FY 2021 EPA Program Evaluations

EPA did not complete any program evaluations in FY 2021. Please see the FY 2022 Annual Evaluation Plan for a list of program evaluations that the Agency intends to initiate in FY 2022.

Additional FY 2021 Contributions to EPA's Portfolio of Evidence

Office of the Administrator (OA)

Activity 1:

Title	EPA Learning Agenda: Grant Commitments Met
Lead National Program or Region	OA / Office of Congressional and Intergovernmental Relations (OCIR)
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 2: More Effective Partnerships Strategic Objective 2.1: Enhance Shared Accountability
Completion date	September 2021

Purpose and brief description: The measurement of EPA's grant commitments was selected as a learning priority area in EPA's Learning Agenda. Every year, EPA awards over $4 billion in grants and other assistance agreements. Through these grants, EPA helps to protect human health and the environment through the work of its grantees. The management and tracking of the individual awards are dispersed amongst approximately 1,400 staff throughout headquarters and EPA's ten regional offices, which makes tracking results at the national level challenging. The Agency's lack of a comprehensive system for tracking grant-related activities leads to an inability to proficiently evaluate environmental outcomes on a national scale. Work in FY 2021 is a first step toward better understanding current grant reporting and tracking processes across the Agency's 100+ current grant programs. This baseline will help EPA develop a sustainable and consistent process for negotiating and tracking the environmental outputs and outcomes resulting from EPA's grant funding.

Policy, programmatic, and/or operational questions the activity is intended to address:

1. How do EPA's existing grant award and reporting systems identify and track grant commitments?
2. Do the grant programs have specific objectives/targets associated with their outputs/outcomes?
3. What types of grant commitments data are tracked?

4. How do tracked grant commitments data vary across the agency?
5. To what extent does the data reported by grantees provide EPA with information on progress towards meeting grant commitments?
6. To what extent does the data reported by grantees provide information that currently allows EPA to measure outputs, outcomes, and impacts related to equity and climate change?
7. How do grant programs identify relevant grant commitments to track?
8. What data reporting processes, tools, and systems do EPA's grant award programs use?
9. How do grant award reporting systems vary across the agency?
10. How do grant programs use the grant commitments data they collect for program implementation?
11. How do grant programs present and communicate the results of the grant commitments data they collect?

Brief list of results/conclusions/findings: The Grant Commitments Met working group surveyed more than 100 EPA grant programs and received 452 responses, with a response rate of 84%. Survey respondents reported that the output and outcome data they currently collect enables them to track progress on grant commitments and recognize and address problems with grantee performance. In phase two of this project, the working group will build on the data compiled in this effort and collect more detailed information through interviews with national program managers and document collection to recommend effective grantee reporting practices and tools.

How EPA used the results/conclusions/findings: EPA will use the results of the survey as a first step toward better understanding current grant reporting and tracking processes across the Agency and help answer Question 1: "What EPA practices and tools effectively track whether grantees are fulfilling their workplan grant commitments, including outputs and environmental outcomes?" and Question 2: "Are the commitments established in EPA's grant agreements achieving the intended environmental results?" of the Grant Commitments Met Learning Priority Area in EPA's Learning Agenda.

Link for findings*:* N/A

Office of Air and Radiation (OAR)

Activity 1:

Title	Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019
Lead National Program/Region	OAR

FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.1: Improve Air Quality
Completion Date	April 2021

Purpose and brief description: EPA has prepared the Inventory of U.S. Greenhouse Gas Emissions and Sinks since the early 1990s. This annual report provides a comprehensive accounting of total greenhouse gas emissions from all man-made sources in the United States. The gases covered by the Inventory include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride. The Inventory also calculates carbon dioxide removal from the atmosphere by "sinks," e.g., through the uptake of carbon and storage in forests, vegetation, and soils. The national greenhouse gas inventory is submitted to the United Nations in accordance with the Framework Convention on Climate Change.

Brief List of Results/ Conclusions/Findings: In 2019, total gross U.S. greenhouse gas emissions were 6,558 million metric tons of carbon dioxide equivalent (MMT CO_2 Eq.). Net emissions (including sinks) were 5,769 MMT CO_2 Eq. From 2005 to 2019, net emissions declined 13 percent, reflecting the combined impacts of long-term trends in many factors including population, economic growth, energy markets, technological changes including energy efficiency, and energy fuel choices. The decline in recent years is due to an increasing shift to use of less CO_2-intensive natural gas for generating electricity and a rapid increase in the use of renewable energy in the electric power sector. Between 2018 and 2019, greenhouse gas emissions decreased by almost 2 percent due to multiple factors, including a 1 percent decrease in total energy use. Net emissions in 2019 were 4 percent higher than in 1990.

How EPA used the results/conclusions/findings: An emissions inventory that identifies and quantifies a country's anthropogenic sources and sinks of greenhouse gases is essential for addressing climate change. This inventory adheres to both (1) a comprehensive and detailed set of methodologies for estimating sources and sinks of anthropogenic greenhouse gases, and (2) a common and consistent format that enables Parties to the United Nations Framework Convention on Climate Change (UNFCCC) to compare the relative contribution of different emission sources and greenhouse gases to climate change.

Link for findings*: https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2019*

Activity 2:

Title	2020 Power Sector Programs – Progress Report

Lead National Program/Region	OAR
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.1: Improve Air Quality
Completion Date	June 2021

Purpose and brief description: Under the Clean Air Act, EPA implements several regulations that affect power plants, including the Acid Rain Program (ARP), the Cross-State Air Pollution Rule (CSAPR) and the CSAPR Update, and the Mercury and Air Toxics Standards (MATS). These programs require fossil fuel-fired electric generating units to reduce emissions of sulfur dioxide (SO2), nitrogen oxides (NOX), and hazardous air pollutants including mercury (Hg) to protect human health and the environment. This reporting year marks the fifth year of CSAPR implementation, the third year of the CSAPR Update implementation, the twenty-fourth year of the ARP, and the third year of MATS implementation in which the majority of sources were required to report emissions for the full year. This report summarizes annual progress through 2020, highlighting data that EPA systematically collects on emissions for all four programs and on compliance for the ARP and CSAPR. Transparency and data availability are a hallmark of these programs, and a cornerstone of their success.

Brief List of Results/ Conclusions/Findings: The ARP, CSAPR, CSAPR Update, and MATS have delivered substantial reductions in power sector emissions of SO2, NOX, and hazardous air pollutants, along with significant improvements in air quality and the environment. Program highlights include, but are not limited to:

- Annual SO2 emissions:
  - CSAPR – 497 thousand tons (94 percent below 2005)
  - ARP – 778 thousand tons (95 percent below 1990)
- Annual NOX emissions:
  - CSAPR – 405 thousand tons (81 percent below 2005)
  - ARP – 721 thousand tons (86 percent below 2000)
- CSAPR ozone season NOX emissions:
  - 232 thousand tons (49 percent below 2015)
- Compliance:
  - 100 percent compliance for power plants in the market-based ARP and CSAPR allowance trading programs

In addition to the demonstrated reductions achieved by the power sector emission control programs described in this report, SO2, NOX, and hazardous air pollutant emissions have

declined steadily in recent years due to a variety of power industry trends that are expected to continue.

How EPA used the results/conclusions/findings: The ARP, CSAPR and the CSAPR Update are implemented through cap and trade programs designed to reduce emissions of SO2 and NOX from power plants. Established under Title IV of the 1990 Clean Air Act Amendments, the ARP was a landmark nationwide cap and trade program, with a goal of reducing the emissions that cause acid rain. The success of the program in achieving significant emission reductions in a cost-effective manner led to the application of the market-based cap and trade tool for other regional environmental problems, namely interstate air pollution transport, or pollution from upwind emission sources that impacts air quality in downwind areas. MATS set limits on emissions of hazardous air pollutants from power plants. EPA published the final standards in February 2012, and the compliance requirements generally went into effect in April 2015, with extensions for some plants until April 2016 and a small number until April 2017. As such, 2020 is the fourth full year for which most sources covered by MATS have reported emissions data to EPA.

Exposure to mercury and other hazardous air pollutants can increase chances of cancer and immune system damage, along with neurological, reproductive, developmental, respiratory, and other health problems. NOX emissions contribute to the formation of ground-level ozone and fine particle pollution, which cause a variety of adverse human health effects, while SO2 emissions are linked with a number of adverse effects to human health and ecosystems. These adverse effects underline the continued need for pollution reduction under the ARP, CSAPR, CSAPR Update, the revised CSAPR Update and MATS. These reports are critical for monitoring these programs to ensure they are continuing to deliver substantial environmental and human health benefits.

Link for findings*: https://www3.epa.gov/airmarkets/progress/reports/*

Activity 3:

Title	Climate Change and Social Vulnerability in the United States
Lead National Program/Region	OAR
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.1: Improve Air Quality
Completion Date	September 2021

Purpose and brief description: This report contributes to a better understanding of the degree to which four socially vulnerable populations—defined based on income, educational attainment, race and ethnicity, and age may be more exposed to the highest impacts of climate change in six categories: Air Quality and Health; Extreme Temperature and Health; Extreme Temperature and Labor; Coastal Flooding and Traffic; Coastal Flooding and Property; and Inland Flooding and Property.

Brief List of Results/ Conclusions/Findings:

- Black and African American individuals are 40% more likely than non-Black and non-African American individuals to currently live in areas with the highest projected increases in mortality rates due to climate-driven changes in extreme temperatures. In addition, Black and African American individuals are 34% more likely to live in areas with the highest projected increases in childhood asthma diagnoses due to climate-driven changes in particulate air pollution.
- Hispanic and Latino individuals are 43% more likely than non-Hispanic and non-Latino individuals to currently live in areas with the highest projected labor hour losses in weather-exposed industries due to climate-driven increases in high-temperature days. Hispanic and Latino individuals are also 50% more likely to live in coastal areas with the highest projected increases in traffic delays from climate driven changes in high-tide flooding.
- American Indian and Alaska Native individuals are 48% more likely than non-American Indian and non-Alaska Native individuals to currently live in areas where the highest percentage of land is projected to be inundated due to sea level rise. American Indian and Alaska Native individuals are also 37% more likely to live in areas with the highest projected labor hour losses in weather exposed industries due to climate-driven increases in high-temperature days.
- Asian individuals are 23% more likely than non-Asian individuals to currently live in coastal areas with the highest projected increases in traffic delays from climate-driven changes in high-tide flooding
- Those with low income or no high school diploma are approximately 25% more likely than non-low income individuals and those with a high school diploma to currently live in areas with the highest projected losses of labor hours due to increases in high-temperature days with 2°C of global warming. In addition, individuals in these socially vulnerable groups are approximately 15% more likely to currently live in areas with the highest projected increases in childhood asthma diagnoses due to climate-driven increases in particulate air pollution, and in areas where the highest percentage of land is projected to be inundated due to sea level rise.
- In general, adults ages 65 and older are not projected to be significantly more likely than younger individuals to currently live in areas with the highest projected impacts of climate change. Across all six categories of impacts, the differences in risk to adults ages

65 or older of living in the high-impact areas is only -5% to +4% compared to younger individuals.

How EPA used the results/conclusions/findings: This report contributes to a better understanding of the degree to which socially vulnerable populations may be more exposed to the highest impacts of climate change. This information is helping to inform the Agency's efforts to ensure an equitable response to the risks posed by climate change.

Link for findings*: https://www.epa.gov/cira/social-vulnerability-report*

Activity 4:

Title	Climate Change Indicators in the United States
Lead National Program/Region	OAR
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.1: Improve Air Quality
Completion Date	The Climate Change Indicators Page is Regularly Updated (relaunched May 2021)

Purpose and brief description: EPA's Climate Change Indicators in the United States, was created with the primary goal of informing readers' understanding of climate change. It is also designed to be useful for the public, scientists, analysts, decision-makers, educators, and others who can use climate change indicators as a tool for communicating climate change science. EPA partners with more than 50 data contributors from various government agencies, academic institutions, and other organizations to compile a key set of indicators related to the causes and effects of climate change. These indicators also provide important input to the National Climate Assessment and other efforts to understand and track the science and impacts of climate change.

Brief List of Results/ Conclusions/Findings: These indicators characterize observed changes from long-term records related to the causes and effects of climate change; the significance of these changes; and their possible consequences for people, the environment, and society. Examples of indicators and associated analysis include:

- Heat waves: trends in the number of heat waves per year (frequency); the average length of heat waves in days (duration); the number of days between the first and last heat wave of the year (season length); and how hot the heat waves were, compared with the local temperature threshold for defining a heat wave (intensity). Heat waves are occurring more often than they used to in major cities across the United States.

Their frequency has increased steadily, from an average of two heat waves per year during the 1960s to six per year during the 2010s (see Figure 1)

- Coastal flooding: tracks periodic inundation based on measurements from tide gauges at locations along U.S. coasts. Flooding is becoming more frequent along the U.S. coastline. Every site measured has experienced an increase in coastal flooding since the 1950s. The rate of increase is accelerating at most locations along the East and Gulf Coasts.
- Glaciers: examines the balance between snow accumulation and melting in glaciers, and it describes how glaciers in the United States and around the world have changed over time. The four U.S. reference glaciers have shown an overall decline in mass balance since the 1950s and 1960s and an accelerated rate of decline in recent years. Year-to-year trends vary, with some glaciers gaining mass in certain years, but the measurements clearly indicate a loss of glacier mass over time.
- Growing season: looks at the impact of temperature on the length of the growing season in the contiguous 48 states, as well as trends in the timing of spring and fall frosts. The average length of the growing season in the contiguous 48 states has increased by more than two weeks since the beginning of the 20th century. A particularly large and steady increase occurred over the last 30 years.
- Wildfire: tracks the frequency, extent, and severity of wildfires in the United States. Land area burned by wildfires varies by state. Fires burn more land in the western United States than in the East, and parts of the West and Southwest show the largest increase in burned acreage between the first half of the period of record in Figures 4 and 5 (1984–2001) and the second half (2002–2018). Burned acreage in the West has increased noticeably in nearly every month of the year.

How EPA used the results/conclusions/findings: EPA uses the findings of the Climate Change Indicators in the United States to:

- Effectively communicate relevant climate science information in a sound, transparent, and easy-to-understand way.
- Assess trends in environmental quality, factors that influence the environment, and effects on ecosystems and society.
- Inform science-based decision-making.

Link for findings*: https://www.epa.gov/climate-indicators*

Activity 5:

Title	The Power of Partnership: Celebrating 30 Years of Climate Partnership Programs at EPA
Lead National Program/Region	OAR

FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.1: Improve Air Quality
Completion Date	August 2021

Purpose and brief description: The Power of Partnership Report explains why EPA climate partnership programs work, key accomplishments and impacts they have had over the last 30 years, and the critical role they will play in achieving EPA's long-term goals for protecting our climate through deep reductions in emissions.

Brief List of Results/ Conclusions/Findings: With the launch of the Green Lights program in 1991, EPA applied the spirit of collaboration to the monumental problem of our warming planet. The success of Green Lights ushered in a new era at EPA by proving that if the government empowered businesses to protect the environment at a profit, it would find a powerful partner in the fight against climate change. Now, 30 years later, EPA's climate partnership programs have grown to encompass tens of thousands of organizations, plus state, local, and tribal governments, who have partnered with the government to reduce greenhouse gas emissions from nearly every sector of our economy. Among them is ENERGY STAR, a wildly successful program with more than 90% consumer awareness. Examples of partnership achievements from 2019, the latest date for which data are available, or over the lifespan of certain programs, in the case of one program, include:

- In 2019, EPA's climate partnership programs helped Americans save $44 billion and prevented 530 MMTCO2e of greenhouse gas (GHG) emissions from entering our atmosphere. These savings are roughly equivalent to 8% of total U.S. GHG emissions in 2019.
- In 2019, savings from the SmartWay program led to reductions of 234,000 short tons of nitrogen oxides and 10,000 short tons of fine particulate matter (PM2.5).
- Since 2007, the Responsible Appliance Disposal program partners properly disposed of 209,000 mercury containing components and 321,000 polychlorinated biphenyl capacitors.
- In 2019, savings from the ENERGY STAR program led to reductions of 220,000 short tons of sulfur dioxide, 220,000 short tons of nitrogen oxides, and 27,000 short tons of fine particulate matter (PM2.5)
- In 2019, avoided air pollution due to ENERGY STAR was responsible for an estimated $7 billion in public health benefits.
- In 2019, the Methane Emission Reduction Partnership Programs including the Natural Gas STAR and Methane Challenge Programs, Landfill Methane Outreach Program, AgSTAR, and Coalbed Methane Outreach Programs reduced methane emissions of more than 70 million metric tons carbon dioxide equivalent and saved nearly $450 million.

How EPA used the results/conclusions/findings: The Agency's Climate Partnership Programs Report, which discusses the history and results from EPA's climate partnership programs from 1991 to 2021, shows how the programs —with their record of results, their strong alliances with the private sector, and their unique role supporting state, local, and tribal action—will play a critical role alongside the Agency's regulatory programs. In the coming years, these nimble programs will be well positioned to deliver on-the-ground action in support of our nation's climate goals, such as upgrading homes, buildings, and schools; achieving a carbon-free power sector; and accelerating low-carbon manufacturing.

Link for findings*: https://www.epa.gov/system/files/documents/2021-08/30_years_report.pdf*

Activity 6:

Title	Our Nation's Air: Status and Trends Through 2020
Lead National Program/Region	OAR
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.1: Improve Air Quality
Completion Date	May 2021

Purpose and brief description: EPA is committed to protecting public health and the environment by improving air quality and reducing air pollution. In this review and annual report, EPA presents the trends in the nation's air quality and summarizes the detailed information found at EPA's Air Trends website.

Brief List of Results/ Conclusions/Findings: Nationally, concentrations of the criteria air pollutants dropped significantly since 1970. Between 1970 and 2020, the combined emissions of the six common pollutants (particulate matter (PM2.5 and PM10), sulfur dioxide (SO2), nitrogen oxides (NOx), volatile organic compounds (VOCs), carbon monoxide (CO) and lead (Pb)) dropped by 78%. This progress occurred while the U.S. economy continued to grow, Americans drove more miles, and population and energy use increased.

How EPA used the results/conclusions/findings: Annual emissions estimates are used as one indicator of the effectiveness of the Air Program. EPA and states track direct emissions of air pollutants and emissions that contribute to the formation of key pollutants, also known as precursor emissions. Emissions data are compiled from many different organizations, including industry and state, tribal, and local agencies. Understanding emission sources helps EPA and states control air pollution.

Link for findings*:* *https://gispub.epa.gov/air/trendsreport/2021/#welcome*

Activity 7:

Title	Title V Permitting Program Reviews
Lead National Program/Region	OAR
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.1: Improve Air Quality
Completion Date	Throughout FY 2021

Purpose and brief description: EPA periodically reviews state and local permitting programs, including fees, under Title V of the Clean Air Act as part of its responsibility to oversee delegated and approved air permitting programs. In general, the purpose of these program reviews is to identify good practices, document areas needing improvement, and learn how EPA can help the permitting agencies improve their performance.

Brief List of Results/ Conclusions/Findings: Results vary and are specific to the program being reviewed. Please refer to the following link to see the individual reviews: https://www.epa.gov/title-v-operating-permits/epa-oversight-operating-permits-program

How EPA used the results/conclusions/findings: The reviews assess the overall effectiveness of the planning, permitting, monitoring and compliance, and enforcement programs to identify good practices implemented by the state/tribal agency, areas needing improvement within the state/tribal program, and ways in which EPA can improve oversight.

Link for findings*:* https://www.epa.gov/title-v-operating-permits/epa-oversight-operating-permits-program

Activity 8:

Title	The 2020 EPA Automotive Trends Report
Lead National Program/Region	OAR
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.1: Improve Air Quality
Completion Date	January 2021

Purpose and brief description: This annual report is part of EPA's commitment to provide the public with information about new light-duty vehicle greenhouse gas (GHG) emissions, fuel economy, technology data, and auto manufacturers' performance in meeting the Agency's GHG emissions standards.

Brief List of Results/ Conclusions/Findings: The report found that since 2004, CO2 emissions have decreased 23%, or 105 g/mi, and fuel economy has increased 29%, or 5.6 mpg. EPA Automotive Trends Report found that all large car manufacturers were in compliance with model year (MY) 2019 standards

How EPA used the results/conclusions/findings: The analysis is a snapshot of the data collected by EPA in support of several important regulatory programs and is presented with the intent of providing as much transparency to the public as possible. The data show the change and innovation in the industry since MY 1975, and the manufacturers' performance under EPA's GHG standards.

Link for findings*: https://www.epa.gov/automotive-trends/download-automotive-trends-report#Full%20Report*

Activity 9:

Title	EPA Delayed Risk Communication and Issued Instructions Hindering Region 5's Ability to Address Ethylene Oxide Emissions
Lead National Program/Region	OAR / Office of Inspector General (OIG)
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.1: Improve Air Quality
Completion Date	April 2021

Purpose and brief description: EPA's OIG conducted this audit to determine:

- Whether EPA complied with all statutory, regulatory, and policy requirements and protocols in disclosing public health information about ethylene oxide emissions from the Sterigenics facility in Willowbrook, Illinois (DuPage County); the Medline Industries facility in Waukegan, Illinois (Lake County); and the Vantage Specialty Chemicals facility in Gurnee, Illinois (Lake County).
- Whether EPA senior political appointees instructed EPA inspectors to avoid conducting inspections at ethylene oxide-emitting facilities across Regions 5 and 6.

- Whether EPA has conducted inspections at ethylene oxide-emitting facilities in Regions 5 and 6.

Brief List of Results/ Conclusions/Findings: EPA did not act consistently with its mission or guidance on risk communication because it delayed informing the Willowbrook community about the results from the May 2018 short-term monitoring around the Sterigenics facility. Further, the Agency did not actively conduct outreach with residents living near the Medline and Vantage facilities. Instead, state and local agencies communicated risks to these communities.

OAR issued instructions that hindered Region 5's efforts to address ethylene oxide in a timely manner. OAR's intervention to prevent Region 5 from gathering information and communicating with ethylene oxide-emitting facilities delayed the public from receiving timely, accurate information about health risks from ethylene oxide emissions.

How EPA used the results/conclusions/findings: The OIG has 2 recommendations for OAR: Recommendation 1 is unresolved and Recommendation 2 is resolved. The OIG's recommendations are as follows:

1. Develop standard operating procedures describing how the Office of Air and Radiation will work with EPA regional offices to communicate preliminary air toxics risk information, including elevated risks found in the National Air Toxics Assessment, to the public so that communities are promptly informed of potential health concerns
2. Develop standard operating procedures describing the roles and responsibilities of the Office of Air and Radiation and regional offices in assessing and addressing air toxics emissions contributing to health risks, as found in the National Air Toxics Assessment, other studies, or public complaints.

Resolution efforts are in progress for the remaining unresolved recommendation. OAR has worked closely with the OIG to resolve both recommendations. A corrective action plan was provided and subsequently revised based on advice from the OIG. The latest corrective action plan resolved the second recommendation (per the OIG's November 29, 2021, memo), but further revisions are needed to address the first recommendation. The recent November 29th advice from the OIG will be helpful for OAR to develop an acceptable correction action plan, which it will submit later this year. **Link for findings***: https://www.epa.gov/office-inspector-general/epa-delayed-risk-communication-and-issued-instructions-hindering-region-5s*

Activity 10:

Title	EPA Should Conduct New Residual Risk and Technology Reviews for Chloroprene and Ethylene Oxide-Emitting Source Categories to Protect Human Health

Lead National Program/Region	OAR / OIG
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.1: Improve Air Quality
Completion Date	May 2021

Purpose and brief description: The OIG conducted this audit to determine whether EPA's residual risk and technology review, or RTR, process has sufficiently identified and addressed any elevated cancer risks from air toxics emitted by facilities.

Brief List of Results/ Conclusions/Findings: Information generated by EPA indicates elevated cancer risks from chloroprene and ethylene oxide emissions. The Agency has not incorporated new risk values for these pollutants into residual risk reviews for most source categories. Therefore, EPA cannot assure that current emission standards are protective of human health. EPA should exercise its discretionary authority to conduct new residual risk reviews under the CAA whenever new data or information suggests an air pollutant is more toxic than previously determined, which is consistent with the Agencies position in its April 2006 commercial sterilizer RTR rule. If the results of new residual risk reviews show that people are exposed to unacceptable risk levels, EPA should revise the respective NESHAPs for source categories emitting ethylene oxide or chloroprene without cost considerations to reduce risks to acceptable levels. EPA has missed deadlines for four technology reviews for four source categories, and one is due in 2022. For efficiency purposes, EPA could combine the residual risk reviews with the technology reviews to conduct new RTRs for the five source categories. Without new RTRs or emission standards, EPA may not be able to achieve environmental justice to protect the health of overburdened minority and low-income communities.

How EPA used the results/conclusions/findings: The OIG has 4 recommendations for OAR: Recommendations 1, 2 and 3 are unresolved; recommendation 4 is resolved. The OIG's recommendations are as follows:

1. Develop and implement an internal control process with specific criteria to determine whether and when new residual risk reviews of existing National Emission Standards for Hazardous Air Pollutants and uncontrolled emission sources are needed to incorporate new risk information that demonstrates that an air pollutant is more toxic than previously determined.
2. Conduct new residual risk reviews for Group I polymers and resins that cover neoprene production, synthetic organic chemical manufacturing industry, polyether polyols production, commercial sterilizers, and hospital sterilizers using the new risk values for chloroprene and ethylene oxide and revise the corresponding National Emission Standards for Hazardous Air Pollutants, as needed.

3. Revise National Emission Standards for Hazardous Air Pollutants for chemical manufacturing area sources to regulate ethylene oxide and conduct a residual risk review to ensure that the public is not exposed to unacceptable risks.
4. Conduct overdue technology reviews for Group I polymers and resins that cover neoprene production, synthetic organic chemical manufacturing industry, commercial sterilizers, hospital sterilizers, and chemical manufacturing area sources, which are required to be completed at least every eight years by the Clean Air Act.

Resolution efforts are in progress for all unresolved recommendations. OAR has worked closely with the OIG to resolve the recommendations. A corrective action plan was provided and subsequently revised twice based on advice from the OIG. The latest corrective action plan resolved the fourth recommendation (per the OIG's August 5, 2021, memo), but further revisions are needed to address the first three recommendations. The main issue with these three recommendations relates to the proper legal interpretation of EPA's Clean Air Act statutory authority. (Note, OAR wants to take the same approach here in resolving these recommendations that it is taking in addressing a separate legal matter.) OAR has proposed that EPA OGC and EPA OIG attorneys confer to discuss and resolve this matter, which OIG supported. Once the attorneys have conferred, then OAR will develop an acceptable correction action plan, which it will submit later this year.

Link for findings*: https://www.epa.gov/office-inspector-general/report-epa-should-conduct-new-residual-risk-and-technology-reviews*

Activity 11:

Title	Concerns About the Process Used for the SAFE Vehicles Rule Demonstrate the Need for a Policy on EPA's Role in Joint Rulemakings
Lead National Program/Region	OAR / OIG
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.1: Improve Air Quality
Completion Date	April 2021

Purpose and brief description: The OIG conducted this audit to determine: Whether EPA's actions on the final SAFE Vehicles Rule Part 2 were consistent with requirements, including those pertaining to transparency, record-keeping, and docketing, and followed EPA's process for developing final regulatory actions.

Brief List of Results/ Conclusions/Findings: Then-Administrator Pruitt designated NHTSA as lead rule-writer and analyst for the final SAFE Vehicles Rule, relegating the Agency's technical personnel to the role of after-the-fact reviewers more so than real-time partners in the modeling and analysis. This resulted in poor collaboration between NHTSA and EPA, lack of adherence to EPA's ADP, and reduced overall transparency in the approach used to promulgate the final rule because of record-keeping and docketing concerns. Documenting and consistently addressing expectations for EPA's role in future joint rulemakings should improve the quality of EPA's actions.

How EPA used the results/conclusions/findings: The OIG has 3 recommendations for OAR: Recommendations 1 and 2 are unresolved; recommendation 3 is resolved. The OIG's recommendations are as follows:

1. In coordination with the Office of General Counsel, docket for the final Safer Affordable Fuel-Efficient Vehicles Rule and commit to docketing for future joint rulemaking actions covered by Clean Air Act § 307(d), 42 U.S.C. § 7607(d), whether the EPA docket for the joint rulemaking action reflects an interpretation that the partner agency is an "other agency" for purposes of the docketing requirements of Clean Air Act § 307(d)(4)(B)(ii), 42 U.S.C. § 7607(d)(4)(B)(ii). This docketed information should include whether written comments on the action by either partner agency during interagency review and responses to such comments are part of the docket, if applicable
2. In coordination with the Office of General Counsel, docket any written comments received from the National Highway Traffic Safety Administration regarding the draft final Safer Affordable Fuel-Efficient Vehicles Rule during interagency review from January 14, 2020, to March 30, 2020, and docket EPA's written responses to such comments
3. In coordination with the Office of Policy, formally document decisions to not complete Action Development Process milestones, including early guidance, analytic blueprint, options selection, and final agency review.

Resolution efforts are in progress for all unresolved recommendations.

Link for findings*: https://www.epa.gov/office-inspector-general/report-concerns-about-process-used-safe-vehicles-rule-demonstrate-need*

Activity 12:

Title	EPA's National Vehicle and Fuel Emissions Laboratory Has Taken Steps to Mitigate Impact of Coronavirus Pandemic on Mobile Source Emission Compliance
Lead National Program/Region	OAR / OIG

FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.1: Improve Air Quality
Completion Date	June 2021

Purpose and brief description: The OIG assessed:

- How the coronavirus pandemic—that is, the SARS-CoV-2 virus and resultant COVID-19 disease—has impacted laboratory operations and testing at EPA's Office of Transportation and Air Quality's National Vehicle and Fuel Emissions Laboratory, or NVFEL, in Ann Arbor, Michigan.
- Any resulting impacts on the OTAQ's compliance programs, which are designed to minimize the potential for emissions in excess of standards or for noncompliance with regulations in heavy-duty, light-duty, and nonroad vehicles, engines, and equipment.

Brief List of Results/ Conclusions/Findings: NVFEL has faced and continues to face challenges in adapting to the coronavirus pandemic while maintaining a strong compliance presence and engaging with the regulated community. While there have been impacts due to the pandemic, including laboratory closure, NVFEL mitigated these impacts on its compliance programs.

How EPA used the results/conclusions/findings: The OIG had no recommendations for OAR.

Link for findings*: https://www.epa.gov/office-inspector-general/report-epas-national-vehicle-and-fuel-emissions-laboratory-has-taken-steps*

Activity 13:

Title	EPA Has Reduced Its Backlog of State Implementation Plans Submitted Prior to 2013 but Continues to Face Challenges in Taking Timely Final Actions on Submitted Plans
Lead National Program/Region	OAR / OIG
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.1: Improve Air Quality
Completion Date	June 2021

Purpose and brief description: The OIG conducted this audit determine the:

1. Number of Clean Air Act State Implementation Plans awaiting EPA approval.

2. Factors causing delays in SIP approvals.
3. Extent to which states have not submitted the required SIPs to EPA.
4. Potential impact of delays in SIP processing on achieving EPA's National Ambient Air Quality Standards.
5. Steps EPA is taking to address delays in SIP processing.

Brief List of Results/ Conclusions/Findings: While EPA has reduced the SIP backlog since 2015, the Agency did not meet its goal of eliminating the backlog by the end of 2017. The Agency has reduced the average amount of time it takes to reach final action on SIP submittals, but this process is impacted by the number and complexity of the SIP submittals received by EPA, legal and policy issues that delay SIP approvals, and limited resources available to review and approve the SIP submittals. Therefore, the SIP backlog may increase in years when the Agency receives a significant number of complex SIP submittals. EPA should improve SPeCS to identify required SIP elements that have not yet been submitted to EPA. Improving the identification of missing or late SIP submittals will provide greater public transparency that will allow communities to see when their states are not taking timely action to comply with CAA requirements.

In circumstances where state or local air quality is not meeting the NAAQS, delayed EPA actions increase the risk that state or local air agencies are not implementing plans sufficient to achieve the NAAQS. If the NAAQS are not being achieved, the residents in those areas could be exposed to harmful pollutants impacting their health.

How EPA used the results/conclusions/findings: The OIG has 4 recommendations for OAR that are resolved. The OIG's recommendations are as follows:

1. Improve oversight of State Implementation Plan submittals by developing and implementing a process to search and summarize State Implementation Plan elements that have not been submitted by the statutory deadlines and to ensure that these data are available to the public.
2. Develop and implement a plan to address regional workload disparities to ensure that State Implementation Plan submittals can be acted upon in a timely manner.
3. Reassess the Clean Data Determination status for the Yuma, Arizona, 1987 National Ambient Air Quality Standards for particulate matter up to ten micrometers in size and the Mariposa, California, 2008 ozone National Ambient Air Quality Standards to determine whether corresponding State Implementation Plan requirements should remain suspended.
4. Issue findings of failure to submit or take disapproval actions for required State Implementation Plan submittals in areas that have failed to meet required attainment dates and have not submitted required State Implementation Plan elements by the statutory deadline or that have submitted unapprovable State Implementation Plan elements.

Link for findings*: https://www.epa.gov/office-inspector-general/report-epa-has-reduced-its-backlog-state-implementation-plans-submitted*

Activity 14:

Title	Air Pollution: Opportunities to Better Sustain and Modernize the National Air Quality Monitoring System
Lead National Program/Region	OAR / Governmental Accountability Office (GAO)
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.1: Improve Air Quality
Completion Date	November 2020

Purpose and brief description: The GAO was asked to assess the national air quality monitoring system. This report examines the role of the system and how it is managed, challenges in managing the system and actions to address them, and needs for additional air quality information and actions to address challenges in meeting those needs.

Brief List of Results/ Conclusions/Findings: The ambient air quality monitoring system is a valuable national asset that is essential for implementing the Clean Air Act and protecting public health from the effects of air pollution. EPA and tribal, state, and local agencies that cooperatively manage this system face challenges in sustaining it in the face of flat funding (i.e. decreasing funds when accounting for inflation) and increasing demands on resources. EPA is responsible for ensuring that the monitoring system provides a consistent level of service across the country; however, the GAO found inconsistencies across EPA regions in how EPA has addressed its management challenges. The GAO's work found that an asset management framework that includes key characteristics can help organizations optimize limited funding and sustain the level of service needed from assets. These key characteristics include establishing policies and plans to maximize assets and identifying needed resources, using quality data to manage infrastructure risks, and targeting resources toward assets that will provide the greatest value. EPA has not used these key characteristics in managing the monitoring system because it has not taken a strategic and nationally consistent approach to managing the monitoring system, established mechanisms to consistently gather information on monitoring system assets across the country, or comprehensively identified monitoring system investment needs and trade-offs. By working with tribal, state, and local agencies to develop, make public, and implement an asset management framework that includes key characteristics of asset

management, EPA could better ensure that limited monitoring resources are targeted toward the highest priorities for consistently sustaining the system.

Air quality managers, researchers, and the public have needs for additional information about real-time, local-scale pollution; air toxics; persistent and complex pollution; and using emerging air quality measurement technologies. EPA faces challenges meeting these information needs, despite targeted efforts do so. In addition, While EPA has strategies to help meet information needs, they do not comprehensively reflect additional information needs and changes in EPA's approaches. EPA needs to more consistently define roles and measures of success. By developing and making public a modernization plan for the national ambient air quality monitoring system, in conjunction with tribal, state, and local agencies and other relevant federal agencies, that incorporates leading practices for strategic planning and risk management, EPA could optimize the value of the national ambient air quality monitoring system and ensure that it meets additional information needs and helps protect public health as future air quality issues emerge. These leading practices include establishing goals and roles, assessing risks to success, identifying needed resources, and measuring and evaluating progress.

How EPA used the results/conclusions/findings: The GAO made two recommendation for EPA, which are resolved:

1. Develop, make public, and implement an asset management framework for consistently sustaining the national ambient air quality monitoring system. Such a framework could be designed for success by considering the key characteristics of effective asset management described in GAO's report, such as identifying the resources needed to sustain the monitoring system, using quality data to manage infrastructure risks, and targeting resources toward assets that provide the greatest value.

Develop and make public an air quality monitoring modernization plan to better meet the additional information needs of air quality managers, researchers, and the public. Such a plan could address the ongoing challenges in modernizing the national ambient air quality monitoring system by considering leading practices, including establishing priorities and roles, assessing risks to success, identifying the resources needed to achieve goals, and measuring and evaluating progress.

Link for findings*: https://www.gao.gov/products/gao-21-38*

Office of Chemical Safety and Pollution Prevention (OCSPP)

Activity 1:

Title	EPA's Endocrine Disruptor Screening Program Has Made Limited Progress in Assessing Pesticides, Report #21-E-0186
Lead National Program or Region	OCSPP / OIG
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.4: Ensure Safety of Chemicals in the Marketplace
Completion date	July 2021

Purpose and brief description: The OIG performed this evaluation to determine the Endocrine Disruption Screen Program's (EDSP's) implementation of Section 408(p)(3)(A) of the Federal Food, Drug, and Cosmetic Act (FFDCA), as amended by the Food Quality Protection Act (FQPA), which requires EPA to test all pesticide chemicals for human endocrine-disruption activity. OIG also sought to determine compliance with Section 408(p)(6), which requires EPA to take action if it finds, after testing and evaluation, that a substance disrupts the human endocrine system.

Policy, programmatic, and/or operational questions the activity is intended to address: The OIG performed this assessment to determine the EDSP is complying with requirements that EPA test all pesticide chemicals for human endocrine disruption activity and take action if it finds, after testing and evaluation, that a substance disrupts the human endocrine system. The audit assessed whether OCSPP is complying with key internal control requirements (risk assessments).

Brief list of results/conclusions/findings: The OIG found that EPA had not tested all pesticides for endocrine disruption activity, as required by the FQPA; had not implemented its own 2015 recommendation to conduct additional testing for 17 pesticides; and that EDSP testing delays are inconsistent with the FFDCA, which directs EPA to take appropriate action to protect public health if a substance is found to have an effect on the human endocrine system. Additionally, OIG found that EPA does not have controls in place, such as strategic guidance documents or performance measures, to implement the EDSP. OIG made ten recommendations to OCSPP related to testing, strategic planning, performance measurement, annual reviews, and internal and external communications.

How EPA used the results/conclusions/findings: EPA generally agreed with the OIG recommendations and provided acceptable corrective actions and estimated completion dates for all ten recommendations. EPA finalized a procedure for EDSP communications and coordination, agreed to update the EDSP website to increase external communication and transparency. EPA will also develop and implement an updated strategic planning document, establish an EDSP policy council, develop short- and long-term performance measures, and release a white paper announcing EPA will use additional non-animal methods as alternatives and/or as part of weight of evidence evaluations for the EDSP Tier 1 assessments. All of these are initial steps towards developing a structure and process for making determinations on Tier 1 and 2 testing.

Link for findings*:* https://www.epa.gov/office-inspector-general/report-epas-endocrine-disruptor-screening-program-has-made-limited

Activity 2:

Title	EPA Deviated from Typical Procedures in Its 2018 Dicamba Pesticide Registration Decision Report, #21-E-0146
Lead National Program or Region	OCSPP / OIG
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.4: Ensure Safety of Chemicals in the Marketplace
Completion date	May 2021

Purpose and brief description: The OIG performed this assessment to determine the effectiveness of EPA's policies and procedures in addressing stakeholder risks in the 2016 and 2018 dicamba pesticide registration decisions.

Policy, programmatic, and/or operational questions the activity is intended to address: This audit assessed operating procedures as they relate EPA's Scientific Integrity Policy. The audit assessed whether OCSPP is complying with key internal control requirements

Brief list of results/conclusions/findings: The OIG concluded that EPA's 2018 decision to extend registrations for three dicamba pesticide products varied from typical operating procedures. The auditors concluded EPA did not conduct the required internal peer reviews of scientific documents created to support the dicamba decision; that senior leaders in the OCSPP's immediate office were more involved in the dicamba decision than in other pesticide registration decisions; that there were senior level changes to or omissions from scientific documents, including omissions of some conclusions addressing stakeholder risks; and that these actions on the dicamba registrations left the decision legally vulnerable, resulting in the Ninth Circuit Court of Appeals vacating the 2018 registrations.

The audit recommended that EPA 1) implement a procedure requiring senior managers or policy makers to document changes or alterations to scientific opinions, analyses, and conclusions in interim and final pesticide registration decisions and their basis for such changes or alterations, 2) require an assistant administrator-level verification statement that Scientific Integrity Policy requirements were reviewed and adhered to for pesticide registration decisions that involve the immediate office, and 3) annually conduct and document training for all staff and senior managers and policy makers to affirm the office's commitment to the Scientific Integrity Policy and principles and to promote a culture of scientific integrity.

How EPA used the results/conclusions/findings: EPA provided corrective actions to the recommendations and all recommendations in the report are now considered resolved. To address OIG's recommendations, EPA agreed to develop Standard Operating Procedures (SOPs)

or formal Best Practices on ensuring scientific integrity in pesticide regulatory decisions; annually conduct and document training for all staff and senior managers and policy makers to affirm the office's commitment to the Scientific Integrity Policy and principles; and implement through the Federal Managers' Financial Integrity Act (FMFIA) process an Assistant Administrator-level verification that the Scientific Integrity Policy requirements were reviewed and adhered to for pesticide registration decisions that involve the immediate office.

Link for findings*:* https://www.epa.gov/office-inspector-general/report-epa-deviated-typical-procedures-its-2018-dicamba-pesticide

Activity 3:

Title	EPA Is at Risk of Not Achieving Special Local Needs Program Goals for Pesticides, Report #21-E-0072
Lead National Program or Region	OCSPP / OIG
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.4: Ensure Safety of Chemicals in the Marketplace
Completion date	February 2021

Purpose and brief description: The OIG conducted this assessment to determine whether management controls within EPA's Special Local Needs (SLN) registration program effectively promote EPA's goals of risk reduction and pollution prevention, as stated in its strategic plan.

Policy, programmatic, and/or operational questions the activity is intended to address: The OIG conducted this assessment to determine whether management controls within EPA's SLN registration program effectively promote EPA's goals of risk reduction and pollution prevention, as stated in its strategic plan. The audit assessed whether OCSPP is complying with key internal control requirements (policies and procedures).

Brief list of results/conclusions/findings: The OIG found SLN program lacks three components that would improve its effectiveness: a comprehensive system of management controls to achieve the Agency's goals of risk reduction and pollution prevention, a publicly accessible database, and a method of effective communication with program stakeholders. The following recommendations were made: develop management controls for reviewing SLN registrations; improve guidance to states for SLN registration submissions; make an SLN database available to the public that includes registration date, duration, and individual state SLN labels; develop performance measures and collect data to demonstrate risk-reduction and pollution-prevention outcomes; and inform states of the availability of pre-submission consultative services.

How EPA used the results/conclusions/findings: EPA agreed to the recommendations and provided acceptable corrective actions and estimated completion dates. EPA will develop

program objectives and measures and implement data collection processes to determine risk-reduction and pollution-prevention outcomes, develop and implement standard operating procedures, develop and make available a public SLN database, inform states of the availability of pre-submission consultative services to develop effective application packages, and determine whether the Office of Pesticide Programs will adopt the draft American Association of Pesticide Control Officials guidance or develop detailed guidance for states that specifies what information should be submitted in each SLN application.

Link for findings*:* https://www.epa.gov/office-inspector-general/report-epa-risk-not-achieving-special-local-needs-program-goals-pesticides

Activity 4:

Title	Report: EPA Mostly Adheres to Regulations When Assessing Risks of New Pesticides but Should Improve Internal Controls," Report #21-P-0070
Lead National Program or Region	OCSPP / OIG
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.4: Ensure Safety of Chemicals in the Marketplace
Completion date	February 2021

Purpose and brief description: The OIG conducted this audit to review EPA's adherence to applicable regulations, policies, and procedures in assessing the risks of pesticides to human health and the environment during the pesticide registration process.

Policy, programmatic, and/or operational questions the activity is intended to address: The OIG conducted this audit to review EPA's adherence to applicable regulations, policies, and procedures in assessing the risks of pesticides to human health and the environment during the pesticide registration process. The audit assessed whether OCSPP is complying with key internal control requirements (data quality).

Brief list of results/conclusions/findings: OIG concluded OPP is mostly adhering to applicable regulations, policies, and procedures in assessing the risks of the pesticides to human health and the environment during the issuance process for unconditional pesticide registrations but that they could not independently verify that the OPP met all ecological data requirements, and that EPA lacks a standard operating procedure governing how to conduct initial pesticide registrations.

How EPA used the results/conclusions/findings: EPA agreed to and is developing a table matrix for inclusion in new active ingredient environmental risk assessments that clearly indicates how data requirements are addressed in support of new active ingredient registration decisions and

will develop and implement a standard operating procedure for the initial pesticide registration of new active ingredients.

Link for findings*:* https://www.epa.gov/office-inspector-general/report-epa-mostly-adheres-regulations-when-assessing-risks-new-pesticides

Activity 5:

Title	Good Laboratory Practices (GLP) Evaluations
Lead National Program or Region	OCSPP
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 3: Greater Certainty, Compliance, and Effectiveness Strategic Objective 3.3 Prioritize Robust Science
Completion date	Continuous

Purpose and brief description: Reviewed and coordinated the response to OECA GLP Program inspection referrals.

Policy, programmatic, and/or operational questions the activity is intended to address: The OECA inspections and data audits take a sampling of laboratory studies submitted to OPP in support of registration applications and determines if there are any deficiencies in the studies as defined by 40 CFR part 160. Those inspections that find deficiencies are referred to OPP for us to determine if the integrity or scientific validity of the study has been compromised by deficiencies found.

Brief list of results/conclusions/findings: In FY 2021 OPP reviewed the results of ten OECA inspections. For eight of the inspections, the studies were not impacted by the findings. For one ne inspection, OPP had already rejected the studies for scientific issues. Another inspection resulted in OPP requesting the studies be resubmitted.

How EPA used the results/conclusions/findings: OPP uses these inspection results to ensure that registrants' submitted studies and data are sufficient for use in risk assessments and other efforts that go into making EPA's regulatory decisions about pesticides.

Link for findings*:* N/A

Activity 6:

Title	TSCA Existing Chemical Risk Evaluation Best Practices
Lead National Program or Region	OCSPP

FY 2018-2022 Strategic Goal and Objective Supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.4: Ensure Safety of Chemicals in the Marketplace
Completion Date	September 2021

Purpose and brief description: This effort reviewed the processes and practice used to develop existing chemical risk evaluations as required under the Toxic Substances Control Act (TSCA). TSCA requires EPA to have 20 such evaluations underway at all times. Each evaluation is required to be completed within three years and six months after it is initiated.

Policy, programmatic, and/or operational questions the activity is intended to address: This effort sought to identify and implement procedures for the development of existing chemical risk evaluations that would improve coordination across multiple divisions and increase the likelihood for timely completion of risk evaluations.

Brief list of results/conclusions/findings: OCSPP found several process improvements that allowed for more efficient production of TSCA existing chemical risk evaluations.

How EPA used the results/conclusions/findings: EPA used the results of this analysis to establish standard processes that allow for more efficient development of risk evaluations and better multi-year planning of risk evaluations to be developed.

Link for findings*:* N/A

Activity 7:

Title	TSCA Chemical Evaluation Unit-Cost Estimation
Lead National Program or Region	OCSPP
FY 2018-2022 Strategic Goal and Objective Supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.4: Ensure Safety of Chemicals in the Marketplace
Completion Date	July 2021

Purpose and brief description: This effort brought together resource and personnel information to estimate the approximate costs of key deliverables for which OCSPP has responsibility and which are repeated on a regular basis. This included existing chemical risk evaluations and new chemical reviews.

Policy, programmatic, and/or operational questions the activity is intended to address: This effort sought to provide OCSPP with an improved and more nuanced understanding of the financial and human resources required to complete key programmatic deliverables. This

analysis supports and facilitates program planning, work planning, and responses to inquiries from management and oversight organizations.

Brief list of results/conclusions/findings: This analysis found that each existing chemical risk evaluation costs approximately $8.4 million over three years and six months. This analysis also found that less than 50% of new chemical pre-manufacture notices can be completed in under 90 days with current resources.

How EPA used the results/conclusions/findings: OCSPP used the results of this analysis to develop its FY 2022 program plan, planning documents required by statute, and estimates of the resources required and work to be completed in briefings for senior leadership.

Link for findings*:* N/A

Activity 8:

Title	Farmworkers: Additional Information Needed to Better Protect Workers from Pesticide Exposure," GAO-21-63
Lead National Program or Region	OCSPP
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.4: Ensure Safety of Chemicals in the Marketplace
Completion date	January, 2021

Purpose and brief description: The Agricultural Worker Protection Standard (WPS) allow farmworkers to designate a representative to find out which pesticides are used where they work. This information can help farmworkers with pesticide exposure illnesses get faster diagnoses and better treatment. Farmers have raised concerns that other farmers could be misusing pesticide information for competitive advantage. The GAO conducted its study to examine what is known about the extent of use and effect of the designated representative provision on the availability of pesticide information, and what is known about any misuse of information obtained through the provision.

Policy, programmatic, and/or operational questions the activity is intended to address: The GAO conducted its study to examine what is known about the extent of use and effect of the designated representative provision on the availability of pesticide information, and what is known about any misuse of information obtained through the provision.

Brief list of results/conclusions/findings: The extent of use of the designated representative provision of the WPS, and its effect on the availability of pesticide information, are not known because EPA does not collect information on the use of the provision and does not coordinate with states to do so. The GAO recommended that EPA should 1) coordinate with states to collect information on the use of the designated representative, either through its annual cooperative agreement work plans with states or another mechanism, and 2) explain EPA's expectations about the appropriate use of the pesticide information obtained by a designated representative, including describing potential misuse of such information.

How EPA used the results/conclusions/findings: EPA plans to work with state co-regulators and other stakeholders to solicit comments on the use of the designated representative provision. Additionally, EPA has developed an email address dedicated to responding to designated representative inquiries, updated the explanation of the designated representative provision on relevant WPS webpages and provided updated guidance and education materials about the designated representative.

Link for findings*:* https://www.gao.gov/products/gao-21-63

Activity 9:

Title	"Man-Made Chemicals and Potential Health Risks: EPA Has Completed Some Regulatory-Related Actions for PFAS," GAO-21-37
Lead National Program or Region	OW (OCSPP is a contributor) / GAO
FY 2018-2022 Strategic Goal and Objective Supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.4: Ensure Safety of Chemicals in the Marketplace
Completion Date	January 2021

Purpose and brief description: GAO examined the status of regulatory-related actions in EPA's PFAS Action Plan.

Policy, programmatic, and/or operational questions the activity is intended to address: For six regulatory-related actions GAO selected in EPA's PFAS Action Plan, the report examines (1) the number of actions that are complete and the steps EPA took to complete them and (2) the number of actions that are ongoing and EPA's progress toward completing them. GAO identified those actions in the PFAS Action Plan that may lead to the issuance of federal regulations or could affect compliance with existing regulations then assessed the status of the actions by reviewing EPA documents and examining EPA's response to related FY 2020 National Defense Authorization Act (NDAA) requirements.

Brief list of results/conclusions/findings: GAO found that EPA completed three of six selected regulatory-related actions for addressing per- and polyfluoroalkyl substances (PFAS) outlined in EPA's PFAS Action Plan. For two of the three completed actions, the steps EPA took were also in response to the NDAA for Fiscal Year 2020. Three of the six selected regulatory-related actions were ongoing, and EPA's progress on those actions varied.

How EPA used the results/conclusions/findings: EPA continued its efforts to implement the PFAS Action Plan.

Link for findings*:* https://www.gao.gov/products/gao-21-37

Activity 10:

Title	Quality Assurance Project Plan Audits
Lead National Program or Region	OCSPP
FY 2018-2022 Strategic Goal and Objective Supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.4: Ensure Safety of Chemicals in the Marketplace
Completion Date	September 2021

Purpose and brief description: OCSPP/OPPT audited its conformance with a subset of its active Quality Assurance Project Plans (QAPPs). This audit program is intended to ensure that OPPT implements its QAPPs as intended.

Policy, programmatic, and/or operational questions the activity is intended to address: In FY 2021, OCSPP/OPPT conducted audits of the following QAPPs:

- 2019 Toxics Release Inventory (TRI) National Analysis
- Engineering Assessments for the Exposure Evaluation and Assessment of Chemical Substances & Related Regulatory Actions – EPA Contract No. 68HERD20A0002 Task Order PR-OCSPP-20-00150 Task 3
- Economic Support of Chemical Data Reporting Revisions Rule and Section 8(a) Small Manufacturer Definition Update Rule
- Preparation of Consumer, General Population, and Environmental Exposure QAPP on the Assessments for EPA's New Chemicals Programs for Fiscal Year 2020

Brief list of results/conclusions/findings: The audits for three of the QAPPs found that no corrective actions were necessary. As a result of the audit for the fourth, "Preparation of Consumer, General Population, and Environmental Exposure QAPP on the Assessments for EPA's New Chemicals Programs for Fiscal Year 2020," OCSPP implemented enhanced documentation of model source code, model maintenance, updates and modifications, and improvements to the process for obtaining TSCA Confidential Business Information clearance for contractors.

How EPA used the results/conclusions/findings: EPA implemented the improvements described above.

Link for findings*:* N/A

Office of the Chief Financial Officer (OCFO)

Activity 1:

Title	EPA Complies with Payment Integrity Information Act but Needs to Determine Cost Allowability When Testing for Improper Grant Payments
Lead National Program or Region	OCFO / OIG
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 3: Greater Certainty, Compliance, and Effectiveness Strategic Objective 3.1: Compliance with Law Strategic Objective 3.5: Improve Efficiency and Effectiveness
Completion date	May 2021

Purpose and brief description: The Office of the OIG conducted a review to determine whether the EPA is in compliance with the Payment Integrity Information Act of 2019, known as the PIIA.

Policy, programmatic, and/or operational questions the activity is intended to address: Evaluate the internal controls over the following Agency actions, as they relate to improper payments: risk assessment methodology, improper payment rate estimates, sampling and estimation plans, corrective action plans, and prevention and reduction efforts.

Brief list of results/conclusions/findings: The report contained one recommendation: Revise the Office of the Chief Financial Officer's Standard Operating Procedure Grants Improper Payment Review to include the cost allowance principles as set forth in 2 C.F.R. Part 200, Subpart E in its improper payments estimates for the grants payment stream program and provide training to staff on the updated procedure.

How EPA used the results/conclusions/findings: EPA concurred with the OIG's findings and updated its PIIA Grant Improper Payment Review Standard Operating procedures to reflect the applicable additional requirements.

Link for findings*: https://www.epa.gov/sites/default/files/2021-05/documents/_epaoig_20210514-21-p-0135.pdf*

Activity 2:

Title	EPA Needs to Measure and Track Performance of Programs Eliminated in President's Budget but Later Funded by Congress
Lead National Program or Region	OCFO
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 3: Greater Certainty, Compliance, and Effectiveness Strategic Objective 3.5: Improve Efficiency and Effectiveness
Completion date	September 2021

Purpose and brief description: The OIG conducted this evaluation to determine whether the Office of the Chief Financial Officer has processes in place to ensure that EPA programs eliminated in the President's Budget but later funded by congressional appropriation have the required performance measures.

Policy, programmatic, and/or operational questions the activity is intended to address:

Brief list of results/conclusions/findings: The OIG recommended: 1. Develop written guidance that explicitly states that eliminated-then-funded programs must measure and track performance. 2. Develop an annual process to verify that eliminated-then-funded (ETF) programs have performance measures and to identify where those measures are tracked.

How EPA used the results/conclusions/findings: The Agency agreed with the recommendations and is in the process of updating its guidance for the FY2023 Congressional Justification. As a result of the evaluation, OCFO surveyed program offices to better understand which ETF programs had developed performance measures. OCFO reported that 35 of the 43 programs it identified as ETF in fiscal year 2021 are tracking performance measures and provided this documentation to the OIG.

Link for findings*:* https://www.epa.gov/system/files/documents/2021-09/_epaoig_20210902-21-e-0219.pdf

Office of Enforcement and Compliance Assurance (OECA)

Activity 1:

Title	DMR Integrity Screening Pilot
Lead National Program or Region	OECA
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 3: Greater Certainty, Compliance, and Effectiveness Strategic Objective 3.1: Compliance with the Law
Completion date	September 2021

Purpose and brief description: DMR Integrity Screening is an Enforcement and Compliance History Online (ECHO) search tool that uses statistical filters to look for signs of possible misreporting in NPDES discharge monitoring reports (DMRs). Facilities with high scores may be candidates for further review and possible on-site investigation, compliance assistance, or civil or criminal enforcement. OECA piloted the application with 8 states who agreed to test the tool and report back on their use and findings.

Policy, programmatic, and/or operational questions the activity is intended to address: The results from the pilot will help to improve the tool and gather information about what methods are

effective at finding misreporting. This effort will support the goal of reducing significant non-compliance (SNC) in the NPDES program.

Brief list of results/conclusions/findings: OECA has concluded the pilot and are in the process of analyzing the results. OECA expects to have this information by the end of calendar year 2021. Initial results from two states (AR, MD) indicate that they used the tool to help target inspections or inform inspections that were already planned. One finding at a specific facility seems likely to result in civil or criminal enforcement for intentional misreporting.

How EPA used the results/conclusions/findings: EPA plans to use the results of this pilot to make improvements to the tool. The tool itself will help EPA identify misreporting in NPDES DMRs and investigate the cause of misreporting as needed.

Link for findings*:* Information on the pilot and tool can be found on OECA's ECHO website (DMR Integrity Screening | ECHO | US EPA), with restricted access sign on needed.

Activity 2:

Title	Resource Constraints, Leadership Decisions, and Workforce Culture Led to a Decline in Federal Enforcement
Lead National Program or Region	OECA / OIG
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 3: Greater Certainty, Compliance, and Effectiveness Strategic Objective 3.1: Compliance with the Law
Completion date	May 2021

Purpose and brief description: The OIG conducted this audit of the U.S. Environmental Protection Agency to identify the trends in enforcement results from fiscal years 2006 through 2018 for EPA-led enforcement actions. OIG also sought to determine the key factors explaining those trends and the differences in enforcement results among regions and headquarters, as well as among environmental statutes.

Policy, programmatic, and/or operational questions the activity is intended to address: This report addresses enforcement trends overtime for OECA in order to determine how they have changed and the contributing factors for those changes.

Brief list of results/conclusions/findings: The OIG found that EPA-led compliance monitoring activities, enforcement actions, monetary enforcement results, and environmental benefits generally declined from FYs 2007 through 2018 nationwide. This downward trend also occurred at the regional level and on a statute-by-statute basis. While annual enforcement measures, such as penalty dollars assessed or commitments to clean up pollution, declined, the results varied year-to-year based on the conclusion of large cases.

The decline in enforcement resources was a primary driver behind the observed declining enforcement trends, resulting in fewer compliance monitoring activities and concluded enforcement actions. EPA leadership also made strategic decisions that affected enforcement trends, such as focusing limited resources on the most serious cases and, in 2017, emphasizing deference to state enforcement programs and compliance assistance. From 2006 through 2018, growth in the domestic economy and new laws increased the size and level of activity in key sectors that EPA regulated, but EPA's capacity to meet that need decreased.

EPA's annual enforcement reports do not provide context for understanding EPA's enforcement accomplishments and the impact these enforcement activities have on human health and the environment. For example, EPA does not measure or report data for compliance-assistance activities, informal enforcement actions, and noncompliance rates. EPA could also provide additional information that would provide context about the scope of activities captured by its enforcement measures, such as the type of inspections conducted and the types and toxicity of pollutants removed from the environment.

How EPA used the results/conclusions/findings:

The table below details OIG's recommendations and OECA's corrective actions for the recommendations that are agreed upon.

No	OIG recommendation	High-level intended corrective action(s)	Estimated completion by quarter and fiscal year
3	Use the results of the OIG's *2019 Enforcement Survey* and other resources to identify and address areas of concern for the enforcement program, including through issuing new or revised policies, as appropriate.	We will review the results of the survey and brief the Assistant Administrator for OECA on the results of the survey, identifying existing policies and other areas of concern which may impact the effectiveness of our enforcement program, and recommending changes as appropriate.	FY 21 Q4
4	Incorporate additional enforcement information and data into future annual enforcement results reports to provide context for (a) compliance monitoring activities conducted by the Agency and (b) the estimated environmental benefits achieved through Agency enforcement actions.	1. OECA will add to its "Known Data Problems and Aids to Data Interpretation" webpage accompanying its Annual Results descriptions of the variability in the complexity of compliance monitoring activities, such as inspections, and cleanups. 2. OECA will add to the "Known Data Problems…" webpage descriptions of the different types and risks associated with key pollutants associated with environmental benefits achieved through agency enforcement actions. 3. OECA will retitle the ECHO "State Dashboards" as the "EPA/State Dashboards" on relevant webpages.	1. FY22 Q2 2. FY22 Q2 3. FY 21 Q3

		4. OECA will note on the "Known Data Problems…" webpage the availability of data broken out by statute, Region, or State via the ECHO "EPA/State Dashboards."	4. FY 22 Q2
5	Establish additional measures for Agency-led compliance assistance activities and informal enforcement actions and include these new measures in future annual enforcement results reports with the appropriate context.	1. Define EPA-issued informal and formal enforcement actions. 2. Develop reporting instructions for reporting newly defined EPA-issued informal enforcement actions. 3. If the evaluation of OECA performance measures pursuant to Recommendation 6 identifies EPA-led compliance assistance activities and EPA-led informal enforcement actions as Agency priorities, decide whether and how to track and measure these activities/actions.	1. FY 22 Q2 2. FY 22 Q3 3. FY 22 Q4
7	Develop and track noncompliance rates within environmental programs or use other innovative approaches that would indicate the success of enforcement activities at returning entities to compliance.	Continue to study the impacts of our compliance assurance tools on the regulated community, using evidence-based compliance research. As part of the E-enterprise Leadership Council, working with our state, tribal and academic partners we will develop a compliance learning agenda. The learning agenda will identify the most pressing compliance programmatic questions and identify a series of evidence-building research projects intended to answer those questions.	FY22 Q3

OECA did not agree with Recommendations 1 (Assess the needs of the Agency's enforcement program by completing a workforce analysis to determine the level of staffing necessary to achieve and maintain a strong enforcement presence in the field that protects human health and the environment.), 2 (Integrate the results of the workforce analysis into the Office of Enforcement and Compliance Assurance's annual and strategic planning processes.), and 5 (Establish additional measures for Agency-led compliance assistance activities and informal enforcement actions and include these new measures in future annual enforcement results reports with the appropriate context.)

For recommendations 1 and 2: OECA acknowledged the OIG's finding that many enforcement metrics have declined from FY 2007 to FY 2019, and that enforcement resources have also significantly declined over the same time period. The report also correctly notes that since FY 2006, the size and level of activity of key sectors that EPA regulates has increased, and EPA is addressing the potential concerns from several "emerging contaminants." OECA disagrees, however, with the report's recommendations to overcome these obstacles by conducting a workforce analysis. OECA has made a number of adjustments to its enforcement program throughout this time period to ensure OECA is maintaining a solid national enforcement

presence and addressing the most serious noncompliance. In essence, OECA has been conducting gap analyses and making targeted workforce adjustments from year to year. OECA believes these are more appropriate methods for achieving the goal of aligning its resources to its work.

For recommendation 5: While the Agency agreed with Recommendation 5, the corrective actions proposed in its April 13, 2021 response do not meet the intent of this recommendation. OECA noted in its March 26, 2021 response that compliance assistance and informal enforcement were both compliance assurance tools of interest to the prior administration. OECA further stated that, while it had tracked compliance assistance for many years, it was unable to measure the impact on compliance or to gauge the benefit of the effort and ultimately eliminated the requirement to track these activities. The Agency proposed defining informal enforcement actions and developing reporting instructions based on those definitions, which are important steps to establishing measures for these activities. However, regardless of whether compliance assistance and informal enforcement are priorities of the prior administration, for the current administration, or future administrations, this work is part of the Agency's enforcement program, and the Agency should track and report on these activities. In addition, the GAO recommended that the Agency collect data on these types of activities in January 2020.

Link for findings*:* Resource Constraints, Leadership Decisions, and Workforce Culture Led to a Decline in Federal Enforcement (epa.gov)

Office of Land and Emergency Management (OLEM)

Activity 1:

Title	OLEM Population Analysis
Lead National Program or Region	OLEM
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.3: Revitalize Land and Prevent Contamination
Completion date	June 2021

Purpose and brief description: This is a descriptive study. The purpose is to conduct an annual analysis to support evidence-based descriptions of who benefits from EPA's cleanup and prevention work, by collecting data on the population living within three and one mile(s) of a Superfund site, Brownfields site, Resource Conservation and Recovery Act (RCRA) Corrective Action (CA) site, Leaking Underground Storage Tank (LUST) site, and Underground Storage Tank (UST) facility that exist in thousands of communities across the United States ranging from remote to large urban settings. OLEM's Superfund, RCRA Corrective Action, and Brownfields

sites exist in thousands of communities across the United States ranging from remote to large urban settings. Many of them are located in economically distressed communities. To help describe who benefits from OLEM's cleanup work, EPA collected data on the population living within three and one mile(s) of these sites.

This analysis also supports EPA's *America's Children and the Environment Report*, by estimating the number of children and their socioeconomic/demographic characteristics who live within one-mile of a RCRA CA or Superfund site that may not have had all human health protective measures in place at the time of the analysis.

Policy, programmatic, and/or operational questions the activity is intended to address: This activity was to better understand who benefits from EPA's cleanup and prevention work (i.e., those populations living within three and one mile of a Superfund site, Brownfields site, Resource Conservation and Recovery Act (RCRA) Corrective Action (CA) site, Leaking Underground Storage Tank (LUST) site, or Underground Storage Tank (UST) facility).

Brief list of results/conclusions/findings: Using census data, EPA found that approximately 200 million people live within three miles of a Superfund remedial site, RCRA Corrective Action, or Brownfields site, roughly 61 percent of the U.S. population, including 62 percent of all children in the U.S. under the age of five. While there is no single way to characterize communities located near OLEM's sites, this population is more minority, low income, linguistically isolated, and less likely to have a high school education than the U.S. population as a whole. As a result, these communities may have fewer resources with which to address concerns about their health and environment. OLEM also works with states, territories, tribes and industry to protect the environment and human health from potential releases at Underground Storage Tank (UST) facilities. The greatest potential threat from a leaking UST is contamination of groundwater, the source of drinking water for nearly half of all Americans. Approximately 91 percent of the US population lives within 3 miles of an active UST facility, and 73 percent of the US population lives within 3 miles of an open LUST release.

How EPA used the results/conclusions/findings: Results are included in EPA's annual budget reviews with OMB, and in budget justifications for Congress. Results also are used in general communications with press, other government agencies, and the public.

Link for findings*:* https://www.epa.gov/americaschildrenenvironment/ace-environments-and-contaminants-contaminated-lands See the section "OLEM programs Address Contamination at Superfund, Brownfields and RCRA Sites Near 60 Percent of the U.S. Population."

Activity 2:

Title	Redevelopment Economics at Remedial Sites (non-federal facility)
Lead National Program or Region	OLEM

FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.3 Revitalize Land and Prevent Contamination
Completion date	May 2021

Purpose and brief description: Cleaning up contaminated sites can serve as a catalyst for economic growth and community revitalization. The Superfund Remedial Program facilitates the redevelopment of sites across the country while protecting human health and the environment. Collaborative efforts among state, local, and tribal partners, redevelopers and other federal agency programs encourage restoration of sites. Since Superfund sites often encompass buildings, roads, and other infrastructure, their effective and efficient cleanup and reuse can play a pivotal role in a community's economic growth. EPA has initiated efforts to collect economic data at a subset of Superfund sites.

Policy, programmatic, and/or operational questions the activity is intended to address: The analysis will provide current, reliable business-related information for a subset of Superfund sites in reuse and continued use. Some innovative business owners and organizations reuse Superfund sites for a variety of purposes. These uses can help economically revitalize communities near Superfund sites.

Brief list of results/conclusions/findings: Over the last 11 years (2011-2021) at Superfund sites in reuse where EPA has economic data, businesses have generated at least $478 billion in sales, which is 27 times the $17.3 billion EPA has spent cumulatively to clean up those sites. In 2021, data EPA collected at 650 sites in reuse indicate these sites supported approximately 10,230 businesses. These businesses' ongoing operations generate annual sales of $65.8 billion. They also employ more than 246,000 people who earned a combined income of $18.6 billion.

How EPA used the results/conclusions/findings: Economic data are included in budget justifications to Congress and are used in general communication with key stakeholders and the public.

Link for findings*:* https://www.epa.gov/superfund-redevelopment/redevelopment-economics-superfund-sites

Activity 3:

Title	Redevelopment Economics at Federal Facilities
Lead National Program or Region	OLEM
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.3 Revitalize Land and Prevent Contamination
Completion date	May 2021

Purpose and brief description: Cleaning up contaminated sites at federal facilities can serve as a catalyst for economic growth and community revitalization. The Superfund Federal Facilities Program facilitates the redevelopment of federal facility sites across the country by assisting other federal agencies (OFAs) to expedite activities related to CERCLA response actions, while protecting human health and the environment. Collaborative efforts among OFAs; developers; and state, local, and tribal partners encourages restoration of sites. Since federal facility Superfund sites often encompass thousands of acres with buildings, roads, and other infrastructure, their effective and efficient cleanup and reuse can play a pivotal role in a community's economic growth. EPA has initiated efforts to collect economic data at a subset of federal facility Superfund sites which is outlined on the public webpage Redevelopment Economics at Federal Facilities.

Policy, programmatic, and/or operational questions the activity is intended to address: The analysis provides, reliable business-related information for a subset of federal facility Superfund sites in reuse and continued use. Some innovative business owners and organizations reuse Superfund sites for a variety of purposes. These uses can help economically revitalize communities near Superfund sites. EPA has collects economic data at a subset of federal facility Superfund sites.

Brief list of results/conclusions/findings: An economic analysis of 45 Federal Facility Superfund Sites identified over 2,000 businesses that generated $11 billion in annual sales, provided over 189,000 jobs and $14 billion in estimated annual employment income in 2020. Readily available internet and database sources were utilized to create estimates of national totals related to the beneficial effects of Superfund sites in reuse. Without more extensive research it is not always possible to identify all business names and addresses on site.

How EPA used the results/conclusions/findings: Economic data are included in budget justifications to Congress and are used in general communication with other Federal agencies and the public.

Link for findings*:* https://www.epa.gov/fedfac/redevelopment-economics-federal-facilities

Activity 4:

Title	Mapping Recycling Infrastructure, Generation, and End Markets – Data Assessment
Lead National Program or Region	OLEM
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.3 Revitalize Land and Prevent Contamination
Completion date	August 2021

Purpose and brief description: On November 17, 2020, EPA announced the National Recycling Goal to increase U.S. recycling from the current rate of recycling 32 percent of materials generated in municipal solid waste (MSW), by weight, to 50 percent by 2030. Achieving this goal requires an accessible, comprehensive resource for understanding opportunities related to material recovery. Currently, no comprehensive resource on per capita generation of recyclable materials, existing recycling infrastructure, and existing recycling end markets exists. Mapping this would allow EPA to do a needs analysis to support investment in enhancing/renovating existing markets or building new infrastructure. As an initial step, EPA conducted a data assessment to determine whether developing this map would be feasible.

Policy, programmatic, and/or operational questions the activity is intended to address: This activity identified and assessed existing and accessible data sources to determine the feasibility of building a map that reflects per capita generation of recyclable materials as well as per capita recycled quantities, existing recycling infrastructure, and existing recycling end markets nationwide.

Brief list of results/conclusions/findings: In general, the available data support the development of a map that can be used for a high-level needs analysis at a regional or state level. A mapping tool built on these data could serve as a useful first step in understanding potential opportunities for enhancing or renovating existing recycling markets, or for expanding recycling infrastructure in places close to potential demand. Similarly, this mapping tool could serve as a useful first step in understanding potential opportunities for building end market product manufacturing facilities in places close to areas of high material generation and recovery.

How EPA used the results/conclusions/findings: Based on this data assessment, EPA decided to move forward with developing the map in FY 2022.

Link for findings*: N/A*

Activity 5:

Title	EPA's Emergency Response Systems at Risk of Having Inadequate Security Controls Report #21-E-0226
Lead National Program or Region	OLEM / OIG
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.3 Revitalize Land and Prevent Contamination
Completion date	September 2021

Purpose and brief description: The OIG conducted this evaluation to determine whether the system security plans in the Office of the Chief Financial Officer, the Office of Land and Emergency Management, and the Office of Research and Development are developed and updated in accordance with National Institute of Standards and Technology guidance.

Brief list of results/conclusions/findings: The OIG found that EPA did not follow the National Institute of Standards and Technology guidance in determining and documenting the justification for the security categorizations of five emergency response systems. Further, EPA's security categorization process did not include key participants, as recommended by NIST. In addition, security documentation for some of EPA's minor applications did not exist.

OLEM did not concur with the OIG's view that the OLEM systems listed in the report are miscategorized. OLEM believes it has selected a Federal Information Security Modernization Act classification appropriate for the level of impact to the organization and its employees. National Institute of Standards and Technology (NIST) Special Publication 800-60 Section 4.3 indicates that information types only provide "provisional security impact levels, the agency should review the appropriateness of the provisional impact levels in the context of the organization, environment, mission, use, and data sharing associated with the information system under review".

OLEM observes that the documentation included in the system security plan developed by the system owner may not sufficiently explain the role of the system as it relates to EPA's primary mission and fully describe the rationale for the Low categorization. OLEM will be reviewing the security classification assessments, following the NIST SP 800-60 process, document all adjustments to the impact levels and provide the rationale or justification for the adjustments. These actions are captured in the corrective actions below.

The OIG recommended that the Office of Land and Emergency Management implement controls to follow NIST guidance when conducting system categorizations.

How EPA used the results/conclusions/findings: OLEM concurred with the OIG recommendations 1, 2 and 6 and provided corrective action as follows:

- During the annual system categorization review, OLEM system owners will expand the participation to include mission owners (if the agency process includes this new role), key stakeholders, and OLEM system security officers following the process as prescribed in the National Institute for Standards and Technology Special Publication 800-60, Volume I, Table 3, "Process Roadmap."
- OLEM will direct the system owners for these systems to convene system categorization re-evaluations and include mission owners, key stakeholders, and OLEM system security officers in the review. The review will follow the process as prescribed in the National Institute for Standards and Technology Special Publication 800-60, Volume I, Table 3, "Process Roadmap."

- OLEM currently follows and will continue to follow, the agency's process to list and describe minor applications, which are hosted by the agency's General Support Systems (GSS.) OLEM does not have its own GSS that hosts its minor applications.

Link for findings*:* OIG Report: EPA's Emergency Response Systems at Risk of Having Inadequate Security Controls, September 13, 2021

Activity 6:

Title	EPA's Office of Land and Emergency Management Lacked a Nationally Consistent Strategy for Communicating Health Risks at Contaminated Sites - 21-P-0223
Lead National Program or Region	OLEM / OIG
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.3 Revitalize Land and Prevent Contamination
Completion date	September 2021

Purpose and brief description: The OIG conducted this audit to determine whether EPA is communicating sampling results or other indicators of human health risk in a manner that allows impacted communities to make decisions about managing their risks of exposure to harmful contaminants or substances. The audit covered eight contaminated sites.

Brief list of results/conclusions/findings: The OIG report found that EPA did not consistently communicate human health risks at select sites being addressed by Office of Land and Emergency Management, or OLEM, programs in a manner that allowed impacted communities to decide how to manage their risks of exposure to harmful contaminants. OLEM did not consistently adhere to existing guidance on risk communication, including EPA's Seven Cardinal Rules of Risk Communication.

The OIG recommended that OLEM implement internal controls to (1) achieve OLEMwide, nationally consistent risk communication to improve public awareness and understanding of risks; (2) monitor its risk communication efforts; and (3) provide community members with information to manage their risks when exposed to actual or potential environmental health hazards.

How EPA used the results/conclusions/findings: OLEM agreed in general with the report recommendations and has provided high-level corrective actions as follows:

- OLEM will 1) clarify best practices for program-specific risk communications processes, including OLEM's expectation for processes to be consistent with scientifically grounded principles of risk communication 2) clarify and promote existing program tools, training and guidance, 3) incorporate principles of the new Agency-wide SALT Framework, tools, and training to address Administration priorities.
- OLEM will develop a plan to periodically assess risk communication efforts and outreach in OLEM programs. Lessons learned will be summarized and shared across OLEM programs and EPA regions.
- OLEM will work with EPA regions, and other EPA programs and federal agencies to share approaches develop guidelines and best practices for providing community members that are or may be exposed to environmental health hazards with clear, timely information to manage their risks; and resources for them to contact to address the health impacts of the exposure.

Link for findings: EPA's Office of Land and Emergency Management Lacked a Nationally Consistent Strategy for Communicating Health Risks at Contaminated Sites, September 9, 2021

Activity 7:

Title	EPA Does Not Consistently Monitor Hazardous Waste Units Close with Waste in Place or Track and Report on Facilities That Fall Under the Two Responsible Programs
Lead National Program or Region	OLEM / OIG
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.3 Revitalize Land and Prevent Contamination
Completion date	March 2021

Purpose and brief description: The OIG conducted this review to assess whether EPA's oversight of hazardous waste units closed with waste in place verifies continued protection of human health and the environment.

Brief list of results/conclusions/findings: The OIG reported that EPA regions do not consistently verify that treatment, storage, and disposal facilities (TSDFs) with RCRA units closed with waste in place are inspected at the applicable frequency. Controls, such as reviews of RCRAInfo information on units closed with waste in place, are inconsistent. Implementation of controls would allow regions to readily verify that all TSDFs with units closed with waste in place are inspected at the applicable frequency. In the absence of frequent inspections,

contamination from sites closed with waste in place could migrate and go unidentified in a timely manner, which increases the possibility of human health exposure and environmental contamination.

The Agency believes that the OIG's report has highlighted the need for improved program monitoring and use and understanding of the data in this area and accepted the OIG's recommendations in the final report with suggested revisions.

The OIG recommended the Agency develop controls to improve oversight of RCRA units with waste in place.

How EPA used the results/conclusions/findings: The Agency agreed with the OIG recommendations and provided correction actions as follows:

- OLEM/ Office of Resource Conservation and Recovery (ORCR), in collaboration with OECA, will develop in RCRAInfo and distribute to EPA Regions a report that identifies the inspection frequency status of non-operating treatment, storage, or disposal facilities within the timeframes as stated in the Office of Enforcement and Compliance Assurance's Compliance Monitoring Strategy.
- OLEM/ORCR, in collaboration with OECA, will develop in RCRAInfo and distribute to EPA Regions a report that helps track regional and state inspections of TSDF units closed with waste in place as called for by statute or by the Office of Enforcement and Compliance Assurance's Compliance Monitoring Strategy, as applicable.
- OLEM/OSRTI will: (1) update the Superfund Program Implementation Manual (SPIM) as appropriate to include clearer timelines on updating the RCRAInfo identification number currently tracked in the Superfund Enterprise Management System (SEMS); (2) verify sites referred from RCRA to Superfund are added to SEMS for further Superfund program attention, as necessary; and (3) revise OSRTI-managed SEMS public search tools and publicly available SEMS computer reports to include the SEMS RCRAInfo identification number variable.
- OLEM/ORCR will (1) assess the existing policies and process for Superfund deferrals to RCRA; (2) identify gaps; and, (3) identify corrective measures, as needed, to meet program needs, such as identifying Superfund program deferrals to RCRA in RCRAInfo.
- OLEM will work with EPA's Facility Registry Service (FRS) team in OMS-EI to create and maintain a solution which allows users to obtain the crosswalk of SEMS and RCRAInfo identification numbers.
- OLEM will standardize communications on the Cleanups in My Community webpage regarding the intersection of RCRA Corrective Action and Superfund cleanup programs, including environmental indicator designations at sites. OLEM will implement controls to check between programs when environmental indicators are established in the future to prevent double-counting and inconsistencies.

Link for findings: OIG Report: EPA Does Not Consistently Monitor Hazardous Waste Units Close with Waste in Place or Track and Report on Facilities That Fall Under the Two Responsible Programs, March 29, 2021

Activity 8:

Title	Superfund: EPA Should Take Additional Actions to Manage Risks from Climate Change Effects, GAO-20-73
Lead National Program or Region	OLEM / GAO
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.3 Revitalize Land and Prevent Contamination
Completion date	May 2021

Purpose and brief description: GAO conducted this audit to review issues related to the impact of climate change on nonfederal NPL sites.

Brief list of results/conclusions/findings: GAO concluded that EPA has taken actions to manage risks to human health and the environment from the potential impacts of climate change effects at nonfederal National Priorities List (NPL) sites. These actions align with three of the six essential elements of enterprise risk management. However, EPA has not clarified how its actions to manage risks from these effects at nonfederal NPL sites align with current agency goals and objectives, which could limit its senior officials' ability to manage these risks. Further, EPA officials do not always have direction to ensure that they consistently integrate climate change information into site-level risk assessments and risk response decisions, according to EPA documents and officials. Without providing such direction for remedial project managers, EPA cannot ensure that remedies at nonfederal NPL sites will protect human health and the environment in the long term.

GAO made four recommendations to EPA, including that it clarify how its actions to manage risks at nonfederal NPL sites from potential impacts of climate change align with current goals and objectives.

How EPA used the results/conclusions/findings: EPA agreed with three recommendations and provided corrective actions as follows:

- develop a schedule for standardizing and improving information on the boundaries of nonfederal NPL sites.
- issue a memorandum providing direction on integrating the impacts of climate change effects into site-specific risk assessments.

Link for findings: GAO Report: Superfund: EPA Should Take Additional Actions to Manage Risks from Climate Change Effects, May 13, 2021

Activity 9:

Title	Recycling: Building on Existing Federal Efforts Could Help Address Cross-Cutting Challenges, GAO-21-87
Lead National Program or Region	OLEM / GAO
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.3 Revitalize Land and Prevent Contamination
Completion date	December 2020

Purpose and brief description: The GAO conducted this review to examine (1) cross-cutting challenges affecting recycling in the United States, (2) actions that selected federal agencies have taken that advance recycling, and (3) actions EPA has taken to plan and coordinate national efforts to advance recycling. GAO reviewed laws and agency documents; and interviewed federal officials and nonfederal stakeholders, such as states, municipalities, and industry representatives, selected for their expertise and efforts to advance recycling.

Brief list of results/conclusions/findings: GAO found that EPA has not taken steps to implement RCRA requirements to conduct studies and develop recommendations for administrative and legislative action about either existing policies or extended producer responsibility (EPR) requirements. Furthermore, EPA's draft national strategy does not align with desirable characteristics for effective national strategies, such as identifying necessary resources; clarifying the roles and responsibilities of participating entities; and articulating how EPA will implement the strategy and integrate the activities with existing programs and activities.

GAO made three recommendations to the Agency as follows:

- develop an implementation plan for conducting a study and developing recommendations for administrative or legislative action regarding the effect of existing public policies, and the likely effect of modifying or eliminating such incentives and disincentives, upon the reuse, recycling, and conservation of materials, as required by RCRA.
- develop an implementation plan for conducting a study and developing recommendations for administrative or legislative action regarding the necessity and method of imposing disposal or other charges on packaging, containers, vehicles, and other manufactured goods to reflect the cost of final disposal, the value of recoverable

components of the item, and any social costs associated with nonrecycling or uncontrolled disposal, as required by RCRA.

- while EPA finalizes and implements its national recycling strategy, incorporate desirable characteristics for effective national strategies, including (1) identifying the resources and investments needed, and balancing the risk reductions with costs; (2) clarifying the roles and responsibilities of participating entities; and (3) articulating how it will implement the strategy and integrate new activities into existing programs and activities.

How EPA used the results/conclusions/findings: EPA concurred with the GAO recommendations and stated that it anticipates that the agency could address these recommendations through an action identified in its draft national recycling strategy to conduct an analysis of different state and local polices that could help address challenges to recycling.

Also, EPA stated that it agrees with incorporating these characteristics as it finalizes and begins implementing its national recycling strategy tentatively scheduled for finalization in the spring of 2021 and developing an implementation roadmap by the fall of 2021

Link for findings: GAO Report: Recycling: Building on Existing Federal Efforts Could Help Address Cross-Cutting Challenges, Dec 18, 2020

Office of Mission Support (OMS)

Activity 1:

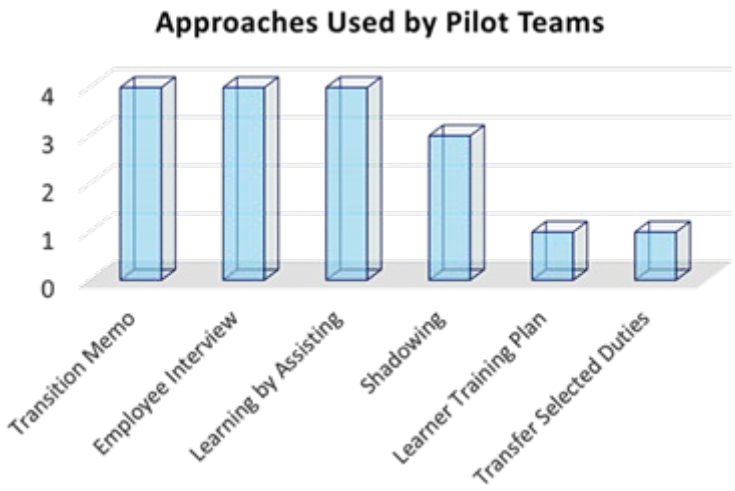
Title	EPA Learning Agenda Learning Priority Area: Workforce
Lead National Program or Region	OMS
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 3: Greater Certainty, Compliance, and Effectiveness Strategic Objective 3.5: Improve Operational Processes and Effectiveness
Completion date	September 2021

Purpose and brief description: Knowledge Management/Knowledge Transfer Pilot. The pilot was designed to identify and test promising practices to transfer tacit and explicit knowledge, informing agency succession management efforts. Three agency components participated in the initial pilot launch: Region 6 (Water Division and Land, Chemicals, and Redevelopment Division); Office of Human Resources (Diversity Outreach Employee Services Division); and Office of Air and Radiation. Five additional components will participate in the near future: Region 2, another office within the Office of Air and Radiation, Office of Chemical Safety and

Pollution Prevention, Office of Enforcement and Compliance Assurance, and Office of Land and Emergency Management.

Policy, programmatic, and/or operational questions the activity is intended to address: This activity addressed EPA's Learning Agenda Workforce Priority Question #4: How can EPA ensure knowledge is transferred from outgoing to current and incoming staff to support succession planning?

Brief list of results/conclusions/findings: The graph below summarizes the Knowledge Management/Knowledge Transfer approaches used by the pilot organizations. Pilot teams dedicated time to test the entire process – developing a Knowledge Retention and Transfer (KRT) plan by identifying knowledge to transfer and selecting KRT approaches to use for retaining and transferring knowledge. KRT plans can be customized to meet organizational needs.



Status of the Pilot Teams:

- Region 6 began participating in Spring 2021 and is currently in the final phase, evaluation
- OHR developed a Knowledge Retention and Transfer Plan and is completing milestones
- OAR is developing its Knowledge Retention and Transfer Plan

How EPA used the results/conclusions/findings: Pilot Coordinators are updating current resources (approaches, process) and developing new resources and tools (videos, proposed Community of Practice) to be used by future participants. There are discussions underway to establish an EPA-wide Knowledge Management Community of Practice. Pilot Coordinators are also developing a KRT Toolkit for supervisors and managers to quickly identify approaches for sharing knowledge.

Link for findings*:* N/A

Office of Research and Development (ORD)

Activity 1:

Title	ORD's Strategic Measure Survey
Lead National Program or Region	ORD
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 3: Greater Certainty, Compliance, and Effectiveness Strategic Objective 3.3: Prioritize Robust Science
Completion date	September 2021

Purpose and brief description: To measure ORD's progress on its Long-Term Performance Goal on the percentage of research products that meet partner's needs, ORD distributed over 200 surveys to research product users in EPA Program Offices, Regions, other federal and non-federal partners to solicit feedback on the products.

Policy, programmatic, and/or operational questions the activity is intended to address: This survey seeks to gather input from partners to address any potential quality, usability, and/or timeliness issues that may have been experienced with ORD product use and delivery. The activity is meant to be a catalyst to identify and improve operational inefficiencies during research product development and provide data to further the continuous improvement of ORD research.

Brief list of results/conclusions/findings: ORD found that 93% of ORD's research products assessed in FY 2021 had met customer needs.

How EPA used the results/conclusions/findings: The survey data collected provided important insights into ORD's contributions to its partners and customers' missions and the data was used to support research planning and engagement activities. The data collected will inform staff-level and management discussions with ORD's partners ranging from technical improvements to the quality, usability, and timeliness of ORD's research products to broader improvements to ORD's relationship with its product user base. Additionally, this measure has provided an additional mechanism for managers to ensure that peer review and clearance processes are strictly adhered to for each product prior to its delivery.

Link for findings*: NA*

Activity 2:

Title	Integrated Science Assessment (ISA) for Particulate Matter
Lead National Program or Region	ORD
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner Healthier Environment Strategic Objective 1.1: Improve Air Quality
Completion date	September 2021

Purpose and brief description: The Clean Air Act requires EPA to periodically review the science for six major air pollutants, including particulate matter (PM). EPA's Center for Public Health and Environmental Assessment (CPHEA) develops Integrated Science Assessments (ISAs) that summarize the science related to the health and welfare effects of these pollutants. ISAs provide a comprehensive review of the policy-relevant scientific literature published since the last National Ambient Air Quality Standards (NAAQS) review and are a critical part of the scientific basis for updating the NAAQS.

This draft Supplement builds on the 2019 PM ISA and represents EPA's targeted evaluation of the latest scientific literature on the potential health and welfare effects associated with PM. The draft Supplement and 2019 PM ISA collectively forms the scientific basis of the reconsideration of the PM NAAQS.

Policy, programmatic, and/or operational questions the activity is intended to address: The ISA provides a concise review, synthesis, and evaluation of the most policy relevant science to serve as a scientific foundation for the review of the National Ambient Air Quality Standards for air pollutants.

Brief list of results/conclusions/findings: Extensive evidence spanning scientific disciplines supported the conclusion of a causal relationship between both short- and long-term PM2.5 exposure and cardiovascular effects and mortality. In addition, an assessment of those populations potentially at increased risk of a PM-related health effect identified many populations and life stages that experience both health risk and/or exposure disparities with some of the strongest evidence being for non-White populations, with more limited evidence for people of low socioeconomic status (SES). Lastly, in the assessment of welfare effects, there is extensive evidence indicating a causal relationship between PM and visibility effects, specifically visibility impairment. These topics are the basis of the scientific evaluation conducted in this Supplement

How EPA used the results/conclusions/findings: This study's findings provided a comprehensive review of the policy-relevant scientific literature published since the last National Ambient Air Quality Standards review and is a critical part of the scientific basis for updating the NAAQS.

Link for findings*: https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=352823*

Activity 3:

Title	Increasingly severe cyanobacterial blooms and deep-water hypoxia coincide with warming water temperatures in reservoirs
Lead National Program or Region	ORD
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner Healthier Environment Strategic Objective 1.2: Provide for Clean & Safe Water
Completion date	May 2021

Purpose and brief description: This research documented increases in cyanobacteria cell densities from 1987-2015 in 20 reservoirs located in the Midwest and Western Appalachian regions of the United States. Cell densities began increasing around 2003 and commonly posed high relative probabilities of human health risks since 2009.

Policy, programmatic, and/or operational questions the activity is intended to address: Research falls under The Harmful Algal Bloom and Hypoxia Research and Control Amendments Act and the Clean Water Act. It enhances EPA's and other agencies' understanding of the increase in cyanobacterial blooms association with warmer water temperatures.

Brief list of results/conclusions/findings: Increases in cyanobacterial blooms were associated with warming water temperatures, earlier stratification, and more severe and longer durations of deep-water hypoxia. These results are evidence that the expected increases in cyanobacteria blooms associated with warming temperatures are already occurring, are likely to continue expanding geographically if warming trends continue, and possibly will remain recurrent problems once established. That is, unless vulnerable lakes and reservoirs are protected, and management strategies are implemented to address underlying causes leading to ecosystem degradation and socioeconomic risks posed by cyanobacteria blooms and toxins.

How EPA used the results/conclusions/findings: The results from this study may be applied toward cyanobacterial blooms mitigation efforts and used to further inform the Interagency Working Group on HABHRCA (IWG-HABHRCA) and the Cyanobacteria Assessment Network.

Link for findings*:*
https://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=351708&Lab=CEMM&keyword=%20harmful+algal+blooms+OR+HABs&sortby=revisionDate

Activity 4:

Title	Other Test Method 45 (OTM-45) Measurement of Selected Per- and Polyfluorinated Alkyl Substances (PFAS) from Stationary Sources
Lead National Program or Region	ORD

FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner Healthier Environment Strategic Objective 1.2: Provide for Clean & Safe Water
Completion date	January 2021

Purpose and brief description: Other Test Method 45 (OTM-45) describe the sampling and sample recovery procedures used to measure individual semivolatile PFAS from stationary source air emissions. OTM-45 incorporates by reference some of the specifications (e.g., equipment and supplies) and procedures (e.g., sampling and sample preparation) from other methods that are essential to conducting OTM-45.

Policy, programmatic, and/or operational questions the activity is intended to address: To promote discussion of developing emission measurement methodologies and to provide regulatory agencies, the regulated community, and the public at large with potentially helpful tools.

Brief list of results/conclusions/findings: OTM-45 is a performance-based method applicable to the collection and quantitative analysis of specific semivolatile and particulate-bound per and polyfluorinated alkyl substances (PFAS) in air emissions from stationary sources. This method can also be used for the collection and recovery of ionic and covalent PFAS for nontargeted analysis (NTA) of PFAS compounds.

How EPA used the results/conclusions/findings: These methods may be considered for use in federally enforceable State and local programs [e.g., Title V permits, State Implementation Plans (SIP)] provided they are subject to an EPA Regional SIP approval process or permit veto opportunity and public notice with the opportunity for comment. The methods may also be candidates to be alternative methods to meet Federal requirements under 40 CFR Parts 60, 61, and 63.

Link for findings*: https://www.epa.gov/sites/default/files/2021-01/documents/otm_45_semivolatile_pfas_1-13-21.pdf*

Activity 5:

Title	Assessing SARS-CoV-2 Virus Levels in Sewage
Lead National Program or Region	ORD
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner Healthier Environment Strategic Objective 1.2: Provide for Clean & Safe Water
Completion date	January 2021

Purpose and brief description: Researchers at EPA and the CDC have developed and are applying methods for measuring SARS-CoV-2 levels in wastewater. These methods will be used

for detecting different forms of the virus, including live, or infectious, virus and the genetic marker of the virus, its RNA, in wastewater and sewage.

Policy, programmatic, and/or operational questions the activity is intended to address: With an infectious disease like COVID-19, people may be contagious before they show any symptoms. Preliminary research from across the country and around the world indicates that monitoring wastewater for the presence of the genetic marker of SARS-CoV-2, its RNA, may be useful as a sensitive early indicator of low levels of infections in the community.

Brief list of results/conclusions/findings: The genetic material of the virus that causes COVID-19 has been detected in feces from patients diagnosed with the disease, as well as in raw sewage. EPA researchers, working with researchers at CDC have identified a need for sensitive, standardized methods to detect and quantify SARS-CoV-2 in raw sewage, including infectious virus. The researchers have developed, are evaluating, and applying methods for concentrating and quantifying SARS-CoV-2 with molecular and live, or infectious, assays in wastewater. These methods can use it to quantify the level of SARS-CoV-2 detected in raw sewage at wastewater treatment plants.

How EPA used the results/conclusions/findings: Standard, reproducible methods of detection are critical to accurately inform public health decisions. This research focuses on developing the best method for detection. These methods and other like them will be used to determine infectivity, persistence, and treatment efficacies related to SARS-CoV-2 in wastewater.

Link for findings*:* *https://www.epa.gov/covid19-research/assessing-sars-cov-2-virus-levels-sewage*

Activity 6:

Title	Small Business Research Programs: Agencies Should Further Improve Award Timeliness
Lead National Program or Region	ORD / GAO
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 3: Greater Certainty, Compliance, and Effectiveness Strategic Objective 3.5: Improve Efficiency & Effectiveness
Completion date	September 2021

Purpose and brief description: The GAO conducts an annual study to assess Federal agencies participating in the Small Business Innovation Research (SBIR). The purpose of these studies is to assess the timely issuance of these awards and the impact that this can have on small business receiving the funding to begin work.

Policy, programmatic, and/or operational questions the activity is intended to address: To further improve award timeliness of small business research programs.

Brief list of results/conclusions/findings: GAO Recommendation**:** The Administrator of the Environmental Protection Agency should evaluate the effectiveness of steps taken to improve SBIR award timeliness and take any necessary additional steps in order to consistently meet SBA award timeliness guidelines. The GAO's assessment shows that less than 30 percent of awards have been issued on time during the 5-year review period. EPA concurs with the GAO recommendations.

How EPA used the results/conclusions/findings: During this engagement, steps were taken to evaluate best practices, leading to the discovery that a formalized plan will further enhance EPA's ability to improve SBIR award timeliness. This comprehensive plan will create a structure for establishing, tracking and reviewing significant milestones in the SBIR process to determine compliance with timeliness goals.

Link for findings*: https://www.gao.gov/products/gao-22-104677*

Office of Water (OW)

Activity 1:

Title	Clean Water Act (CWA) Section 404 Program Reviews
Lead National Program/Region	OW
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.2: Provide for Clean and Safe Water
Completion Date	September 2021

Purpose and brief description: Section 404 of the CWA requires a permit from the U.S. Army Corps of Engineers (Corps) or EPA-approved state for the discharge of dredged or fill material from a point source into waters of the United States. To track EPA's activities, regional differences and results associated with EPA reviews of draft Corps permits, EPA has developed a data system that allows staff to: 1) track agency involvement in pre-application coordination, review of public notices for proposed permits, review of third-party mitigation projects, and proposed jurisdictional determinations; 2) access shared data from the Corps' national regulatory program data management system known as Operations and Maintenance Business Information Link (OMBIL) Regulatory Module (ORM2); and 3) track whether the Corps' final permit decisions showed improvements as a result of the issues raised by EPA.

Brief List of Results/ Conclusions/Findings: For Standard CWA 404 permits on which EPA commented and where EPA completed final reviews in FY2021 sixty-five percent showed an improvement. This represents a 2.5% increase in permits that showed an improvement from FY

2020.The headquarters program developed a LEAN measure tracking the process for updating the library of regulatory resources and example comment letters for the national program. The headquarters program implemented a survey of national program staff to identify their greatest needs from a resource library and the tracking system used to report on 404 project coordination.

How EPA Used the Results/Conclusions/Findings to make program improvements, support planning and policy decision making, assess progress toward mission/objectives, and/or make changes to strategies or measures: A survey of the national program has been completed and the results have informed the design and functionality of the updated resource library. The resource library will provide enhanced search functionality, example letters reflecting best practices in effective interagency coordination on CWA section 404 proposed project reviews, and relevant guidance, regulations, and MOAs. The 2021 launch of the updated resource library will help regional staff efficiently and effectively comment on 404 projects and increase the number of projects showing improvements after EPA comments.

Link for findings*:* N/A

Activity 2:

Title	Supporting State Timely Submissions of Integrated Reports (303(d)/305(b))
Lead National Program/Region	OW
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.2: Provide for Clean and Safe Water
Completion Date	September 2021

Purpose and brief description: States report on the water quality assessment status of their waters on April 1 of every even numbered year. Historically, very few states have submitted on time. EPA plays a critical role in this effort and these organizations by providing states support for developing their Integrated Reports and assisting them with electronic reporting. The goal of this effort is to have on-time state submissions and that any technical hurdles from states are addressed quickly. For addressing technical hurdles, EPA deployed an EPA Lean Management System (ELMS) problem solving process focusing on user support requests coming in through the ATTAINS help desk to ensure that EPA responds to issues in a timely manner and to ensure that clear communication is provided to the state. EPA also tracks the status for each state regarding their submission and identifies any states that are stuck for any technical reasons. EPA engaged the Environmental Council of States (ECOS) and the Association of Clean Water Administrators (ACWA) in late 2020 through early 2021 to identify other improvements that states and EPA can make in the overall process to ensure on-time submission. EPA developed a template in coordination with ECOS and ACWA for states and Regions to utilize in planning for

on-time submittals. Additionally, EPA's 2022 Integrated Reporting Guidance provides information on achieving on-time submission of Integrated Reports and emphasizes the importance of electronic reporting. EPA continues to work with the states in preparation for the April 2022 submission deadline. EPA anticipates 40 states to submit on-time Integrated Reports for 2022.

Brief List of Results/ Conclusions/Findings: The ELMS deployment for this effort began in November 2019. Since then, EPA has received 65 state IR submissions for 2020 or prior cycles through ATTAINS and has dropped from 68 outstanding state lists in April 2020 to 22 as of September 2021. Many states are also on target to report on-time in April 2022. EPA averages 5 days to resolve user tickets.

How EPA Used the Results/Conclusions/Findings to make program improvements, support planning and policy decision making, assess progress toward mission/objectives, and/or make changes to strategies or measures: These data support several Office of Water measures, including the strategic plan measure tracking watershed area containing impaired waters. Without these data, these measures could not be reported. Additionally, EPA is measuring the progress on states submitting lists on time, and these efforts could improve that timeliness.

Link for findings*:* N/A

Activity 3:

Title	Safe Drinking Water Act State Program Oversight – File Reviews and In-Depth Analyses
Lead National Program/Region	OW
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.2: Provide for Clean and Safe Water
Completion Date	September 2021

Purpose and brief description: Two additional types of targeted analyses of state data are conducted to supplement the annual program reviews.

File reviews are conducted every three to six years for each state. The goal of a program (file) review is to document whether the state makes appropriate compliance determinations for the drinking water regulations and accurately reports associated data to the national database, the Safe Drinking Water Information System (SDWIS) Fed Data Warehouse.

In-depth analyses are rule-specific and are designed to evaluate the challenges, lessons learned, and recommendations on a specific aspect of the Safe Drinking Water Act.

Brief List of Results/ Conclusions/Findings: As a result of conducting file reviews on primacy agencies, EPA identifies gaps and opportunities to improve on rules interpretation, implementation, and accurate data reporting to the national database. The oversight agency

document findings including discrepancies on compliance determination and data reporting and develop a follow up action plan tracker in collaboration with the primacy agency to address the findings identified through the File Review process. A summary of EPA oversight program implementation achievements throughout the past year is listed below.

- Conducted 12 file reviews, including 10 on states and 2 on Direct Implementation Programs.
- Updated the File Reviews Tool kit to address recommendations previously received, add efficiency, and establish nationwide consistency to the File Review Process.
- Provided training to oversight agencies to build capacity on leading and conducting file reviews.
- Developed a File Review Follow-up Action User-Guide and Tracker to establish a consistent process for EPA oversight and primacy agencies to capture, prioritize and consolidate findings, identify follow up actions and schedule to implement and track completion of those follow up actions.
- Identified the existing need and opportunity to provide nationwide or individual technical guidance, as applicable, to the primacy agencies on the main findings identified.
- Successfully coordinated next year File Reviews and discussed a plan to conduct File Reviews in each primacy agency every 4 years.
- In 2021, EPA is completing the report for a national deep dive for the Ground Water Rule, which includes an in-depth review of compliance issues for Florida, Ohio, and Pennsylvania.

How EPA Used the Results/Conclusions/Findings to make program improvements, support planning and policy decision making, assess progress toward mission/objectives, and/or make changes to strategies or measures: File reviews allow EPA to identify specific discrepancies within the state program, allowing the region to develop corrective actions and make recommendations for program improvements.

Following the publication of the report Stage 2 Disinfectants and Disinfection Byproducts Rule (DBPR) and Consecutive System In-Depth Analysis, EPA developed and piloted training for primacy agency and water system staff on the challenges and best practices identified in the aforementioned report to improve simultaneous compliance of drinking water regulations. Due to the COVID-19 pandemic, EPA paused these in-person trainings and converted the training to a virtual format. EPA is now scheduling ten trainings for primacy agencies (organized by EPA Region), which will be conducted in FY 2022.

EPA is developing the final report for the Ground Water Rule In-Depth Analysis, which will describe the challenges and best practices identified in the analysis conducted in 2020. EPA anticipates release of the final report by the end of 2021.

Link for findings*:* N/A

Activity 4:

Title	Safe Drinking Water Act State Oversight - Program Reviews

Lead National Program/Region	OW
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.2: Provide for Clean and Safe Water
Completion Date	September 2021

Purpose and brief description: Under the Safe Drinking Water Program regulations under 40 CFR Part 142, states which meet the primacy requirements are the primary regulators of drinking water systems in the state. Primacy refers to a state acquiring and maintaining primary responsibility for administration and enforcement of drinking water regulations. As outlined in 40 CFR § 142.17, EPA regions are required to conduct an annual assessment of each state's core program elements and verify that states continue to meet primacy requirements.

Brief List of Results/ Conclusions/Findings: During FY 2021, EPA regions completed annual program reviews for 51 of the 51 primacy agencies. EPA Regions continue to effectively oversee their state DWSRF programs.

How EPA Used the Results/Conclusions/Findings to make program improvements, support planning and policy decision making, assess progress toward mission/objectives, and/or make changes to strategies or measures: Beyond making a determination that an agency continues to meet the requirements for primacy, as described above, the annual program review provides an opportunity to discuss both successes as well as opportunities for improvement with each primacy agencies. Notable topics this year include efforts to reduce the number of community water systems with health-based violations and approaches to deal with the impacts from the COVID-19 pandemic. This year reports also implemented OIG recommendations related to the Lead and Copper Rule and the Public Notice Rule and identify primacy agencies success and challenges in meeting these requirements.

Link for findings*:* N/A

Activity 5:

Title	Great Lakes Restoration Initiative Environmental Accomplishments in the Great Lakes (EAGL2) Data System Audit Procedures and Results
Lead National Program/Region	OW, Great Lakes National Program Office
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.2: Provide for Clean and Safe Water

Completion Date	September 2021

Purpose and brief description: Annual review of Great Lakes Restoration Initiative (GLRI) Action Plan II reported results through audit of information reported to EPA through the EAGL information system.

Brief List of Results/ Conclusions/Findings: Findings of the most recent audit indicate significant improvement of the quality of GLRI project data and results in the EAGL 2 information system (inconsistencies of 3% of audited projects vs 26% in FY 2020) through implementation of additional agency reviews, data entry improvements, and training. All instances where the result did not match supporting document were examined and corrective actions were taken.

How EPA Used the Results/Conclusions/Findings to make program improvements, support planning and policy decision making, assess progress toward mission/objectives, and/or make changes to strategies or measures: In an effort to further improve data collection, EPA developed the new EAGL 2 Information System starting with FY 2020. The new system is a more robust database system than the previous spreadsheet-based system. EAGL 2 improves control over data, provides better verification and documentation, and helps GLRI maintain and enhance the reliability of reported results in line with GAO recommendations in its July 2015 Report (GAO-15-526).

Link for findings*:* N/A

Activity 6:

Title	Great Lakes Restoration Initiative Report to Congress and the President
Lead National Program/Region	OW, Great Lakes National Program Office
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.2: Provide for Clean and Safe Water
Completion Date	FY2018 Report was approved by OMB and awaits transmittal to Congress. The FY2019 and FY2020 Reports are under development for submission in 2022.

Purpose and brief description: The EPA Administrator is required by Clean Water Act Section 118 (c)(7)H)(iii) to provide the Great Lakes Restoration Initiative Report (GLRI) to Congress and the President to the Committee on Transportation and Infrastructure of the House of Representatives and the Committee on Environment and Public Works of the Senate. The report is to be provided annually and to provide a detailed description of the progress of the

Initiative and amounts transferred to participating Federal departments and agencies. The report also satisfies the GLRI Action Plan II Measure of Progress for issuance of annual GLRI reports to Congress and the President.

Brief List of Results/ Conclusions/Findings: Since its 2010 inception, the GLRI has greatly accelerated efforts to protect and restore the Great Lakes – the largest system of fresh surface water in the world. The GLRI continues to address the most persistent and challenging environmental problems facing this vital ecosystem. Under EPA's leadership, the GLRI has been a catalyst for unparalleled coordination between the 16 federal agencies and departments that make up the GLRI Interagency Task Force and the GLRI Regional Working Group. This unprecedented coordination has produced unprecedented results. Through March of 2021, GLRI has funded over 6,000 projects focused on the most important Great Lakes environmental issues, including cleaning up highly contaminated Areas of Concern, protecting and restoring native habitat and species, and preventing and controlling invasive species. In FY2021 the Ashtabula River AOC was delisted - the 6th U.S. AOC delisted and the 5th AOC delisted under the GLRI.

How EPA Used the Results/Conclusions/Findings to make program improvements, support planning and policy decision making, assess progress toward mission/objectives, and/or make changes to strategies or measures: EPA is using results to influence outyear planning and funding decisions. Results also informed measures and targets for the new GLRI Action Plan III, covering FY 2020-FY 2024. For example, the reported amount of acreage on which invasive species were controlled in previous years was used to establish ambitious, but achievable, targets for that measure from FY 2020 – FY 2024. Reported results were similarly used to establish ambitious, but achievable targets for the corresponding measures for pounds of phosphorus reductions from conservation practices, gallons of untreated stormwater runoff captured or treated, and habitat acreage protected or restored.

Link for findings*: https://www.glri.us/documents* . Results under Action Plan III measures are tracked at https://www.glri.us/results

Activity 7:

Title	Review of Great Lakes Long-Term Monitoring Programs
Lead National Program/Region	OW, Great Lakes National Program Office
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.2: Provide for Clean and Safe Water
Completion Date	September 2021

Purpose and brief description: Great Lakes National Program Office (GLNPO) annually monitors Great Lakes water quality, aquatic life, sediments, air, and coastal wetlands. Monitoring results are used to help determine the overall health of the Great Lakes ecosystem and fulfill some of the requirements of Clean Water Act Section 118 and the obligations under the Great Lakes Water Quality Agreement. GLNPO uses a variety of internal and external mechanisms to maintain the integrity of these long-term programs and ensure the timely and accurate reporting on the health of the Great Lakes ecosystem. Quality documentation and standard operating procedures are frequently reviewed and updated as necessary. Datasets undergo a vigorous validation and verification process before they are reported and shared publicly. Further, GLNPO intermittently reviews the sampling and analytical frameworks for each monitoring using external technical experts.

Brief List of Results/ Conclusions/Findings: Monitoring datasets continue to be uploaded to the Great Lakes Environmental Database portal on EPA's Central Data Exchange. Data continues to be reported for monitored Great Lakes water quality, aquatic life, sediments, air, and coastal wetlands.

How EPA Used the Results/Conclusions/Findings to make program improvements, support planning and policy decision making, assess progress toward mission/objectives, and/or make changes to strategies or measures: EPA is using results to report on the health of Great Lakes ecosystem and identify the current and emerging challenges impacting the health of the ecosystem. Results also influence outyear planning and funding decisions.

Link for findings*: Great Lakes Monitoring | US EPA*

Activity 8:

Title	**Strategy Review System (SRS) Biennial Meeting**
Lead National Program/Region	OW, Region 3, Chesapeake Bay Program Office
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.2: Provide for Clean and Safe Water
Completion Date	May 2021

Purpose and brief description: The Chesapeake Bay Program's Strategy Review System (SRS) is an adaptive management-based review process developed by the Chesapeake Bay Program partners to consistently assess and track progress across all 31 outcomes of the Chesapeake Bay Watershed Agreement. Many of these 31 outcomes have timebound targets that are measured through monitoring, tracking, and assessment and reported as indicators of progress. At the end of every two-year cycle, the CBP partners meet over two days to review the status of meeting the Agreement outcomes and apply new science, policy, or economics in our future actions in addressing our gaps in progress.

Brief List of Results/Conclusions/Findings: Results from the biennial meeting yielded improved awareness and accountability, identified Outcomes that were on track and off track as well as those that did not have adequate monitoring or tracking systems in place to measure progress. This analysis helped focus and leverage partnership expertise toward achieving multiple outcomes. Detailed results and findings by outcome can be found at https://www.chesapeakebay.net/decisions/management-decisions

How EPA Used the Results/Conclusions/Findings to make program improvements, support planning and policy decision making, assess progress toward mission/objectives, and/or make changes to strategies or measures: Preparation for the Biennial meeting revealed several outcomes that would not meet our commitments by 2025 without a significant change of course. This knowledge led to focused effort and attention during the meeting to identify corrective actions to increase implementation toward the tidal and non-tidal wetlands, and forest buffers outcomes. Several workshops are being planned for FY 2022 to bring together scientific experts and decision-makers to evaluate options to increase implementation in those areas. Discussions and action items resulting from the workshops will inform action to be taken by the partnership. Progress details for all outcomes can be found on ChesapeakeProgress. ChesapeakeDecisions documents management decisions and follow-up actions, and tracks dates, deadlines, and status of documents for each outcome.

Link for findings*:* https://www.chesapeakebay.net/decisions

Activity 9:

Title	CAST Upgrades
Lead National Program/Region	OW, Region 3, Chesapeake Bay Program Office
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.2: Provide for Clean and Safe Water
Completion Date	September 2021

Purpose and brief description: EPA uses a suite of computer modeling tools to understand the cause-and-effect relationships among Chesapeake Bay Program watershed conditions, Best Management Practices (BMP) implementation, nutrient and sediment loads, and attainment of water quality standards in the tidal estuary. The watershed model, Chesapeake Assessment Scenario Tool (CAST), is a free web-based pollutant load estimator tool that streamlines environmental planning and is used as one measure of progress in the accountability framework of the Chesapeake Bay TMDL.

The Chesapeake Bay Program periodically makes changes to the tools, updates monitored and measured inputs, incorporates new science and revisits predictions to formulate the next set of actions to take. CAST is updated every two years so that the best available science, data and

information are used to inform and support restoration efforts and collective decision-making processes.

Brief List of Results/ Conclusions/Findings: An updated version of CAST, "CAST21", has been developed with direction from the Chesapeake Bay Program partnership and is currently being reviewed. New data and methods in the tool realigned earlier predictions so that they better measure changing conditions in the watershed. New information that had greater impact on the accuracy of model assessments included 1) updates to land use acres from high-resolution landcover data for the entire Chesapeake Bay watershed, 2) additional years of chemical fertilizer sales data for both the agriculture and developed sectors, 3) updates to the extent of sewer service areas and the number of septic systems, and 4) new BMPs approved by the Chesapeake Bay Program along with revised BMP histories from jurisdictions.

How EPA Used the Results/Conclusions/Findings to make program improvements, support planning and policy decision making, assess progress toward mission/objectives, and/or make changes to strategies or measures: The approved CAST21 model more accurately reflects what is happening on the ground because of the introduction of new science, data, information, and methods. Therefore, there is a better understanding of how management actions and decisions impacted water quality and living resources across the Chesapeake Bay watershed. Accurately capturing changes in the watershed on a regular basis provided the partnership with a better understanding of where it is with respect to goals and what planning and policy adjustments would be most effective going forward. Updates accommodating the latest science in the accountability framework were essential to maintaining public trust in the integrity of the restoration effort.

Link for findings*:* https://cast.chesapeakebay.net/

Activity 10:

Title	EPA Evaluation of New York's Amended Phase III Watershed Implementation Plan (WIP)
Lead National Program or Region	OW, Region 3, Chesapeake Bay Program Office
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.2: Provide for Clean and Safe Water
Completion date	August 2021

Purpose and brief description: EPA Region III, in coordination with EPA Region II, released its evaluation of New York's final Phase III WIP amendment to demonstrate meeting the 2025

targets for nitrogen, phosphorus, and sediment pollution to the Chesapeake Bay. New York's 2019 Phase III WIP submittal did not achieve the full planning target for nitrogen. New York responded to EPA's 2019 evaluation, which asked for additional information to demonstrate achieving the nitrogen targets, by submitting an amended Phase III WIP to EPA in November 2020 and a final amended Phase III WIP in May 2021.

Policy, programmatic, and/or operational questions the activity is intended to address: Once fully implemented the plan will meet its pollutant reduction goals by 2025, primarily through the agricultural and wastewater sectors.

Brief list of results/conclusions/findings: New York's amended plan, if fully implemented will meet its pollutant reduction goals by 2025, primarily through the agricultural and wastewater sectors.

How EPA used the results/conclusions/findings: EPA evaluated New York's amended Phase III WIP as part of the Chesapeake Bay Program partnership's Accountability Framework under the Chesapeake Bay Total Maximum Daily Load. EPA commits to continue to provide assistance to support New York in addressing enhancements identified in the evaluation.

Link for findings*:* https://www.epa.gov/chesapeake-bay-tmdl/epa-evaluation-new-yorks-amended-phase-iii-wip-0

Activity 11:

Title	Southeast New England Program EPA Region 1 Report to Congress
Lead National Program or Region	OW, Region 1
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.2: Provide for Clean and Safe Water
Completion date	March 2021

Purpose and brief description: As a part of the 2021 Omnibus Spending Bill, Congress directed EPA to submit a report on the Southeast New England Program's (SNEP) local technical capacity building and technical assistance program, the SNEP Network. The Network began in late 2019. Specifically, Congress wanted to understand the scope of investment in the program, how the program builds technical capacity, and the metrics for assessing program progress. SNEP developed a comprehensive report to satisfy the Congressional inquiry and in March 2021, EPA provided the report to Congress.

Policy, programmatic, and/or operational questions the activity is intended to address: The report focused on:

- Scope of investment in SNEP Network (local technical capacity building program).

- How the SNEP Network builds regional, local technical capacity.
- Metrics SNEP will use to determine success/progress of the Network.

Brief list of results/conclusions/findings: The Southeast New England Program's report to Congress contains a primer of background information on the Program, accomplishments to date, the region SNEP covers, as well as the environmental and social challenges faced in Rhode Island and southeast Massachusetts. One such challenge is the limited technical capacity of local environmental groups when applying for grants, hiring contractors, or working on environmental projects. To fill this gap, SNEP provides a grant to the New England Environmental Finance Center to provide a SNEP Network of professionals to assist local groups and help build their technical capacity.

The report lays out the technical subjects the Network assists with at the local level; trainings and workshops held to date; number of organizations engaging with the Network; projects and subawards started to date; and accomplishments of the Network to date. The report also indicates that the investment in the Network was $3.2 million at the time of writing and provides context for that spending. It also contains 12 metrics with which SNEP will track the capacity building work of the Network. These 12 metrics are specific to the Network, however, SNEP has a larger list of metrics that it will soon use to track progress by all of its grantees as well.

How EPA used the results/conclusions/findings: The results of the report clearly indicate that SNEP Network is providing a valuable service to communities in the region in terms of capacity building. SNEP will use the metrics detailed in the Congressional report, as well as other project metrics, to better track the accomplishments of the SNEP Network.

Link for findings*:* https://www.epa.gov/sites/default/files/2021-04/documents/report-to-congress-snep.pdf

Activity 12:

Title	Improving Quality of the GMD Funding Recommendation Packages
Lead National Program or Region	OW, Region 4, Gulf of Mexico Division
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.2: Provide for Clean and Safe Water
Completion date	May 2021

Purpose and brief description: In order to improve efficiency and accuracy of funding recommendation (FR) packages and to expedite award of assistance agreements, the Gulf of Mexico Division (GMD) decided to focus lean efforts on streamlining the FR development and submittal process. The scope was to reduce the number of reworks/passbacks of FR packages by 25% from 4 reworks/passbacks per FR to 3

reworks/passbacks per FR resulting in more efficient obligation of GMD funds with a potential time savings of 2 to 4 weeks.

Policy, programmatic, and/or operational questions the activity is intended to address: This effort was intended to address the importance of implementing measures to aid accuracy of funding packages, consequently improving assistance agreements award time.

Brief list of results/conclusions/findings: The Gulf of Mexico Divison achieved a 50% reduction, two reworks/pass-backs per FR. This significant improvement to the FR process was due to many factors including an established ELMS program with weekly team huddles, electronic flow and performance boards established in Teams, and through the development of countermeasures. The countermeasure was conduct a "walk through" or internal training of the Project Officer (PO) checklist and other guidance documents and new policy changes prior to the start of each FR process/award cycle. In addition, GMD staff have developed documents to aid in communicating both internally and externally with new recipients. These documents include an on-boarding briefing document for new recipients alerting them of needed documents and common errors and mistakes as well as a standard communications protocol for internal use of POs as they communicate with recipients. These have been added to our SharePoint site with other templates and useful documents for easy access.

How EPA used the results/conclusions/findings: GMD developed documents to aid in communicating both internally and externally with new recipients. These documents include an on-boarding briefing document for new recipients that alerts them of needed documents and common errors and mistakes as well as a standard communications protocol for internal use of POs as they communicate with recipients. GMD also developed a comprehensive checklist to help prepare FRs and to complete review of supporting documentation. The checklist contains pertinent steps POs must take along with quality control elements undertaken during grants management specialist review. The checklist aided POs in thoroughly reviewing components of the FR and documents.

These tools will be used in development and review of future FR packages.

Link for findings*:* N/A

Activity 13:

Title	Gulf of Mexico Division Performance Metrics
Lead National Program or Region	OW, Region 4, Gulf of Mexico Division
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.2: Provide for Clean and Safe Water

Completion date	October 2021

Purpose and brief description: Through partnerships and assistance agreements, the Gulf of Mexico Division (GMD) exceeded its metrics for FY 2021. The metrics of environmental education, habitats, community resilience, and water quality, are paving the way for long-term preservation of the Gulf of Mexico and are fundamental to holistically tackling threats to the ecosystem.

Policy, programmatic, and/or operational questions the activity is intended to address: This activity is intended to examine effectiveness of funded projects in aiding restoration of the Gulf of Mexico.

Brief list of results/conclusions/findings: The Gulf of Mexico Division has a target for each metric mentioned above and uses these to assess performance and to identify possible ways to focus resources. During this fiscal year, GMD exceeded its annual target for all metrics: environmental education's target is 10,000 individuals reached, we exceeded this goal by 7,347; habitat restoration's target is 350 acres restored, we exceeded this goal by 61,751; community resilience's target is 40 communities' resiliency level enhanced, we exceeded this goal by 88; and water quality's target is 6 segments improved, we exceeded this goal by 58.

How EPA used the results/conclusions/findings: GMD reviews quarterly and final reports from recipients of assistance agreements to determine project effectiveness and to narrow foci of Federal Funding Opportunities. These data aid innovation and highlight geographically prone contributers of issues impacting the Gulf of Mexico. We used data from reports and our engagement with partners to revolutionize the FY 2020 Farmer-to-Farmer (F2F) Federal Funding Opportunity and emphasized peer-to-peer engagement amongst farmers on best management practices for nutrients. The next iteration of the Farmer to Farmer Federal Funding Opportunity will have a robust emphasis on marginalized, underserved farmers. For these farmers, resources are few and unfortunately, they are predisposed to environmental challenges. GMD's goal is to create a pathway for a targeted focus on underserved farmers thereby creating a gateway for addressing environmental challenges.

Link for findings*:*
N/A

Activity 14:

Title	Lake Champlain State of the Lake and Ecosystem Indicators Report
Lead National Program or Region	OW, Lake Champlain Basin Program, Region 1

FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.2: Provide for Clean and Safe Water
Completion date	June 2021

Purpose and brief description: A triennial report summarizing the body of data collected, studies completed, and other work to document the state of Lake Champlain's ecosystem and provide context on how pressures from human activities have led to its current state and the impact of Lake Champlain Basin Program (LCBP) implementation actions. LCBP strives to do this through graphs of scientific measurements with clear scientific interpretation and through an Ecosystem Indicator scorecard, which provides the status and long-term trends for several important issues at a glance.

Policy, programmatic, and/or operational questions the activity is intended to address: The purpose of this report was to present the most recent information on the conditions of Lake Champlain and its watershed:

- Highlight the results of management actions taken to achieve the main goals of the Lake Champlain management plan known as the *Opportunities for Action:* clean water, healthy ecosystems, thriving communities, and an informed and involved public.
- To track progress in environmental outcomes supported with federal funding via EPA, such as progress in reducing phosphorus loading to meet the 2016 Lake Champlain TMDL.

Brief list of results/conclusions/findings:

Clean Water: Lake Champlain is a safe and reliable source of drinking water for approximately 24% of the Basin's population and is widely and safely enjoyed by swimmers, boaters, and fishermen., However, the Lake does not meet Clean Water Act goals for all uses and continues to see water quality challenges. . Cyanobacteria blooms impact recreation during the summer months, especially where phosphorus levels remain too high and in other areas when warm weather persists. Some beaches are occasionally closed due to too much bacteria, typically following large storm events, though improvements have seen public swimming beaches open 97% of the time. Lake-wide, fish consumption advisories remain in place due to mercury, a problem in lakes across the Northeast, and chloride levels are increasing but remain well below the point of impacting drinking water quality. Municipalities are upgrading combined sewer systems to reduce the occurrence of overflows, which can send pathogens from untreated waste into the Lake.

Healthy Ecosystems: The Lake Champlain Basin provides habitat for thousands of native species, including more than 70 species of threatened and endangered fish and wildlife. Climate change, invasive species, and pressures from human activities all threaten the health of our ecosystem. Successful wild lake trout reproduction has allowed for the reduction of stocking of this species to maintain a balance of predators and prey in the lake. Aquatic passage restoration has provided gains for Atlantic salmon habitat, but many systems remain fragmented. Wounding of lake trout by sea lamprey remain above targets. Atlantic salmon are near target rates. Lake Champlain freezes over much less often than it did in the recent past, causing unknown ecosystem effects. Efforts to reduce the introduction of new invasive species have been successful, but established populations continue to do harm and new threats are on our doorstep. Impacts from invasive water chestnut have decreased significantly following effective management.

Thriving Communities: Nearly 40% of the land area in the Lake Champlain basin is conserved to some extent, providing ample recreational opportunities. The COVID-19 pandemic reinforced the need for conserved lands and public spaces – public trail systems, boat launches, and other outdoor recreation spaces saw a significant increase in use, to the point where New York state has enacted a system to address overcrowding. LCBP and partners have been working to ensure inclusion of traditionally underserved and indigenous communities in lake-related programs across the Basin. The LCBP acknowledges the history and culture of indigenous people of the Basin and recognizes that we are all stewards of our natural and cultural resources.

Informed & Involved Public: Watershed education efforts have reached many learners of all ages throughout the Lake Champlain Basin, developing future stewards of our water resources. During the 2018 – 2020 time period, boat launch stewards reached more than 193,000 boaters at public boat launches with invasive species and other water quality-related messaging. The LCBP Resource Room connected in-person with more than 30,000 visitors during this same period. New programs target specific focus areas, such as residential lawn care for water quality or field trip opportunities for students. The COVID-19 pandemic created new opportunities to develop virtual programs, which allowed for broader reach of audiences and will likely continue.

How EPA used the results/conclusions/findings: The results presented within the State of the Lake report clearly show a large body of successful work taking place cooperatively across the Lake Champlain Basin, however they also highlight the ongoing challenges the watershed faces and the need for continued efforts to reduce phosphorus loading, invasive species, cyanobacteria, and other threats to water quality. EPA will use these results to work with the Lake Champlain Steering Committee, its members, and partners to identify and implement the best strategies to realize clean water goals throughout the Basin, including implementing the 2016 Lake Champlain TMDL.

Link for findings*:* *sol.lcbp.org*

Activity 15:

Title	Man-Made Chemicals and Potential Health Risks (GAO-21-37)
Lead National Program or Region	OW / GAO
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.2: Provide for Clean and Safe Water
Completion date	March 2021

Purpose and brief description: Beginning in the 1940s, scientists developed a class of heat- and stain-resistant chemicals—PFAS—that are used in a wide range of products, including nonstick cookware, waterproof clothing, and some firefighting foams. PFAS can persist in the environment for decades or longer. The Centers for Disease Control and Prevention has found that most people in the U.S. have been exposed to two of the most widely studied PFAS, likely from consuming contaminated water or food. According to EPA, there is evidence that continued exposure above certain levels to PFAS may lead to adverse health effects. In February 2019, EPA issued its PFAS Action Plan, which outlined 23 planned actions to better understand PFAS and reduce their risks to the public. GAO was asked to examine the status of regulatory-related actions in EPA's plan.

Policy, programmatic, and/or operational questions the activity is intended to address: For six regulatory-related actions GAO selected in EPA's PFAS Action Plan, this report examined (1) the number of actions that are complete and the steps EPA took to complete them and (2) the number of actions that are ongoing and EPA's progress toward completing them. GAO first identified those actions in the PFAS Action Plan that may lead to the issuance of federal regulations or could affect compliance with existing regulations. GAO then assessed the status of the actions by reviewing EPA documents and examining EPA's response to related FY 2020 National Defense Authorization Act requirements.

Brief list of results/conclusions/findings: The Environmental Protection Agency (EPA) has completed four of six selected regulatory-related actions for addressing per- and polyfluoroalkyl substances (PFAS) outlined in EPA's PFAS Action Plan. For three of the four completed actions, the steps EPA took were also in response to the National Defense Authorization Act for Fiscal Year 2020 (FY 2020 NDAA):

- After proposing a supplemental significant new use rule in February 2020, EPA met a June 2020 deadline set in the FY 2020 NDAA when the EPA Administrator signed the final rule. Among other things, under the final rule, articles containing certain PFAS as a surface coating, and carpet containing certain PFAS, can no longer be imported into the U.S. without EPA review.

- EPA incorporated 172 PFAS into the Toxics Release Inventory in June 2020. The FY 2020 NDAA directed EPA to take this action, extending EPA's original planned action to explore data for listing PFAS chemicals to the inventory.

- In March 2021, EPA completed a third regulatory-related action, not required under the FY 2020 NDAA EPA published final determinations to regulate two contaminants, perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA), in drinking water. With the final Regulatory Determinations for PFOA and PFOS, EPA is moving forward to implement the national primary drinking water regulation development process for these two PFAS. The Regulatory Determinations also outline avenues that the agency is considering to further evaluate additional PFAS chemicals and provide flexibility for the agency to consider groups of PFAS as supported by the best available science.
- In March 2021, EPA published a proposed rulemaking for a nationwide drinking water monitoring rule that includes PFAS; The proposed fifth Unregulated Contaminant Monitoring Rule (UCMR 5). The proposed UCMR 5 addressed a key NDAA requirement for EPA to include all PFAS in UCMR 5 for which a drinking water method has been validated by the Administrator, and that are not subject to a national primary drinking water regulation. The proposed UCMR 5 would provide new critically needed data to improve EPA's understanding of the occurrence of 29 PFAS in the nation's drinking water systems and at what levels.

How EPA used the results/conclusions/findings: Two of the six selected regulatory-related actions are ongoing, and EPA's progress on these actions varies. For example:
As of October 2021, EPA intends to finalize the UCMR 5 by December 2021. The final rule would require sample collection between 2023 and 2025.

EPA planned to continue the regulatory process for designating two PFAS as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act, would allow the agency to require responsible parties to conduct or pay for cleanup. On January 14, 2021, EPA issued an advance notice of proposed rulemaking for the hazardous substances designation to get public comment and data to inform the agency's ongoing evaluation of the two PFAS.

Link for findings*: https://www.gao.gov/products/gao-21-37*.

Activity 16:

Title	Drinking Water: EPA Could Use Available Data to Better Identify Neighborhoods at Risk of Lead Exposure (GAO-21-78)
Lead National Program or Region	OW / GAO
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.2: Provide for Clean and Safe Water
Completion date	December 2020

Purpose and brief description: Lead in drinking water comes primarily from corrosion of service lines connecting the water main to a house or building, pipes inside a building, or plumbing fixtures. As GAO reported in September 2018, the total number of lead service lines in drinking water systems is unknown, and less than 20 of the 100 largest water systems have such data publicly available. GAO was asked to examine the actions Environmental Protection Agency's (EPA) and water systems are taking to educate the public on the risks of lead in drinking water.

Policy, programmatic, and/or operational questions the activity is intended to address: This report examines, among other things: (1) the extent to which neighborhood data on cities served by lead service lines can be used to focus lead reduction efforts; and (2) actions EPA has taken to address Water Infrastructure Improvements for the Nation Act (WIIN Act) requirements, and EPA's risk communication documents. GAO conducted a statistical analysis combining geospatial lead service line and ACS data to identify characteristics of selected communities; reviewed legal requirements and EPA documents; and interviewed EPA officials.

Brief list of results/conclusions/findings: GAO's statistical analysis indicates that areas with older housing and vulnerable populations (e.g., families in poverty) have higher concentrations of lead service lines in the selected cities GAO examined. By using geospatial lead service line data from the selected water systems and geospatial data from the U.S. Census Bureau's American Community Survey (ACS), GAO identified characteristics of neighborhoods with higher concentrations of lead service lines. EPA guidance for water systems on how to identify the location of sites at high-risk of having lead service lines has not been updated since 1991 and many water systems face challenges identifying areas at risk of having lead service lines. By developing guidance for water systems that outlines methods for identifying high-risk locations using publicly available data, EPA could better ensure that public water systems test water samples from locations at greater risk of having lead service lines and identify areas with vulnerable populations to focus lead service line replacement efforts.

GAO made four recommendations, including that EPA (1) develop guidance for water systems on lead reduction efforts, (2) should incorporate use of ACS data on neighborhood characteristics potentially associated with the presence of lead service lines and geospatial lead data, when available, (3) develop a strategic plan that meets the WIIN Act targeted outreach education, technical assistance, and risk communication to populations affected by the

concentration of lead in public water systems requirement, and (4) establish a time frame for publishing new risk communication guidance or updating existing risk communication manuals. In regard to recommendation (1) EPA indicated that the agency intends to develop implementation guidance for preparation of the Lead Service Line Replacement plan, which is included in the Lead and Copper Rule Revision, and will consider, as appropriate, the data sources recommended by GAO. (2) EPA indicated that the agency agrees with GAO that demographic data and geospatial or other data on the location of lead service lines can be helpful resources, (3) EPA disagreed with the recommendation. EPA stated that it believes the agency has already developed a strategic plan that meets the WIIN Act requirement, through its June 2017 "Strategic Plan for Targeted Outreach to Populations Affected By Lead" and complementary actions required by the Lead and Copper Rule (LCR), and (4) EPA agreed with the recommendation to establish a time frame for publishing new risk communication guidance or updating existing risk communication manuals and has taken action to do so. Specifically, in April 2021, EPA updated its risk communication website: http://www.epa.gov/risk-communication with several new Agency-wide guidance documents.

GAO continues to believe the recommendations are warranted, as discussed in the report.

How EPA used the results/conclusions/findings: EPA has taken some actions to address the WIIN Act requirement, which include developing a strategic plan regarding lead in public water systems. However, EPA's published plan did not satisfy the statutory requirement that the agency's strategic plan address targeted outreach, education, technical assistance, and risk communication undertaken by EPA, states, and public water systems. For example, the plan does not discuss public education, technical assistance or risk communication. Instead, EPA's plan focused solely on how to notify households when EPA learns of certain exceedances of lead in their drinking water. Moreover, EPA's plan is not consistent with leading practices for strategic planning. For example, EPA's plan does not set a mission statement or define long-term goals. Developing a strategic plan that meets the statutory requirement and fully reflects leading practices for strategic planning would give EPA greater assurance that it has effectively planned for how it will communicate the risks of lead in drinking water to the public.

EPA is developing guidance for systems to create, update and improve lead service line inventories. This guidance will include information about best practices for identifying neighborhoods at risk of lead exposure.

Link for findings*:* https://www.gao.gov/products/gao-21-78.

Activity 17:

Title	Chemical Security: Overlapping Programs Could Better Collaborate to Share Information and Identify Potential Security Gaps (GAO-21-12)
Lead National Program or Region	OW (Recommendation 7) / GAO

FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.2: Provide for Clean and Safe Water
Completion date	January 2021

Purpose and brief description: Facilities with hazardous chemicals could be targeted by terrorists to inflict mass casualties or damage. Federal regulations applicable to chemical safety and security have evolved over time as authorizing statutes and regulations established programs for different purposes, such as safety versus security, and with different enforcement authorities. GAO has reported that such programs may be able to achieve greater efficiency where overlap exists by reducing duplication and better managing fragmentation. GAO was asked to review issues related to the effects that overlap, duplication, and fragmentation among the multiple federal programs may have on the security of the chemical sector.

Policy, programmatic, and/or operational questions the activity is intended to address: This report addressed the extent to which (1) such issues may exist between Chemical Facility Anti-Terrorism Standards (CFATS) and other federal programs, and (2) the CFATS program collaborates with other federal programs. GAO analyzed the most recent available data on facilities subject to nine programs from Department of Homeland Security's (DHS), Environmental Protection Agency (EPA), Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF), and Department of Transportation (DOT); reviewed and analyzed statutes, regulations, and program guidance; and interviewed agency officials.

Brief list of results/conclusions/findings: Eight federal programs addressing chemical safety or security from four departments or agencies that GAO reviewed contain requirements or guidance that generally align with at least half of the DHS 18 CFATS program standards. At least 550 of 3,300 (16 percent) facilities subject to the CFATS program are also subject to other federal programs. Analyses of CFATS and these eight programs indicate that some overlap, duplication, and fragmentation exists, depending on the program or programs to which a facility is subject. For example,

- six federal programs' requirements or guidance indicate some duplication with CFATS. CFATS program officials acknowledge similarities among these programs' requirements or guidance, some of which are duplicative, and said that the CFATS program allows facilities to meet CFATS program standards by providing information they prepared for other programs.
- more than 1,600 public water systems or wastewater treatment facilities are excluded under the CFATS statute, leading to fragmentation. While such facilities are subject to other programs, those programs collectively do not contain requirements or guidance that align with four CFATS standards. According to DHS, public water systems and wastewater treatment facilities are frequently subject to safety regulations that may have some security value, but in most cases, these facilities are not required to implement security measures commensurate to their level of security risk, which may lead to potential security gaps.

The departments and agencies responsible for all nine of these chemical safety and security programs—four of which are managed by DHS, three by EPA, and one each managed by ATF and DOT—have previously worked together to enhance information collection and sharing in response to Executive Order 13650, issued in 2013. This Executive Order directed these programs to take actions related to improving federal agency coordination and information sharing.

However, these programs have not identified which facilities are subject to multiple programs, such that facilities may be unnecessarily developing duplicative information to comply with multiple programs. Although CFATS allows facilities to use information they prepared for other programs, CFATS program guidance does not specify what information facilities can reuse. Finally, DHS and EPA leaders acknowledged that there are differences between CFATS requirements and the security requirements for public water systems and wastewater treatment facilities, but they have not assessed the extent to which potential security gaps may exist. By leveraging collaboration established through the existing Executive Order working group, the CFATS program and chemical safety and security partners would be better positioned to minimize unnecessary duplication between CFATS and other programs and better ensure the security of facilities currently subject to fragmented requirements

GAO made seven recommendations, including that DHS, EPA, ATF, and DOT identify facilities subject to multiple programs; DHS clarify guidance; and DHS and EPA assess security gaps. Agencies generally agreed with six; EPA did agree with the recommendation on gaps.

The EPA should collaborate with the DHS's Cybersecurity and Infrastructure Security Agency (CISA) to assess the extent to which potential security gaps exist at water and wastewater facilities and, if gaps exist, develop a legislative proposal for how best to address them and submit it to the Secretary of Homeland Security and Administrator of EPA, and Congress, as appropriate. (Recommendation 7). The EPA did concur with this recommendation.

How EPA used the results/conclusions/findings: EPA concurred with the recommendation to collaborate with partners and establish an ongoing process to identify the extent to which facilities the Agency regulates are also covered by the CFATS program. EPA believes that the GAO report provides a rigorous current assessment of this overlap. EPA will continue to collaborate with DHS CFATS program officials in the future to identify opportunities to refine the GAO analysis. EPA also concurs with the recommendation to collaborate with DHS's Cybersecurity and Infrastructure Security Agency to assess whether security gaps exist at water and wastewater facilities and, if gaps are identified, consider legislative options for how best to address them.

Link for findings*: https://www.gao.gov/products/gao-21-12*.

Activity 18:

Title	Private Water Utilities: Actions Needed to Enhance Ownership Data (GAO-21-291)
Lead National Program or Region	OW / GAO
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.2: Provide for Clean and Safe Water
Completion date	March 2021

Purpose and brief description: The roughly 50,000 drinking water utilities in the United States face steep costs—more than $470 billion over the next 20 years, according to EPA estimates—to repair and replace drinking water infrastructure. These costs are passed on to customers through water rates. States regulate the rates charged by privately owned water utilities. EPA has responsibilities to implement programs to further the health protection objectives of the Safe Drinking Water Act. GAO was asked to review private for-profit drinking water utilities and rates

Policy, programmatic, and/or operational questions the activity is intended to address: This report examines, among other things, (1) information available from EPA and other sources about the number and characteristics of private for-profit water utilities in the United States, and (2) Drinking Water SRF assistance provided to private for-profit water utilities. GAO reviewed EPA SDWIS data, Drinking Water SRF data, and Global Water Intelligence data, as well as EPA's and others' documents. GAO also interviewed EPA and water utility stakeholders

Brief list of results/conclusions/findings: GAO found available information on private for-profit drinking water utilities shows that 14 publicly traded companies served customers in 33 states in 2019. However, the Environmental Protection Agency's (EPA) primary source of publicly available information on U.S. drinking water utilities—the Safe Drinking Water Information System (SDWIS)—contains ownership information that is limited by inaccuracies. EPA collects information in SDWIS from states but does not include definitions for utility ownership types in its data entry guidance. In addition, EPA takes actions to verify some of the data, but does not verify or correct ownership data. EPA and others use SDWIS for purposes such as analyzing Safe Drinking Water Act violations by type of utility ownership. Such analysis can help EPA and states build utility capacity to provide safe drinking water. By defining ownership types, and verifying and correcting the data in SDWIS, EPA could help ensure the data are accurate and reliable for users of the data and the public. EPA provided over $500 million in Drinking Water State Revolving Fund (SRF) assistance to for-profit utilities for 226 projects to help ensure delivery of safe drinking water from January 2010 through June 2020. EPA's Drinking Water SRF program, created under the Safe Drinking Water Act, provides grants to states for low- or no-interest loans or grants to drinking water utilities for infrastructure projects. The amount provided to for-profit water utilities is small, about 2 percent of the $26.5 billion provided overall from January 2010 through June 2020.

How EPA used the results/conclusions/findings: As noted on page 69 of this OIG report, EPA is planning on implementing this recommendation as part of SDWIS Modernization. The SDWIS Modernization design and development phase initiated in September 2021.

Link for findings*:* https://www.gao.gov/assets/gao-21-291.pdf

Activity 19:

Title	OIG - EPA's 2018 BEACH Act Report to Congress Does Not Fully Meet Statutory Requirements - Report No. 20-E-0246
Lead National Program or Region	OW / OIG
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.2: Provide for Clean and Safe Water
Completion date	August 2021

Purpose and brief description: In their January 2018 report, the OIG found that the EPA had not reported to Congress on BEACH Act progress as statutorily required.

Policy, programmatic, and/or operational questions the activity is intended to address: OIG conducted this follow-up evaluation to determine whether the U.S. Environmental Protection Agency adequately implemented corrective actions in response to a previous Office of Inspector General report, EPA Has Not Reported to Congress on BEACH Act Progress as Statutorily Required or Fully Documented Budget Decisions, Report No. 18-P-0071, issued January 18, 2018. Specifically, OIG evaluated whether the EPA submitted the mandated reports to Congress regarding the Agency's progress under the Beaches Environmental Assessment and Coastal Health Act of 2000.

The BEACH Act amended the Clean Water Act to improve the quality of coastal recreation waters and for other purposes, including to protect human health. Under the Act, the EPA is required to submit reports every four years to Congress. The OIG found that the EPA had not reported to Congress on BEACH Act progress as statutorily required.

Brief list of results/conclusions/findings: The OIG recommended that the EPA submit the mandated reports to Congress. As part of its corrective actions in response to our January 2018 report recommendations, the EPA issued a BEACH Act report to Congress in July 2018.

In the course of this follow-up evaluation, OIG found that the EPA's 2018 report to Congress does not fully meet the reporting requirements of the BEACH Act and the Plain Writing Act of 2010. The report also does not adhere to federal internal control principles.

Specifically:

• The report does not evaluate federal and local efforts to implement the BEACH Act.
• Although the report lists recommendations for additional water quality criteria and improved monitoring methodologies, communication of these recommendations could be improved by using plain language principles, which would help readers to more easily understand the recommendations.
• The report recommendations do not specify who needs to take action or what the barriers to implementation are.

In addition, the OIG concluded that the EPA's Office of Water staff did not reach out to congressional staff members to inquire about what information Congress needs from the Agency to make informed decisions regarding the BEACH Act program. By issuing a report that did not fully meet the requirements of the BEACH and Plain Writing acts, the EPA missed the opportunity to provide Congress with the information needed for effective decision-making.

OIG continues to conclude that the 2018 Report to Congress did not meet all BEACH Act 20-E-0246 10 reporting requirements and that the report is subject to the Plain Writing Act. They disagree with the Agency's assessment.

How EPA used the results/conclusions/findings: The Agency disagreed with the OIG's recommendations and did not provide acceptable corrective actions and planned completion dates. The two recommendations are therefore unresolved with resolution efforts in progress.

On June 5, 2020, the assistant administrator for Water provided us with written comments on a draft report. Within those comments, the agency requested that the OIG withdraw the report. The OIG declined this request. On June 18, 2020, the OIG met with the deputy assistant administrator for Water, as well as with Office of Water managers and staff, to discuss their concerns about our draft report. On June 30, 2020, the Office of Water provided additional information and proposed changing recommendation language. OIG met again with the deputy assistant administrator for Water and Office of Water managers and staff on July 8, 2020, to discuss this additional information.

Link for findings*:*
https://www.epa.gov/sites/default/files/2020-08/documents/_epaoig_20200813-20-e-0246.pdf

Activity 20:

Title	OIG - EPA Needs an Agencywide Strategic Action Plan to Address Harmful Algal Blooms - Report No. 21-E-0264
Lead National Program or Region	OW / OIG
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.2: Provide for Clean and Safe Water

Completion date	September 2021

Purpose and brief description: The OIG conducted this evaluation to determine how the EPA is exercising its authority under the Clean Water and Safe Drinking Water Acts to address harmful algal blooms and protect human health and the environment.

Harmful algal blooms impact our nation's recreational and drinking waters. They occur when, among other conditions, high levels of nutrients—nitrogen and phosphorus—pollute rivers, lakes, and reservoirs. These nutrients reach bodies of water from sources such as livestock operations; fertilizer runoff from farm fields, lawns, and gardens; urban stormwater; and industrial and municipal discharges.

The OIG concluded that EPA does not have an agencywide strategy for addressing harmful algal blooms, despite Congress appointing the EPA administrator as the leader for federal actions focused on reducing, mitigating, and controlling freshwater HABs.

Policy, programmatic, and/or operational questions the activity is intended to address: OIG recommended that EPA develop an agencywide strategic action plan to describe the EPA's efforts to maintain and enhance a national program to forecast, monitor, and respond to freshwater HABs. This plan should incorporate strategies for (1) closing identified knowledge gaps; (2) monitoring and tracking HABs; (3) enhancing the EPA's leadership role in addressing freshwater HABs; (4) coordinating EPA activities internally and with states; and (5) establishing additional criteria, standards, and advisories, as the scientific information allows. The OIG also recommended that the EPA establish new nutrient numeric water quality criteria recommendations under the Clean Water Act in lakes, reservoirs, rivers, and streams and determine whether additional actions under the Safe Drinking Water Act are warranted.

Brief list of results/conclusions/findings: The OIG concluded that by developing an agencywide HAB strategy, the EPA can improve in four strategic planning areas: (1) purpose, scope, and methodology; (2) problem definition and risk assessment; (3) organizational roles, responsibilities, and coordination; and (4) integration and implementation. The OIG also concluded that by creating an agencywide HAB strategy that addresses these planning areas, that the EPA can reduce HABs and their impacts on human health and the environment using the authorities and tools provided by the Clean Water and Safe Drinking Water Acts. The OIG concluded that the EPA has not fulfilled its 2015 commitment to Congress to develop additional drinking water health advisories for cyanotoxins associated with some blooms as information became available. In addition, the EPA needs to take further action to develop revised nitrogen and phosphorus numeric water quality criteria recommendations for states to adopt to better control levels of these nutrients in water bodies.

How EPA used the results/conclusions/findings: EPA completed actions to meet Recommendation 2 in August 2021 by finalizing the final numeric water quality criteria recommendations for lakes and reservoirs. EPA also provided acceptable corrective actions and planned completion dates for Recommendations 1 and 4. The OIG concluded that EPA's

proposed corrective action does not meet the intent of Recommendation 3. OIG met with EPA staff and managers on September 7, 2021, to discuss Recommendation 3. On September 20, 2021, the deputy assistant administrator for Water provided by email a corrective action for Recommendation 3, stating that the "EPA will develop a strategic plan to explore the potential for new or revised numeric nutrient criteria," with an estimated completion date of December 30, 2022. The OIG does not accept this corrective action as it does not commit the agency to establishing a plan, including milestones and identification of resource needs, for developing and publishing final numeric water quality criteria recommendations for nitrogen and phosphorus for rivers and streams. The agency also provided technical comments, the updated the report where appropriate.

Link for findings*:* https://www.epa.gov/system/files/documents/2021-09/_epaoig_20210929-21-e-0264.pdf

Activity 21:

Title	OIG - EPA Helps States Reduce Trash, Including Plastic, in U.S. Waterways but Needs to Identify Obstacles and Develop Strategies for Further Progress (21-P-0130)
Lead National Program or Region	OW / OIG
FY 2018-2022 Strategic Goal and Objective supported	Strategic Goal 1: A Cleaner, Healthier Environment Strategic Objective 1.2: Provide for Clean and Safe Water
Completion date	May 2021

Purpose and brief description: OIG conducted this audit to identify the extent to which the U.S. Environmental Protection Agency's existing Clean Water Act programs and Office of Research and Development initiatives address threats and risks to public health and the environment from trash, including plastic, within the waters of the United States.

This report focuses on audit findings related to the Office of Water's Clean Water Act programs. OIG issued Report No. 21-N-0052 on January 6, 2021, to summarize our audit findings related to the Office of Research and Development's initiatives. Improperly handled trash, which includes plastic, can enter fresh water and marine ecosystems, thereby posing risks to human health and the environment.

The report concluded EPA and states have not widely applied all the tools established by the Clean Water Act to reduce the trash, including plastic, in U.S. waterways.

Policy, programmatic, and/or operational questions the activity is intended to address: This audit addresses "Ensuring clean and safe water" and a key EPA management challenge of "Overseeing states implementing EPA programs".

EPA and states can reduce the volume of trash, including plastics, in U.S. waterways by evaluating barriers to implementing the Clean Water Act and developing strategies to overcome those barriers.

EPA can further improve its efforts to reduce trash, including plastic, in U.S. waterways by evaluating the regulatory and nonregulatory obstacles facing states and municipalities and by continuing its support of trash-reduction initiatives.

Brief list of results/conclusions/findings: The OIG made three recommendations to the assistant administrator for Water:
1) Evaluate the obstacles to implementing the Clean Water Act to control trash in U.S. waterways and provide a public report describing those obstacles.
2) Develop and disseminate strategies to states and municipalities for addressing the obstacles identified in the evaluation.
3) Support state and local municipalities' efforts to control trash through National Pollutant Discharge Elimination System permits for municipal separate sewer systems by publishing guidance documents such as the Trash Stormwater Permit Compendium and the U.S. EPA Escaped Trash Assessment Protocol.

How EPA used the results/conclusions/findings: The EPA agreed with the recommendations and proposed acceptable corrective actions and estimated completed dates. Recommendations 1 and 2 are resolved with corrective actions pending, and Recommendation 3 is completed.

Link for findings*:*
https://www.epa.gov/sites/default/files/2021-05/documents/_epaoig_20210511-21-p-0130.pdf