	484	325	215	NETs
2003	471	247	146	NETs
2004	425	293	77	NETs
2005	372	320	186	NETs
2006	305	278	154	NETs
2007	340	248	64	NETs
2008	319	176	57	NETs
2009	387	200	76	NETs
2010	346	289	72	NETs
2011	371	258	90	ECAR 2017

2012	320	234	79	ECAR 2017
2013	297	287	155	ECAR 2017
2014	270	192	160	ECAR 2017
2015	213	193	130	ECAR 2017
2016	170	188	95	ECAR 2017
2017	115	139	153	ECAR 2017
2018	129	105	73	ECAR 2018

Penalties and Supplemental Environmental Projects (SEPs)

FY	Civil (Nominal)	Criminal (Nominal)	SEPs (Nominal)	Civil (2018\$)	Criminal (2018\$)	SEP (2018\$)	Total (2018\$)	Source (Penalty)	Source (SEP)
1980	10,729,150			32,696,173				NETs	
1981	6,377,235			17,616,814				NETs	
1982	4,395,380			11,437,416				NETs	
1983	7,881,481	369,500		19,870,432	931,567			NETs	
1984	6,882,923	198,000		16,634,746	478,529			NETs	
1985	22,779,010	1,526,000		53,159,562	3,561,239			NETs	
1986	20,628,407	1,936,150		47,262,203	4,435,956			NETs	
1987	24,325,873	2,475,051		53,771,100	5,470,974			NETs	
1988	36,909,521	8,660,275		78,345,216	18,382,550			NETs	
1989	35,251,946	11,601,241		71,387,181	23,493,168			NETs	
1990	61,289,667	5,513,318		117,752,597	10,592,446			NETs	
1991	73,104,128	14,120,387		134,779,429	26,033,245			NETs	
1992	78,733,331	62,895,400		140,915,827	112,569,317			NETs	
1993	115,133,414	29,700,000		200,074,783	51,611,612			NETs	
1994	113,656,871	36,812,000		192,577,840	62,373,488			NETs	
1995	70,859,328	23,221,100	103,000,000	116,753,762	38,261,029	169,711,424	324,726,214	NETs	ECAR 1995
1996	96,250,929	76,660,900	66,000,000	154,042,588	122,690,176	105,628,184	382,360,947	NETs	ECAR 1996
1997	95,145,101	169,282,896	85,400,000	148,857,326	264,848,101	132,985,016	546,690,443	NETs	ECAR 1997
1998	91,573,293	92,800,711	91,000,000	141,071,748	142,962,627	140,188,571	424,222,945	NETs	ECAR 2003
1999	166,721,578	61,552,874	236,798,552	251,290,248	92,775,255	357,217,041	701,282,544	NETs	NETs
2000	84,110,267	121,974,488	55,888,396	122,652,014	177,866,712	81,660,813	382,179,539	NETs	NETs
2001	125,465,421	94,726,283	89,114,956	177,895,231	134,310,744	126,191,547	438,397,522	NETs	NETs
2002	89,675,575	62,252,318	57,906,341	125,170,454	86,892,678	80,957,232	293,020,364	NETs	NETs
2003	96,634,431	70,425,447	65,421,589	131,878,163	96,110,450	87,341,565	315,330,178	NETs	NETs
2004	148,850,404	48,437,486	47,901,930	197,868,599	64,388,522	63,806,967	326,064,088	NETs	NETs
2005	153,937,047	101,286,651	57,036,067	197,924,578	130,229,324	73,287,757	401,441,660	NETs	NETs
2006	123,814,786	43,159,168	77,767,340	154,220,037	53,757,784	97,154,494	305,132,315	NETs	NETs
2007	70,467,492	63,344,186	30,344,797	85,341,516	76,714,648	36,332,292	198,388,455	NETs	NETs
2008	126,553,343	63,416,697	39,046,129	147,598,641	73,962,632	45,485,539	267,046,812	NETs	NETs

2009	90,105,246	95,654,145	41,121,104	105,464,596	111,959,361	47,988,864	265,412,821	NETs	NETs
2010	103,607,965	40,609,607	23,774,321	119,311,944	46,764,852	27,637,708	193,714,504	NETs	NETs
2011	152,271,601	35,000,000	25,000,000	169,985,929	39,071,682	27,908,344	236,965,955	ECAR 2011	ECAR 2011
2012	207,561,881	44,000,000	43,606,036	227,010,467	48,122,808	48,122,808	323,256,084	ECAR 2012	ECAR 2012
2013	1,148,000,00 0	1,500,000,00 0	22,000,000	1,237,442,25 8	1,616,867,06 1	23,714,050	2,878,023,36 9	ECAR 2013	ECAR 2013
2014	100,000,000	63,000,000	17,000,000	106,070,475	66,824,399	18,031,981	190,926,855	ECAR 2014	ECAR 2014
2015	205,000,000	200,000,000	39,000,000	217,186,679	211,889,443	41,318,441	470,394,562	ECAR 2015	ECAR 2015
2016	5,790,000,00 0	207,000,000	31,600,000	6,057,779,69 0	216,573,471	33,479,957	6,307,833,11 7	ECAR 2016	ECAR 2016
2017	1,632,000,00 0	2,977,000,00 0	17,000,000	1,671,861,22 7	3,049,712,54 5	17,415,221	4,738,988,99 3	ECAR 2017	ECAR 2017
2018	69,474,000	86,294,000	28,929,000	69,474,000	86,294,000	29,000,000	184,768,000	ECAR 2018	ECAR 2018

Compliance Costs (Injunctive Relief) and Superfund Cleanup

FY	Compliance (Nominal)	Superfund (Nominal)	Compliance (2018\$)	Superfund (2018\$)	Total (2018\$)	Source (Compliance)	Source (Superfund)
1994		1,400,000,000		2,372,000,000			ECAR 1994
1995	906,637,052	851,000,000	1,493,851,117	1,402,000,000	2,895,851,117	ECAR 1995	ECAR 1995
1996	1,429,849,730	1,341,000,000	2,288,370,148	2,146,000,000	4,434,370,148	ECAR 1996	ECAR 1996
1997	1,893,323,837	610,000,000	2,962,161,176	954,000,000	3,916,161,176	NETs	ECAR 1997
1998	1,976,759,053	1,036,000,000	3,045,264,022	1,596,000,000	4,641,264,022	NETs	ECAR 1998
1999	3,424,223,733	786,000,000	5,161,143,751	1,185,000,000	6,346,143,751	NETs	ECAR 2003
2000	1,562,824,364	1,482,000,000	2,278,955,503	2,161,000,000	4,439,955,503	NETs	ECAR 2003
2001	4,453,961,458	1,743,000,000	6,315,194,240	2,471,000,000	8,786,194,240	NETs	ECAR 2003
2002	3,936,692,345	627,000,000	5,494,891,632	875,000,000	6,369,891,632	NETs	ECAR 2003
2003	2,878,746,764	1,129,000,000	3,928,660,129	1,541,000,000	5,469,660,129	NETs	ECAR 2003
2004	4,792,778,206	711,000,000	6,371,096,649	945,000,000	7,316,096,649	NETs	ECAR 2008
2005	10,169,667,426	971,000,000	13,075,651,195	1,248,000,000	14,323,651,195	NETs	ECAR 2008
2006	4,929,926,719	555,000,000	6,140,570,975	691,000,000	6,831,570,975	NETs	ECAR 2008
2007	10,548,076,934	940,000,000	12,774,526,891	1,138,000,000	13,912,526,891	NETs	ECAR 2008
2008	11,719,063,597	1,807,000,000	13,667,895,490	2,107,000,000	15,774,895,490	NETs	ECAR 2008
2009	5,320,414,755	2,361,000,000	6,227,333,224	2,763,000,000	8,990,333,224	NETs	NETs
2010	12,121,647,725	1,550,000,000	13,958,939,884	1,785,000,000	15,743,939,884	NETs	NETs
2011	19,000,000,000	3,300,000,000	21,210,341,470	3,684,000,000	24,894,341,470	ECAR 2011	ECAR 2011
2012	9,135,543,769	829,000,000	9,991,545,899	907,000,000	10,898,545,899	ECAR 2012	ECAR 2012
2013	7,300,000,000	1,535,000,000	7,868,753,032	1,655,000,000	9,523,753,032	ECAR 2013	ECAR 2013
2014	9,738,000,000	512,000,000	10,329,142,868	543,000,000	10,872,142,868	ECAR 2014	ECAR 2014
2015	7,300,000,000	2,487,000,000	7,733,964,652	2,635,000,000	10,368,964,652	ECAR 2015	ECAR 2015
2016	13,700,000,000	1,057,000,000	14,333,606,520	1,106,000,000	15,439,606,520	ECAR 2016	ECAR 2016
2017	20,000,000,000	1,370,000,000	20,488,495,431	1,403,000,000	21,891,495,431	ECAR 2017	ECAR 2017
2018	3,948,336,000	533,000,000	3,948,336,000	533,000,000	4,481,336,000	ECAR 2018	ECAR 2018

Environmental Benefits

FY	Pollutants + Hazardous Waste	Sources	Contaminated Soil + Water	Sources	Drinking Water	Sources
2002					3,150	ECAR 2002
2003					2,000	NETs
2004			12,900	NETs	4,000	NETs
2005			1,628,200	NETs	8,200	NETs
2006			1,315,000	NETs	7,600	NETs
2007			1,479,000	NETs	6,700	NETs
2008	10,473	ECAR 2017	355,000	NETs	1,000	NETs
2009	1,353	ECAR 2017	459,700	NETs	2,300	NETs
2010	13,217	ECAR 2017	116,000	NETs	7,300	NETs
2011	5,395	ECAR 2017	933,000	ECAR 2011	350	ECAR 2011
2012	6,563	ECAR 2017	417,000	ECAR 2017	38,785	ECAR 2017
2013	1,424	ECAR 2017	752,000	ECAR 2017	1,000	ECAR 2017
2014	1,226	ECAR 2017	870,000	ECAR 2017	839	ECAR 2017
2015	1,068	ECAR 2017	66,000	ECAR 2017	1,860	ECAR 2017
2016	62,224	ECAR 2017	191,000	ECAR 2017	650	ECAR 2017
2017	462	ECAR 2017	433,000	ECAR 2017	416	ECAR 2017
2018	809	ECAR 2018	244,584	ECAR 2018	505	ECAR 2018