FY 2024 EPA Annual Performance Report (APR)
Evidence and Evaluation Summaries

Section 1: FY 2024 EPA Program Evaluations

Goal 5

Lead Office	Office of Water/Region 3
Title	Charting a Course Beyond 2025
Link to EPA Strategic Plan	Goal 5: Ensure Clean and Safe Water for All Communities Objective 5.2: Protect and Restore Waterbodies and Watersheds
Completion Date	September 2024

Purpose and brief description: In 2022, the Chesapeake Bay Program's (CBP) Chesapeake Executive Council (EC) charged the CBP Principals' Staff Committee (PSC) with recommending a critical path forward that prioritizes and outlines the next steps for meeting the goals and outcomes of the 2014 Chesapeake Bay Watershed Agreement (2014 Agreement) leading up to and beyond 2025. A Beyond 2025 Steering Committee (Steering Committee) was created in the summer of 2023, and met regularly in FY 2024 towards this goal. To develop its recommendations, the Steering Committee conducted a broad program evaluation in FY 2024, which was completed in September 2024.

Question(s) that were addressed: Questions addressed in FY 2024 included:

- What are the existing and emerging challenges that the CBP will need to address beyond 2025 to be able to meet its goals and objectives?
- How will these challenges affect the CBP's ability to meet its goals and objectives?
- How can these challenges be prioritized by the CBP to ensure resources are being used most cost-effectively?
- To what extent do stakeholders feel the CBP has listened to their needs?
- To what extent does the CBP logic model reflect actual operations?

Conclusions and/or (interim) findings: The material and recommendations produced by the program evaluation were compiled in a Steering Committee Report. The report's recommendations will inform a programmatic charge from the EC that will direct the PSC, and thus CBP, to implement two key recommendations:

Executive Council Recommendation #1: The Beyond 2025 Steering Committee recommends that the Chesapeake Executive Council affirm its continued commitment to meet the goals of the Chesapeake Bay Watershed Agreement and direct the Principals' Staff Committee to propose specific amendments necessary to effectively implement the Watershed Agreement.

Executive Council Recommendation #2: The Beyond 2025 Steering Committee recommends strengthening the Chesapeake Bay Program by identifying ways to simplify and streamline the partnership's structure and processes, including potential changes to the Chesapeake Bay

Program's Governance and Management Framework to ensure that partner commitments can be met.

Use of the conclusions and/or (interim) findings: The recommendations that will be presented to the EC in December 2024 constitute the completion of Phase 1 of the Beyond 2025 process, and dovetail into additional work for Phase 2 of the Beyond 2025 process taking place in FY 2025 and FY 2026.

Phase 2 will resolve the following questions:

1. To address Strategy - What specific amendments are necessary to effectively implement the 2014 Watershed Agreement?
2. To address Structure - What changes are necessary to the Chesapeake Bay Program's structure and operational processes?
3. To address Governance - What specific modifications are necessary to the Chesapeake Bay Program's Governance and Management Framework?

Link to findings: Chesapeake Bay Program Beyond 2025

Lead Office	Office of Water/Region 3
Title	FY 2024 EPA Annual Assessment of the Jurisdictions' Progress toward Meeting the Chesapeake Bay Total Maximum Daily Load (Bay TMDL).
Link to EPA Strategic Plan	Goal 5: Ensure Clean and Safe Water for All Communities Objective 5.2: Protect and Restore Waterbodies and Watersheds
Completion Date	May 2024

Purpose and brief description: Through the 2014 Chesapeake Bay Watershed Agreement, the Chesapeake Bay Program is committed to having 100 percent of pollutant reduction practices in place that would achieve all the nitrogen, phosphorus, and sediment reductions necessary to meet the goals outlined in the Bay Total Maximum Daily Loads (TMDLs) by 2025. These estimates are generated by the Chesapeake Assessment Scenario Tool (CAST) and are derived from land use data, implementation and effectiveness of best management practices, and the most up-to-date water quality monitoring data. The Chesapeake Bay Program assesses water quality using three parameters: dissolved oxygen, chlorophyll a (a measure of algae growth) and water clarity (using underwater grass acreage).

Question(s) that were addressed: The seven watershed jurisdictions, in coordination with local governments, businesses, non-governmental organizations, and individuals, have each installed pollutant-reducing best management practices (BMPs) to lower the amount of nitrogen, phosphorus and sediment entering the Chesapeake Bay. The BMPs reported by the seven watershed jurisdictions, along with land use, manure, and fertilizer information, are entered into a suite of modeling tools to estimate the progress that each jurisdiction is making towards meeting their individual nitrogen, phosphorus, and sediment goals as outlined in the Bay TMDL. By incorporating the best available data into the computer simulations and pollution load estimates, EPA can more accurately track the jurisdictions' progress toward their pollutant reduction goals. Assessing the progress that each jurisdiction is making toward reducing nitrogen, phosphorus and sediment pollution entering the Chesapeake Bay and local waterways

gives EPA, and the larger partnership, a more holistic view of how BMP installation and improved management actions are helping to improve Bay water quality.

Conclusions and/or (interim) findings: Each year, EPA evaluates progress towards achieving the goals as outlined in the Bay TMDL. As of 2023, the BMPs in place to reduce pollutants are estimated to achieve 57 percent of the nitrogen reductions, 67 percent of the phosphorus reductions, and 100 percent of the sediment reductions needed to attain applicable water quality standards when compared to the 2009 loads. According to CAST, BMPs put in place in the Chesapeake Bay watershed between 2009 and 2023 are estimated to lower nitrogen loads 16.9 percent, phosphorus loads 17.3 percent, and sediment loads 5.8 percent, compared to 2009. As modeled based on the implementation of BMPs, the sediment load reductions have met the established target, and nitrogen and phosphorus loads have decreased from 2022 to 2023, constituting an increase in overall progress.

Use of the conclusions and/or (interim) findings: EPA uses these estimates to evaluate whether jurisdictions are on track to meet the reduction goals as reflected in the Bay TMDL, the Watershed Implementation Plans, and two-year milestones, and whether increased levels of oversight are needed in order to assist the jurisdictions in meeting their water quality goals. Funding and technical assistance is targeted towards those sectors (e.g., agriculture or stormwater) that may be off track.

Link to findings: 2025 Watershed Implementation Plans (WIPs)

Lead Office	Office of Water (OW)
Title	FY 2025 Program Implementation Evaluations in response to GAO Report 18-410: Long Island Sound Restoration: Improved Reporting and Cost Estimates Could Help Guide Future Efforts.
Link to EPA Strategic Plan	Goal 5: Ensure Clean and Safe Water for All Communities Objective 5.2: Protect and Restore Waterbodies and Watersheds
Completion Date	December 31, 2025

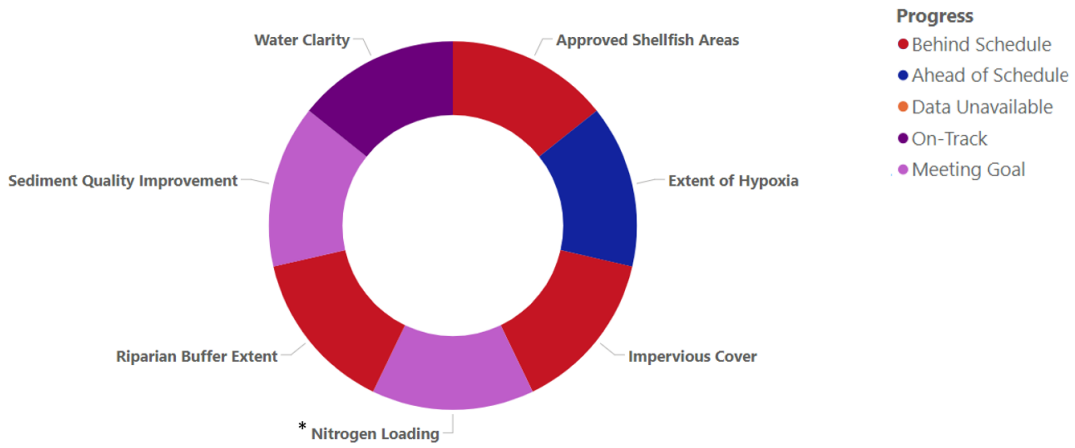
Purpose and brief description: The purpose of this evaluation is for the EPA to meet the statutory requirement under the Clean Water Act Section 119, which calls for the Long Island Sound Office to issue biennial reports to Congress summarizing the progress made in the implementation of Comprehensive Conservation and Management Plans (CCMPs), any modifications to the CCMPs, and recommendations concerning the CCMPs. To accomplish this, the program will use grant progress report data that is entered into an internal agency SharePoint site. That data is for the comparison of intended versus actual performance metrics in accomplishing the targets and actions of CCMPs. The EPA will also evaluate progress in attaining ecosystem targets, quantifiable outcomes from individual actions. Data on ecosystem targets will be collected from several sources, including monitoring and project assessments.

Question(s) that were addressed: The Long Island Sound online reporting and tracking system is complete and in full use by the Study. Data is added to the system approximately every six months to allow the Study to evaluate progress towards goal implementation. The online reporting and tracking system address the leading practice of reporting recommended by the

GAO, which is to evaluate actions to support outcome goals. By tracking ecosystem targets and implementation actions, the Study will be able to respond to the following questions:
1) Are goals being met?
2) If not, why not?
3) What adjustments to action plans are needed to achieve the goals?

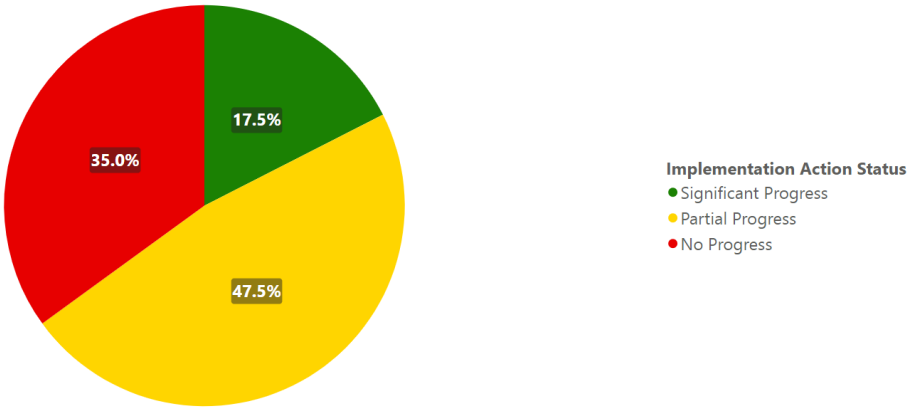
Conclusions and/or (interim) findings: The EPA consolidates data on an EPA SharePoint Power BI application. This application is accessible to agency staff. The public version of the Long Island Sound Study online reporting and tracking system is available at: Long Island Sound Study. The results and conclusions are included in reports to Congress submitted every two years. The next report will be incorporated in the revised 2025 CCMP, which will be completed in early 2025. An example analysis for the Clean Waters and Healthy Watersheds goal is provided below.

Clean Waters and Healthy Watersheds: Out of the seven Ecosystem Targets under the Clean Waters and Healthy Watersheds theme, one is ahead of schedule (Extent of Hypoxia), two are meeting goals (Sediment Quality Improvement and Nitrogen Loading), one is on-track (Water Clarity), and three are behind schedule (Approved Shellfish Area, Riparian Buffer Extent, and Impervious Cover) (Figure 1). Some targets, such as the extent of hypoxia, were readily quantifiable with robust monitoring programs in place. There were challenges to meeting other targets that were subject to many variables outside of program management. To illustrate this point, the Long Island Sound Study (Office?) could easily track nitrogen loading but had difficulty quantifying changes in nonpoint source loading (where data remains unavailable).



* Nitrogen Loading – 2017 Target for point source loading has been met; Data is not available for the 2025 Goal relative to NPS and Stormwater N loading.

Out of the 40 IAs supporting the targets, 17.5 percent had significant progress, 47.5 percent had partial progress, and 35 percent had no progress (Figure 2). The status of the 12 priority IAs are listed in Table 1 on the next page.


17.5%
35.0%
47.5%
Implementation Action Status
Significant Progress
Partial Progress
No Progress

IA Number	Implementation Action Title	Status
WW-2	Continue to collaborate with municipalities, local partners and stakeholders to strategically plan for and implement capital improvements, Best Management Practices (BMPs), and improved operation and maintenance to mitigate point and nonpoint source pollution loadings, incorporating the analysis of potential future changes in loading (WW1).	S
WW-7	Enhance implementation of the 2000 Dissolved Oxygen TMDL, particularly for nonpoint sources.	P
WW-8	Conduct studies and research to better understand the ecosystem's response to nitrogen reductions to support an evaluation of the 2000 Dissolved Oxygen TMDL.	N
WW-10	Develop a nonpoint source and stormwater tracking system tool for the Long Island Sound watershed.	P
WW-12	Improve understanding, management, design, and implementation of denitrifying decentralized and residential, on-site wastewater treatment systems.	P
WW-13	Improve efficiency and resiliency of existing/new waste treatment systems including septic, WWTF and stormwater infrastructure to be resilient to sea level rise, storm surge, and intense storms and flooding.	P
WW-15	Increase permanent land protection of riparian corridors and wetland buffers at the municipal level.	N
WW-16	Promote establishment and protection of riparian corridors and wetland buffers at the municipal level through development of local ordinances.	N
WW-25	Evaluate challenges to implementation of bioextraction in Long Island Sound, including use conflicts, economic viability, permitting and testing requirements and potential environmental impacts, and make recommendations to overcome them.	P
WW-27	Improve ability of models and/or studies to estimate contaminant and nutrient loads to embayments and evaluate the effectiveness of remedial actions.	P
WW-28	Maintain and enhance the management utility of water quality monitoring of watershed nutrient loads and ecosystem responses to Long Island Sound and its embayments.	S
WW-32	Improve the monitoring needed to assess the risk of climate change impacts including acidification on water quality.	S

Use of the conclusions and/or (interim) findings: The use of the findings is to evaluate whether program goals are being met, and if not, adjust action plans as needed to achieve the goals. The program is using the results to revise the CCMP for 2025. The revised plan will include new objectives and actions based in part on the evaluation findings.

Link to findings: The public version of the LISS online reporting and tracking system is available at: Long Island Sound Study. The current evaluation is still in preparation. The report will be posted upon completion and a link will be added when the report is made available.

Lead Office	Office of Water (OW)
Title	Program Evaluation of Habitat Restoration Practices and Tools in the Gulf of Mexico Watershed
Link to EPA Strategic Plan	Goal 5: Ensure Clean and Safe Water for All Communities Objective 5.2: Protect and Restore Waterbodies and Watersheds
Completion Date	November 2024

Purpose and brief description: The purpose of the evaluation is to assess progress made toward restoring, enhancing, or protecting habitats in the Gulf of Mexico watershed. The evaluation of progress examines the outputs reported by recipients of assistance agreements, as well as staff led efforts centering around the following: projects or activities on agricultural lands; and projects or activities involving watershed-based non-agricultural approaches which also support the use of nutrient management and reduction practices and tools. To quantifiably assess progress, EPA will track and report quarterly on habitat acres restored, enhanced, or protected on the Gulf of Mexico SharePoint page. Staff led or supported efforts yielding acres also contribute to the overall reporting of data.

Question(s) that were addressed:

- Are quantifiable goals attained?
- If not, why not?
- What adjustments to action plans are needed to achieve the goals?

Conclusions and/or (interim) findings: The Gulf of Mexico Division's data are reported quarterly through assistance agreements and staff led efforts. To review and verify data, EPA has a two-month quality control and assurance process that follows the quarterly reporting. To that end, FY 2024 final data will be available in November. However, to date, 2,559 acres have been restored, preserved, or enhanced.

Use of the conclusions and/or (interim) findings: The Gulf of Mexico Division will use the conclusions to expand habitat restoration work throughout the Gulf of Mexico Watershed. EPA will do this by assessing geographic (reviewing the place of performance of previously funded projects), resource, and demonstrative tool gaps.

Link to findings: The Gulf of Mexico Division's data are currently stored on SharePoint. We are revamping our web presence and plan to create a StoryMap that spotlights project data.

Lead Office	Office of Water (OW)
Title	National Estuary Program
Link to EPA Strategic Plan	Goal 5: Ensure Clean and Safe Water for All Communities Objective 5.2: Protect and Restore Waterbodies and Watersheds
Completion Date	September 2024

Purpose and brief description: This program evaluation activity is focused on the National Estuary Program (NEP) as it is described in Section 320 of the Clean Water Act. The primary purpose of this program evaluation is to assist the EPA to assess the NEP's progress in achieving programmatic and environmental results through the implementation of Comprehensive Conservation and Management Plans (CCMPs). The program evaluation process is proven to be an effective and interactive management process. It ensures national program accountability and transparency while incorporating local priorities and demonstrating the value of federal investment in estuarine and coastal watershed restoration as well as in protection at the local and regional levels.

At the end of 2021 the program evaluation process was revised, and new guidance was distributed to the 28 local NEPs. In 2023, the Program Evaluation Guidance was updated to include reporting on Bipartisan Infrastructure Law accomplishments and usage of the budget, consistent with the language used in the NEP Bipartisan Infrastructure Law Implementation Memo. The individual NEPs will receive Bipartisan Infrastructure Law funding from 2022-2026, but projects may continue past those years as the funds are "no-year" non-expiring funds.

The overarching NEP evaluation process also: transfers lessons learned among individual NEPs, the EPA, and stakeholders through the sharing of case studies and transferable examples; documents the value added to environmental management by the national program and individual NEPs, including their role in convening stakeholders and in interpreting science for management; demonstrates continued stakeholder commitment; and, highlights both achievements and successes of each individual NEP as well as suggestions for continued program improvements.

Question(s) that were addressed:

- Can EPA determine individual NEP progress in achieving programmatic and environmental results?
- Can EPA document individual NEP contributions to improving or reducing pressures on their coastal watersheds and enable individual NEPs to successfully serve as local implementation partners for the EPA programs?
- Can EPA identify areas of improvement to assist the individual NEPs in becoming stronger programs and achieving environmental results?

Aligning with Section 320 of the Clean Water Act, the program evaluation guidance and process has five program goals: (1) ensure submissions enable objective and consistent evaluations among the local NEPs; (2) ensure a consistent and transparent process to determine local NEP CCMP implementation progress; (3) further align the program evaluations with the local NEP CCMP priorities and related annual work plan goals and accomplishments; (4) determine progress in achieving programmatic and environmental results by documenting local NEP contributions to improving or reducing pressures on their coastal watersheds—this will enable individual NEPs to serve as local implementation partners for the EPA programs successfully; and (5) identify areas of improvement to assist individual NEPs in becoming stronger programs and achieving environmental results.

Seven individual NEPs were evaluated in FY2024. The evaluation process for the NEPs informs the EPA of each NEP's progress in implementing its CCMPs. It also ensures that the local NEPs deliver environmental results and are well-managed programs, so they can continue to receive annual grants from the EPA that are matched 1:1 with non-federal dollars.

Conclusions and/or (interim) findings: The NEP evaluation process runs annually, so each location is evaluated every five years (four consecutive program evaluation cycles with the fifth year off to revise the Program Evaluation Guidance). The program evaluation process uses a two-category determination for each location of either Proficient or Progressing, as defined in the guidance. Proficient means an individual NEP adequately meets programmatic and environmental results. Progressing means there are missing criteria that the individual NEP needs to address before the next cycle, and a timeline will be created to address those missing elements or opportunities for improvement before the next cycle. This determination is informed by the entire program evaluation package (narrative submission, NEP Online Reporting Tool (NEPORT) data, annual work plans, and the EPA-required annual end-of-year reports), on-site visits, and discussions with the NEP under review. All seven local NEPs reviewed in 2024 received a Proficient determination.

Use of the conclusions and/or (interim) findings: During this timeframe, the EPA developed a report summarizing the results of the nine NEP program evaluations conducted in 2023. Now that the 2024 evaluations are complete, a similar report will be produced during FY 2025 and posted online at National Estuary Program Reports. The program evaluation process has proven to be an effective, interactive management process that ensures national program accountability and transparency, while incorporating local priorities and considerations.

Link to findings: Information about the Progress Evaluation of the National Estuary Program is posted on the EPA's website at: Progress Evaluation of the National Estuary Program. Annual summaries of the Program Evaluation results are posted on the EPA's website at National Estuary Program Reports.

Lead Office	Office of Research and Development
Title	Evaluation of ORD's Solutions-Driven Research Pilot Projects for Wildfires and Nutrient Management
Link to EPA Strategic Plan	Goal 5: Ensure Clean and Safe Water for All Communities Objective 5.2: Protect and Restore Waterbodies and Watersheds
Completion Date	March 2024

Purpose and brief description: Solutions-driven research is a transdisciplinary approach that incorporates diverse forms of expertise to identify solutions to stakeholder-identified environmental problems. This qualitative evaluation of early solutions-driven research projects provides transferable recommendations to improve researcher and stakeholder experiences and outcomes in transdisciplinary environmental research projects. Researchers with the Office of Research and Development (ORD) recently piloted a solutions-driven research approach in two parallel projects; one addressing nutrient management related to coastal waters, and another studying wildland fire smoke impacts on indoor air quality. Studying the experiences of those involved with these pilots can enhance the integration of researcher and experiential expertise,

improving solutions-driven research outcomes. Data was collected via semi-structured interviews with 17 EPA researchers and with 12 stakeholders, as well as reflective case narratives from the authors. Conventional content analysis was used to qualitatively analyze perspectives on implementing innovative engagement and research approaches in a solutions-driven process.

Question(s) that were addressed: What can ORD learn about the effectiveness of ORD's solutions-driven research projects? How can ORD improve researcher and stakeholder experiences and outcomes in transdisciplinary environmental research projects?

Conclusions and/or (interim) findings: Findings that reflect common perspectives include the importance of continuous engagement, the challenges of differing timelines and priorities for researchers and stakeholders, and the need to define consistent markers of success across researchers and stakeholders. Key lessons to improve transdisciplinary research identified from the analysis are (1) improving clarity of roles and responsibilities; (2) planning to provide sufficient, continuous project funding over multiple years; (3) expecting research needs and plans to adapt to evolving circumstances; and (4) clearly defining the end of the project.

Use of the conclusions and/or (interim) findings: These recommendations maybe used by the ORD National Research Programs to improve the design and eventual implementation of solutions-driven research projects, as well as to potentially inform best-practices for external funding opportunities.

Link to findings:
Lessons learned and recommendations in conducting solutions-driven environmental and public health research

Goal 7

Lead Office	Office of Chemical Safety and Pollution Prevention
Title	EPA-Supported Worker Protection Standard (WPS) Training of Farmworkers
Link to EPA Strategic Plan	Goal 7: Ensure Safety of Chemicals for People and the Environment Objective 7.1: Ensure Chemical and Pesticide Safety
Completion Date	September 2024

Purpose and brief description: This study uses pre- and post-training assessments to gauge the effectiveness of this recurring training. The EPA provides funding through a five-year cooperative grant to train farmworkers in accordance with the Agricultural Worker Protection Standard (WPS) rule. WPS pesticide safety training is an annual requirement. This evaluation will track the number of individuals trained and the effectiveness of the training by assessing participant knowledge and understanding before and after the training.

Question(s) that were addressed: How many farmworkers are receiving EPA-supported annual training required under the WPS rule, and what is their knowledge of the material at completion of the course?

Conclusions and/or (interim) findings: In FY 2024, a total of 15,380 farmworkers received EPA-supported annual pesticide safety training as required under the WPS rule. This training is provided through a grant, funded by EPA. The percentage of pesticide safety content knowledge demonstrated by farmworker/trainees upon completion of EPA-supported WPS pesticide training during that year was 98%.

Use of the conclusions and/or (interim) findings: The grantee analyzed the pesticide safety content knowledge data to inform the effectiveness of their WPS trainings and make improvements as needed. Post-training survey results indicate that farmworkers continue to have a high level of understanding of the content administered in the annual WPS training.

Link to findings: Evaluation results will be made publicly available in the FY 2024 Annual Report on PRIA Implementation.

Section 2: FY 2023 Significant Evidence Building Activities

Goal 1

Lead Office	Office of Air and Radiation
Title	Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2022
Link to EPA Strategic Plan	Goal 1: Tackle the Climate Crisis Objective 1.1: Reduce Emissions that Cause Climate Change
Completion Date	April 2024

Purpose and brief description: EPA is responsible for preparing the Inventory of U.S. Greenhouse Gas Emissions and Sinks, which is submitted to the United Nations in accordance with the Framework Convention on Climate Change. This annual activity provides a comprehensive accounting of total greenhouse gas emissions from all manmade sources in the United States.

Question(s) that were addressed:

- What are the annual trends in US greenhouse gas emissions and sinks?
- How do emissions for 2022 compare to previous years and the long-term trend? What are the drivers behind any changes in trends?
- What is the relative contribution of different emission sources and greenhouse gases to climate change?

Conclusions and/or (interim) findings: In 2022, total gross U.S. greenhouse gas emissions were 6,343.2 million metric tons of carbon dioxide equivalent (MMT CO_2 Eq.). Total gross U.S. emissions decreased by 3.0 percent from 1990 to 2022, down from a high of 15.2 percent above 1990 levels in 2007. Gross emissions increased from 2021 to 2022 by 0.2 percent (14.4 MMT CO_2 Eq.). Net emissions (including sinks) were 5,489.0 MMT CO_2 Eq. in 2022. Overall, net emissions increased by 1.3 percent from 2021 to 2022 and decreased by 16.7 percent from 2005 levels as shown in Table ES-2. Between 2021 and 2022, the increase in total greenhouse gas emissions was driven largely by an increase in CO_2 emissions from fossil fuel combustion across most end-use sectors due in part to increased energy use from the continued rebound of economic activity after the height of the COVID-19 pandemic. In 2022, CO_2 emissions from fossil fuel combustion increased by 1.0 percent relative to the previous year and were 1.1 percent below emissions in 1990. Carbon dioxide emissions from natural gas use increased by 5.2 percent (84.8 MMT CO_2 Eq.) from 2021, while CO_2 emissions from coal consumption decreased by 6.1 percent (58.6 MMT CO_2 Eq.) from 2021 to 2022. The increase in natural gas consumption and associated emissions in 2022 is observed across all sectors except U.S. Territories, while the coal decrease is due to reduced use in the electric power sector. Emissions from petroleum use also increased by 0.9 percent (19.0 MMT CO_2 Eq.) from 2021 to 2022. Carbon sequestration from the Land Use, Land Use Change, and Forestry (LULUCF) sector offset 14.5 percent of total emissions in 2022.

Use of the conclusions and/or (interim) 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. EPA prepares the official U.S. Inventory of Greenhouse Gas Emissions and Sinks to fulfill annual existing commitments under the United Nations Framework Convention on Climate Change (UNFCCC).

Link to findings: Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2022 | US EPA

Lead Office	Office of Air and Radiation
Title	Climate Change Indicators in the United States
Link to EPA Strategic Plan	Goal 1: Tackle the Climate Crisis Objective 1.1: Reduce Emissions that Cause Climate Change
Completion Date	Ongoing Activity

Purpose and brief description: The United States Environmental Protection Agency's (EPA)Climate Change Indicators inform readers' understanding of climate change, specifically members of the public, scientists, analysts, decision-makers, and educators. The Climate Change Indicators can also be used 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 provide important input to the National Climate Assessment and other efforts to understand and track the science and impacts of climate change. They also provide a tool to improve communication on climate change science. By increasing understanding and improving communication, the Climate Change Indicators help inform science-based decision making.

Question(s) that were addressed: What are the observed changes in climate indicators from long-term records related to the causes and effects of climate change?

Conclusions and/or (interim) 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.

Use of the conclusions and/or (interim) 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 to findings: Climate Change Indicators in the United States

Lead Office	Office of Air and Radiation
Title	2023 EPA Automotive Trends Report
Link to EPA Strategic Plan	Goal 1: Tackle the Climate Crisis Objective 1.1: Reduce Emissions that Cause Climate Change
Completion Date	December 2023

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. The data that EPA gets from compliance and testing programs are important to the transportation and research communities for setting the baseline to inform policy and regulatory discussions.

Question(s) that were addressed: Specific questions include:

- What are the new light-duty vehicle greenhouse gas (GHG) emissions, fuel economy, and technology data?
- Does the auto manufacturers' performance meet the agency's GHG emissions standards?

Conclusions and/or (interim) findings: The report found that since 2004, CO_2 emissions decreased 27%, or 123 g/mi, and fuel economy has increased 35%, or 6.7 mpg. Manufacturers have continued to add new technology to their vehicles, with increasing penetration rates for EVs (electric vehicles), PHEVs (plug-in hybrid electric vehicles), hybrids, and advanced engine technologies. These technology trends have contributed to reduced CO_2 emissions and improved fuel economy, even as the market continues to shift towards larger vehicles. Through the model year 2022 reporting period, all large manufacturers are in compliance with the light-duty GHG program requirements.

Use of the conclusions and/or (interim) findings: The data collected as part of this report support several important national programs, including EPA's criteria for pollutant and GHG standards, the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) Corporate Average Fuel Economy (CAFE) standards, and Fuel Economy and Environment vehicle labels. 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 model year 1975, and the manufacturers' performance under EPA's GHG standards.

Link to findings: The 2023 EPA Automotive Trends Report: Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975 (EPA-420-R-23-033, December 2023)

Lead Office	Office of Research and Development
Title	ACE Research Area 5: Ecosystem Impacts of Air Pollution and Climate Change
Link to EPA Strategic Plan	Goal 1: Tackle the Climate Crisis

	Objective 1.2: Accelerate Resilience and Adaptation to Climate Change Impacts
Completion Date	September 2024

Purpose and brief description: The purpose of this activity was to increase access to historical satellite imagery at the spatial resolution required for detailed ecological research. This type of imagery was not readily available until 2014, when multiple commercial imaging satellites were in orbit. Analyses examining time periods prior to 2014 relied on high-resolution satellite imagery archives from the Global Fiducials Library (GFL). The GFL is a collection, archive, and data management component of the Global Fiducials Program (GFP).

Question(s) that were addressed: How can GFL archive imagery data connect to site description data?

Conclusions and/or (interim) findings: This activity represents the first implementation of a method to connect site descriptions with imagery time series in the GFL archive, adding critical scientific context to the previously isolated image data. This integration enables researchers and decision-makers to better understand site-specific climate change impacts and ecological processes. Findings highlighted through the StoryMap reveal key patterns and features observable from the data, such as changes in vegetation cover, water resource patterns, and erosion rates at specific EPA sites. These findings demonstrate the potential for satellite imagery to enhance EPA's ability to monitor environmental changes over time. Furthermore, the approach supports ongoing research by providing users with an intuitive interface to explore how these environmental processes unfold at varying spatial and temporal scales.

Use of the conclusions and/or (interim) findings: The StoryMap and the imagery available at the United States Geological Survey (USGS) archives will support ongoing climate change research at EPA. Currently, there are two EPA research projects utilizing GFL imagery.

Link to findings:

1. StoryMap

2. Data

Lead Office	Office of Research and Development
Title	CSS Research Area (RA) 2: Rapid Exposure and Dosimetry (RED)
Link to EPA Strategic Plan	Goal 1: Tackle the Climate Crisis Objective 1.2: Accelerate Resilience and Adaptation to Climate Change Impacts
Completion Date	September 2024

Purpose and brief description: The purpose of this activity is to improve understanding of potential exposures due to wildland fires. Advances in the development of non-targeted analysis (NTA) methods, which utilize high-resolution mass spectrometry, allow the identification of previously unknown or understudied chemicals and the characterization of complex chemical

mixtures in environmental media. Quantitative NTA (qNTA) methods further allow rapid quantitation and risk-based prioritization of newly identified analytes. Work completed was exploratory and included a small screening study on 3 samples to assess the feasibility of application of non-targeted analysis to ash samples collected from a wildland fire. Marshall wildland fire ash samples were obtained and run through NTA workflows for PFAS using gas chromatography (GC) and liquid chromatography (LC) with high resolution mass spectrometry.

Question(s) that were addressed: To what extent is the application of non-targeted analysis feasible for ash samples collected from wildland fire?

Conclusions and/or (interim) findings: The data passed quality assurance checks for mass accuracy and repeatability. LC data were screened for molecular formulas containing fluorine and none were found. GC data was matched to an in-house spectral library of ~100 PFAS and no matches were found. Method limits of detection were estimated for one PFAS compound on the LC, which is roughly representative of other LC PFAS compounds, at 2 ng / 200 mg sample or 10 ppb by weight.

Use of the conclusions and/or (interim) findings: These findings will inform future investigations into environmental contaminants from wildland fires. This research may further support ORD partners that play a role in control, mitigation, and clean-up from wildland fires.

Link to findings:
None publicly available.

Lead Office	Office of Research and Development
Title	SHC Research Area (RA) 2: Site Characterization and Remediation
Link to EPA Strategic Plan	Goal 2: Take Decisive Action to Advance Environmental Justice and Civil Rights Objective 2.2: Reduce Disproportionate Impacts on Vulnerable Populations
Completion Date	August 2024

Purpose and brief description: The purpose of this activity was to identify a more cost-effective, non-destructive, and less labor-intensive technology to estimate surface soil metal concentrations over large areas and to determine where to focus future limited sampling efforts.

Many active and abandoned mine sites across the country have widespread surface soil contamination exceeding maximum contaminant levels. They may cover thousands of acres and are often near residential communities. Characterizing and mapping contaminated soils and mine wastes is an immense effort requiring large expenditures of time and money.

This study evaluated the effectiveness of utilizing field based in-situ reflectance spectroscopy and X-Ray Florescence (XRF) to screen soils for elevated lead (Pb), zinc (Zn), and potential other trace elements at the Gay Mine site in Idaho. Estimation of the concentration of metals in soils utilized a chemometrics methods based on Partial Least Squares regression (PLSR) to

establish the relationship between soil spectral reflectance and sample metal concentration determined by XRF.

Question(s) that were addressed: To what extent can remote sensing imagery and imaging spectroscopy technologies, used in conjunction, be applied to prioritize remedial efforts by identifying areas with potentially higher levels of contamination? Specifically, this research explores how remote sensing imagery can inform broader site analysis while imaging spectroscopy technologies provide detailed, localized assessments of contamination levels.

Conclusions and/or (interim) findings: The study's contaminant of interest was Selenium (Se), which has elevated concentrations at the Gay Mine site. The soil Se concentrations can be visualized on the ArcGIS StoryMap (Mine samples (arcgis.com). The PLSR model analyzed Se using laboratory collected spectra. The elements arsenic (As), Pb and Zn were not included in the analysis due to the uncertainly in the XRF data when validated using Inductively Coupled Plasma-Mass Spectrometry (ICP-MS). This method was developed to rapidly assess hotspots of contamination across the site. The results show that the prediction of Se concentrations is limited at low concentrations. It provides useful estimations of high concentrations for mapping hotspots versus low to background levels of Se in surface soil.

Use of the conclusions and/or (interim) findings: This project:

- Established an innovative assessment tool applicable to mining-impacted soils.
- Identified that the EPA's R10 staff needed a solution to identify new methods for assessing and remediating mining-impacted sites.
- Helped increase R10 staff's knowledge of contemporary site assessment options and the complexity of selenium contamination, through the collaboration with ORD.
- Helped build relationships with the Shosone-Bannock Tribes in Idaho.

Link to findings:
Storymap

Lead Office	Office of Research and Development
Title	ACE Research Area 5: Ecosystem Impacts of Air Pollution and Climate Change
Link to EPA Strategic Plan	Goal 1: Tackle the Climate Crisis Objective 1.2: Accelerate Resilience and Adaptation to Climate Change Impacts
Completion Date	September 2024

Purpose and brief description: The purpose of this activity was to increase access to historical satellite imagery at the spatial resolution required for detailed ecological research. This type of imagery was not readily available until 2014, when multiple commercial imaging satellites were in orbit. Analyses examining time periods prior to 2014 relied on high-resolution satellite imagery archives from the Global Fiducials Library (GFL). The GFL is a collection, archive, and data management component of the Global Fiducials Program (GFP).

Question(s) that were addressed: How can GFL archive imagery data connect to site description data?

Conclusions and/or (interim) findings: This activity represents the first implementation of a method to connect site descriptions with imagery time series in the GFL archive, adding critical scientific context to the previously isolated image data. This integration enables researchers and decision-makers to better understand site-specific climate change impacts and ecological processes. Findings highlighted through the StoryMap reveal key patterns and features observable from the data, such as changes in vegetation cover, water resource patterns, and erosion rates at specific EPA sites. These findings demonstrate the potential for satellite imagery to enhance EPA's ability to monitor environmental changes over time. Furthermore, the approach supports ongoing research by providing users with an intuitive interface to explore how these environmental processes unfold at varying spatial and temporal scales.

Use of the conclusions and/or (interim) findings: The StoryMap and the imagery available at the United States Geological Survey (USGS) archives will support ongoing climate change research at EPA. Currently, there are two EPA research projects utilizing GFL imagery.

Link to findings:

1. StoryMap

2. Data

Lead Office	Office of Research and Development
Title	CSS Research Area (RA) 2: Rapid Exposure and Dosimetry (RED)
Link to EPA Strategic Plan	Goal 1: Tackle the Climate Crisis Objective 1.2: Accelerate Resilience and Adaptation to Climate Change Impacts
Completion Date	September 2024

Purpose and brief description: The purpose of this activity is to improve understanding of potential exposures due to wildland fires. Advances in the development of non-targeted analysis (NTA) methods, which utilize high-resolution mass spectrometry, allow the identification of previously unknown or understudied chemicals and the characterization of complex chemical mixtures in environmental media. Quantitative NTA (qNTA) methods further allow rapid quantitation and risk-based prioritization of newly identified analytes. Work completed was exploratory and included a small screening study on 3 samples to assess the feasibility of application of non-targeted analysis to ash samples collected from a wildland fire. Marshall wildland fire ash samples were obtained and run through NTA workflows for PFAS using gas chromatography (GC) and liquid chromatography (LC) with high resolution mass spectrometry.

Question(s) that were addressed: To what extent is the application of non-targeted analysis feasible for ash samples collected from wildland fire?

Conclusions and/or (interim) findings: The data passed quality assurance checks for mass accuracy and repeatability. LC data were screened for molecular formulas containing fluorine and none were found. GC data was matched to an in-house spectral library of ~100 PFAS and no matches were found. Method limits of detection were estimated for one PFAS compound on the LC, which is roughly representative of other LC PFAS compounds, at 2 ng / 200 mg sample or 10 ppb by weight.

Use of the conclusions and/or (interim) findings: These findings will inform future investigations into environmental contaminants from wildland fires. This research may further support ORD partners that play a role in control, mitigation, and clean-up from wildland fires.

Link to findings:
None publicly available.

Lead Office	Office of Research and Development
Title	Consumption-Based Greenhouse Gas Emissions Inventories (CBEI) for States
Link to EPA Strategic Plan	Goal 1: Tackle the Climate Crisis Objective 1.1: Reduce Emissions that Cause Climate Change
Completion Date	February 2024

Purpose and brief description: Many U.S. states are seeking quantitative data to inform the development of policies and plans for managing their greenhouse gas (GHG) emissions to reduce their contributions to climate change. The territorial GHG inventory has is a traditional approach for tracking state GHG emissions. However, this approach does not cover emissions related to consumption of goods and originating beyond state boundaries. The consumption-based emission inventory (CBEI) has recently been used for this purpose.

- A CBEI helps complement traditional state or territorial GHG emissions inventories by showing how the consumption of goods and services impacts emissions outside the state. Identifying consumption-based hotspots and developing mitigation strategies to shift product sourcing or consumption patterns can help reduce a state's GHG footprint.
- An EPA-led modeling team is using a custom version of the USEEIO model along with traditional territorial and state-level GHG data to prepare a CBEIs for participating states in the northeast. The Northeast Waste Management Officials Association (NEWMOA) Climate and Materials Work Group is overseeing this initiative.
- The EPA team has also released a full dataset containing approximately 1.1 million records of annual GHGs directly emitted by economic sectors and households in the US from 2012-2020. The dataset provides data for 16 unique GHGs across 118 aggregate sectors at both the state and national level, and across 540 detailed sectors at the national level. The dataset is built on sector attribution models that refine the National Greenhouse Gas Industry Attribution Model.
- The February 2024 paper by Young, Birney, and Ingwersen provides documentation of the methods to create these datasets and validate them, with relevant supporting tables, figures, and source code.

Question(s) that were addressed: For states developing GHG mitigation plans, how can they account for emissions driven by consumption of goods and services, when the emissions associated with providing them occurs outside state boundaries?

Conclusions and/or (interim) findings: As the team prepares and documents CBEIs for 8 states in the Northeast, they have preliminary findings for Maine, Connecticut, New York, and Vermont. They are finding that GHG emissions due to consumption of goods and services originating outside of these states, and outside of the US, are significant contributors to states' CBEI. This is primarily due to the manufacturing sector, but also the utilities and agricultural sectors.

Use of the conclusions and/or (interim) findings: These findings may inform strategic decision-making about GHG mitigation strategies by targeting changes in product sourcing or in consumption patterns that can further reduce a state's GHG footprint. Next steps include development of advanced user tools to enable other states to calculate the CBEI for their own state.

Link to findings:

1. Young, B., C. Birney, and W.W. Ingwersen. (2024) Dataset of 2012-2020 U.S. National- and State-Level Greenhouse Gas Emissions by Sector. *Data in Brief*.
2. A number of presentations have also been provided to the Maine Materials Management Task Force, and Northeast Waste Management Officials Association (NEWMOA) Climate and Materials Work Group, among others.

Lead Office	Office of Research and Development
Title	Usage and Impact of a Do-It-Yourself Air Cleaner on Residential PM2.5 in a Smoke-Impacted Community
Link to EPA Strategic Plan	Goal 1: Tackle the Climate Crisis Objective 1.2: Accelerate Resilience and Adaptation to Climate Change Impacts
Completion Date	September 2024

Purpose and brief description: Low-cost, do-it-yourself (DIY) portable air cleaners (PACs) offer an accessible option for socioeconomically disadvantaged communities to reduce smoke exposure, but their real-world efficacy is largely untested. EPA conducted two pilot studies to quantify the impact of DIY and comparable lower-cost commercial PACs on indoor fine particle mass concentrations (PM2.5) in a tribal community exposed to wildfire and wood stove smoke.

This assessment monitored indoor and outdoor PM2.5, indoor carbon dioxide, main door activity, and PAC usage in homes on the Hoopa Valley Indian Reservation for wildfire (n = 8) and wood stove (n = 11) pilot studies. The assessment monitored initial PM2.5, then sequentially provided a DIY PAC (box fan with a MERV 13 filter), a commercial PAC, and a real-time air quality display with participants' choice of either or both PACs. EPA quantified reductions in total indoor (PM2.5-IN) and infiltrated (PM2.5-INFILT) PM2.5 using mixed linear models and determined the barriers and facilitators of PAC usage through interviews.

This assessment is the first to evaluate DIY PAC effectiveness in a *real-world environment* by including a variety of factors that may impact air cleaner performance such as the presence of other emission sources; presence of multiple occupants of differing ages; door usage; varying furniture and placement with respect to the air cleaner; and houses of differing size, construction, and maintenance level.

Question(s) that were addressed: How well can DIY PAC and comparable commercial PACs work in a real-world setting, to reduce indoor PM2.5 during smoke events? What are some of the barriers to use, or preferences by households, for DIY or commercial PACs?

Conclusions and/or (interim) findings: The results from pilot feasibility studies suggest that, even after accounting for differences in usage behavior, low-cost DIY PACs can reduce infiltrated and indoor-generated smoke as quantified by PM2.5 in residences at least as effectively as a commercial PAC with a similar CADR. Participants reported dissatisfaction with the do-it-yourself air cleaner due to its undesirable cooling effect in cold months and loudness.

Use of the conclusions and/or (interim) findings: This work can inform public health and local air quality organizations in their strategies to protect health during wildfire and woodstove smoke events. For these organizations, the foremost implication from the pilot studies that both PAC efficacy and PAC usage depend on support for filter replacement and are improved by quiet and unobtrusive designs.

Link to findings: Prathibha, P., M. Turner, L. Wei, A. Davis, K. Vinsonhaler, A. Batchelder, B. McCaughey, J. Carlstad, A. Chelminski, A. Rappold, B. Hassett-Sipple, and A. Holder. Usage and Impact of a Do-It-Yourself Air Cleaner on Residential PM2.5 in a Smoke-Impacted Community. ATMOSPHERIC ENVIRONMENT. Elsevier B.V., Amsterdam, NETHERLANDS, 333: NA, (2024).

Lead Office	Office of Research and Development
Title	Forests composition, ecosystem services and impacts of climate change and nitrogen and sulfur deposition.
Link to EPA Strategic Plan	Goal 1: Tackle the Climate Crisis Objective 1.2: Accelerate Resilience and Adaptation to Climate Change Impacts
Completion Date	August 2024

Purpose and brief description: Forest composition and ecosystem services are sensitive to anthropogenic pressures like climate change and atmospheric deposition of nitrogen (N) and sulfur (S). This assessment extended recent forest projections for the current cohort of trees in the contiguous US, characterizing potential changes in aboveground tree carbon at the county level in response to varying mean annual temperature, precipitation, and N and S deposition.

Question(s) that were addressed: How are forests and the ecosystems services they provide affected by both climate change as well as changes in atmospheric deposition of nitrogen (N) and sulfur (S)?

Conclusions and/or (interim) findings: The study found that relative to a scenario with N and S deposition reduction and no climate change, a scenario with greater climate change led generally to decreasing aboveground carbon (mean −7.5% under RCP4.5, −16% under RCP8.5). Keeping climate constant, reduced N deposition tended to lessen aboveground carbon (mean−7%), whereas reduced S deposition tended to increase aboveground carbon (+3%) by 2100. These findings were documented in a set of papers published in 2024. Additional findings include that:

- Future climate change effects on U.S. forest composition may offset benefits of reduced atmospheric deposition of N and S
- Sensitive tree species remain at risk despite improved air quality benefits to US forests Localized nitrogen sensitivity of tree species varies significantly and is influenced by factors such as soil composition, climate conditions, and forest management practices, highlighting the need for site-specific management strategies. Geographic variation in projected U.S. forest aboveground carbon responses indicates that some regions may experience greater carbon losses due to combined impacts of climate change and atmospheric deposition, while others may benefit from improved air quality policies, emphasizing the need for tailored regional adaptation efforts.

Use of the conclusions and/or (interim) findings: This work provides the EPA with estimates of the benefits from reductions in N and S pollution and deposition, when considering climate change drivers as well. Resource managers will need to consider how their particular forests are likely to respond, rather than consider national averages, to increase the likelihood of successful adaptation and promote nature-based climate solutions.

Link to findings:

1. Clark, C., J. Phelan, J. Ash, J. Buckley, J. Cajka, K. Horn, R.Q. Thomas, and R.D. Sabo. Future climate change effects on U.S. forest composition may offset benefits of reduced atmospheric deposition of N and S. GLOBAL CHANGE BIOLOGY. Blackwell Publishing, Malden, MA, USA, 29(17): 4793-4810, (2023).
2. Coughlin, J., C. Clark, L. Pardo, R. Sabo, and J. Ash. Sensitive tree species remain at risk despite improved air quality benefits to US forests. Nature Sustainability. Nature Portfolio, Berlin, GERMANY, 6: 1607-1619, (2023).
3. Coughlin, J., S.Y. Chang, K. Craig, C. Scarborough, C. Driscoll, C. Clark, and N. Pavlovic. Characterizing localized nitrogen sensitivity of tree species and the associated influences of mediating factors. Ecosphere. ESA Journals, 15(7): e4925, (2024).
4. Reese, A., C. Clark, J. Phelan, J. Buckley, J. Cajka, R. Sabo, and G. Van Houtven. Geographic variation in projected US forest aboveground carbon responses to climate change and atmospheric deposition. Environmental Research Letters. IOP Publishing LIMITED, Bristol, UK, 19: 034028, (2024).

Goal 2

Lead Office	Office of Research and Development
Title	SHC Research Area (RA) 2: Site Characterization and Remediation
Link to EPA Strategic Plan	Goal 2: Take Decisive Action to Advance Environmental Justice and Civil Rights

	Objective 2.2: Reduce Disproportionate Impacts on Vulnerable Populations
Completion Date	August 2024

Purpose and brief description: The purpose of this activity was to identify a more cost-effective, non-destructive, and less labor-intensive technology to estimate surface soil metal concentrations over large areas and to determine where to focus future limited sampling efforts.

Many active and abandoned mine sites across the country have widespread surface soil contamination exceeding maximum contaminant levels. They may cover thousands of acres and are often near residential communities. Characterizing and mapping contaminated soils and mine wastes is an immense effort requiring large expenditures of time and money.

This study evaluated the effectiveness of utilizing field based in-situ reflectance spectroscopy and X-Ray Florescence (XRF) to screen soils for elevated lead (Pb), zinc (Zn), and potential other trace elements at the Gay Mine site in Idaho. Estimation of the concentration of metals in soils utilized a chemometrics methods based on Partial Least Squares regression (PLSR) to establish the relationship between soil spectral reflectance and sample metal concentration determined by XRF.

Question(s) that were addressed: To what extent can remote sensing imagery and imaging spectroscopy technologies, used in conjunction, be applied to prioritize remedial efforts by identifying areas with potentially higher levels of contamination? Specifically, this research explores how remote sensing imagery can inform broader site analysis while imaging spectroscopy technologies provide detailed, localized assessments of contamination levels.

Conclusions and/or (interim) findings: The study's contaminant of interest was Selenium (Se), which has elevated concentrations at the Gay Mine site. The soil Se concentrations can be visualized on the ArcGIS StoryMap (Mine samples (arcgis.com). The PLSR model analyzed Se using laboratory collected spectra. The elements arsenic (As), Pb and Zn were not included in the analysis due to the uncertainly in the XRF data when validated using Inductively Coupled Plasma-Mass Spectrometry (ICP-MS). This method was developed to rapidly assess hotspots of contamination across the site. The results show that the prediction of Se concentrations is limited at low concentrations. It provides useful estimations of high concentrations for mapping hotspots versus low to background levels of Se in surface soil.

Use of the conclusions and/or (interim) findings: This project:

- Established an innovative assessment tool applicable to mining-impacted soils.
- Identified that the EPA's R10 staff needed a solution to identify new methods for assessing and remediating mining-impacted sites.
- Helped increase R10 staff's knowledge of contemporary site assessment options and the complexity of selenium contamination, through the collaboration with ORD.
- Helped build relationships with the Shosone-Bannock Tribes in Idaho.

Link to findings:

Storymap

Lead Office	Office of Research and Development
Title	SHC Research Area (RA) 4: Leaking Underground Storage Tanks
Link to EPA Strategic Plan	Goal 2: Take Decisive Action to Advance Environmental Justice and Civil Rights Objective 2.2: Reduce Disproportionate Impacts on Vulnerable Populations
Completion Date	September 2024

Purpose and brief description: Research on groundwater vulnerability can assist in identifying groundwater resources at risk from underground storage tank system's releases. Integrated with UST Finder, ascertaining groundwater vulnerability has the potential to provide a foundation to improve prevention and cleanup decision-making. Well monitoring records for benzene, which represent representing over 3,000 leaking underground storage tank cases, were obtained from a state database available to the public. Geostatistical methods were used to determine the extent of the area covered by monitoring wells.

While much research exists on the evaluation of plumes originating from leaking underground storage tanks, potential travel distances for contaminants like benzene, a typical constituent of petroleum hydrocarbon products, are not completely understood. Therefore, it is critical to understand how plumes are characterized and how far plumes may travel in the sub-surface. Underground storage tanks containing petroleum or hazardous substances are defined under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, commonly known as Superfund). Additionally, this research supports the implementation of the Safe Drinking Water Act (SDWA) and the Clean Water Act (CWA).

Question(s) that were addressed: How are plumes originating from leaking underground storage tanks characterized and what distances might a plume travel in the sub-surface?

Conclusions and/or (interim) findings: Using the federal benzene MCL of 5 µg/L, EPA determined which plumes were delineated (captured) by their respective monitoring wells and which plumes potentially extended beyond the monitoring well boundary. The prevalence of plumes with the potential to exceed boundaries were further evaluated, as well as analyzed; this analysis served the purpose of identifying which directions, relative to the plume gradient, most often exhibited benzene concentrations greater than the MCL.
This research determined that:

- Benzene plumes from leaking UST sites are potentially larger in area and length than existing monitoring well data suggests.
    - For plume length studies, given the analysis of the data available from the state database, the existing network of monitoring wells did not purport to delineate the horizontal extent of plumes four out of five times. The plurality of exceedances occurs in the down-gradient path of plumes. These results indicate that monitoring wells are not effectively capturing benzene to a concentration below 5 ug/L and that more research is needed to determine the maximum sub-surface travel distance of benzene related to leaking underground storage tanks.

- Machine learning offers a promising option for future modeling efforts to estimate plume extents, even when monitoring well data are limited.
    - The implementation of such modeling efforts could result in the more accurate delineations of plumes, as well as aid states in their ability for future planning by constructing a model to run scenarios of releases from underground storage tanks.

Use of the conclusions and/or (interim) findings: This research outlines important considerations for plume characterization and identifies potential biases in the current site characterization paradigm. While plume modeling is not new, more research is required to be able to accurately measure and predict the extent of existing and future plumes. This work can be used as a foundation for the development of a machine learning based approach to model plumes in areas where monitoring data is limited or missing. While monitoring data continues to be the most essential component in the characterization of plumes, data-driven models can help identify monitoring well placement, as well as aid in the delineation process of where data gaps exist.

Link to findings: Journal article: Murray, A.; Hall, A.; Riveros-Iregui, D. "Considering Monitoring Well Bias in the Delineation of Benzene Plume Lengths" Journal of Environmental Engineering (150) 10

Lead Office	Office of Research and Development
Title	SHC Research Area (RA) 10: Cumulative Impacts and Community Resilience (SHC.410.3.5)
Link to EPA Strategic Plan	Goal 2: Take Decisive Action to Advance Environmental Justice and Civil Rights Objective 2.2: Reduce Disproportionate Impacts on Vulnerable Populations
Completion Date	September 2024

Purpose and brief description: Flood risk and flood preparation is an important aspect of life in Louisiana. In 2016 alone, 56 of the 64 parishes in Louisiana were declared federal disaster areas due to flooding. The risk appears to be increasing (fema.gov/disaster/declarations). This issue is exacerbated by coastal land loss and projected sea level rise, which combine to increase risk from storm surge and contribute to a northward population migration as the cost and risk of coastal living increases. Currently, planning for a flood response is a fragmented process that occurs largely at the local level. Connections among local authorities are usually financial/operational in nature and do not reflect the reality of flood connectivity.

The Louisiana Resilience Roadmap was designed to help bridge the connection between flood resilience and cooperative planning, so that emergency response to flooding is not simply reactionary but preparatory for future events. Equity and flood risk are inter-connected and highlight the issue that resilience is best achieved for the community rather than mainly for those who can afford to invest in it personally. This product provides concrete guidance to the state of Louisiana on integrated resilience planning at the parish level to improve local flood protection.

This work supports the EPA's objectives under the Clean Water Act to improve community flood resilience and reduce flooding impacts. This work also takes a watershed scale approach,

which supports EPA objectives to support communication and stakeholder engagement for social equity.

Question(s) that were addressed: How can structured decision making assist local communities to develop a flood resilience roadmap?

Conclusions and/or (interim) findings: The resulting flood resilience roadmap is an actionable tool for the three parishes included in the study, and it is also a transferrable tool for other parishes in Louisiana. The roadmap also contains examples and links to other communities that have used the ecosystem services mapping approach to tackle community issues. As such, it is also a guide for the EPA Regions and their partners to apply the roadmap to other high priority issues (e.g., brownfield revitalization). The roadmap document produced under this Product (SHC.410.3.5.1) as well as the eco-decisional visualization tool (SHC.410.3.5.2) are interactive guidance documents for community decision support based on ecosystem services and human well-being.

Use of the conclusions and/or (interim) findings: The flood resilience roadmap has two parts. The first consists of a user group, comprised of the initial three parishes and the Louisiana Watershed Initiative (LWI) for integrated flood resilience planning; the goal is to assist those parishes to develop a flood plan that is both integrated and inclusive. The roadmap contains specific information about these parishes that can be integrated into future planning with guidance from the LWI. The second part of the roadmap contains guidance and examples for each step in the roadmap development process and is intended for use by state and by the EPA Regional partners to assist other communities with planning for flood protection. Use of this approach and the associated guidance tools will help communities to be more proactive, rather than reactive, with regards to flood preparation; this approach will also increase social equity in planning through increased stakeholder engagement.

Link to findings: Project Report: Fulford, R., B. Dyson, AND Tim Canfield. Louisiana Resilience Roadmap: Choosing a path toward a more resilient future. U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-24/028, 2024.

Goal 4

Lead Office	Office of Air and Radiation
Title	Title V Permitting Program Reviews
Link to EPA Strategic Plan	Goal 4: Ensure Clean and Healthy Air for All Communities Objective 4.1: Improve Air Quality and Reduce Localized Pollution and Health Impacts
Completion Date	September 2024

Purpose and brief description: EPA periodically reviews state and local permitting programs, including fees collected by the programs, 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 best practices, to document areas needing improvement, and to learn how EPA can help permitting agencies improve their performance.

Question(s) that were addressed: For state and local permitting programs, what are good Title V permitting practices, what areas need improvement, and how can EPA help permitting agencies improve their performance?

Conclusions and/or (interim) findings: Conclusions and findings vary due to being specific to the program being evaluated. Example recommendations include conducting annual financial reviews to ensure the continued sustainability of fees, as well as monitoring progress on the reduction of the backlog of renewal permits.

Use of the conclusions and/or (interim) 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 to findings: EPA Oversight of the Operating Permits Program

Lead Office	Office of Air and Radiation
Title	Our Nation's Air: Status and Trends Through 2023
Link to EPA Strategic Plan	Goal 4: Ensure Clean and Healthy Air for All Communities Objective 4.1: Improve Air Quality and Reduce Localized Pollution and Health Impacts
Completion Date	June 2024

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.

Question(s) that were addressed:

- What are the national trends in air quality, including unhealthy air days and air pollutant emissions?

Conclusions and/or (interim) findings: Nationally, concentrations of the criteria air pollutants dropped significantly since 1970. Between 1970 and 2023, the combined emissions of the six common pollutants (particulate matter ($PM_{2.5}$ and PM_{10}), sulfur dioxide (SO_2), nitrogen oxides (NO_x), volatile organic compounds (VOCs), carbon monoxide (CO) and lead (Pb)) dropped by 78%. In addition, the number of 'unhealthy' days (defined as the number of days in which the combined ozone and $PM_{2.5}$ Air Quality Index was unhealthy for sensitive groups (orange) or above (red, purple, or maroon)) have declined from 2076 in 2000 to 822 in 2023. This progress occurred while the U.S. economy continued to grow, Americans drove more miles, and population and energy use increased.

Use of the conclusions and/or (interim) 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. The Air Quality Index (AQI) is a color-coded index EPA uses to communicate daily air pollution for ozone, particle pollution, NO_2, CO and SO_2. A value in the 'unhealthy' range, above the national air quality standard for any pollutant, is of concern first for sensitive groups, and then for everyone as the AQI value increases. Fewer unhealthy air quality days means better health, longevity, and quality of life for all of us. Understanding emission sources and AQI values helps EPA and states control air pollution and communicate valuable air quality information to the public.

Link to findings: Our Nation's Air 2024 (epa.gov)

Lead Office	Office of Air and Radiation
Title	2023 Power Sector Programs – Progress Report
Link to EPA Strategic Plan	Goal 4: Ensure Clean and Healthy Air for All Communities Objective 4.1: Improve Air Quality and Reduce Localized Pollution and Health Impacts
Completion Date	September 2024

Purpose and brief description: Under the Clean Air Act, EPA implements regulations to reduce emissions from power plants, including the Acid Rain Program (ARP), the Cross-State Air Pollution Rule (CSAPR), the CSAPR Update, the Revised CSAPR Update (RCU), the Good Neighbor Plan (GNP), and the Mercury and Air Toxics Standards (MATS). These programs require fossil fuel-fired electric generating units to reduce emissions of sulfur dioxide (SO_2), nitrogen oxides (NO_X), and hazardous air pollutants including mercury (Hg) to protect human health and the environment. This reporting year marks the ninth year of implementation for the CSAPR, the seventh year for the CSAPR Update, the third year for the RCU, the twenty-ninth year for the ARP, the first year for the GNP, and the seventh year for the MATS. This report summarizes annual progress through 2023 and highlights data that EPA systematically collects on emissions for all five programs, as well as on compliance for the ARP and CSAPR. Commitment to transparency and data availability is a hallmark of these programs and a cornerstone of their success.

Question(s) that were addressed: This annual activity assesses implementation of multiple regulations to reduce air pollution from power plants. Specific questions of interest include:

- Have regulations met their emission reduction goals?
- What is the compliance record of air pollution sources controlled under these regulations?
- What is the air quality and environmental response of implementing these regulations?

Conclusions and/or (interim) findings: The ARP, CSAPR, CSAPR Update, RCU, GNP, and MATS have delivered substantial reductions in power sector emissions of SO_2, NO_X, and hazardous air pollutants, along with significant improvements in air quality and the environment. Program highlights include, but are not limited to:

- 2023 annual SO_2 emissions: 650,000 tons. 96% below 1995 | 24% below 2022.

- 2023 annual NO_x emissions: 643,000 tons. 90% below 1995 | 4% below 2022.
- 2023 ozone season NO_x emissions: 300,000 tons. 89% below 1997 | 8% below 2022.
- 2023 annual CO_2 emissions: 1,563,000 tons. 28% below 1995 | 1% below 2022.
- Compliance: 100% 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, SO_2, NO_X, and hazardous air pollutant emissions declined steadily in recent years due to a variety of power industry trends that are expected to continue.

Use of the conclusions and/or (interim) findings: The ARP, CSAPR, CSAPR Update, RCU, and GNP are implemented through trading programs[1] designed to reduce emissions of SO_2 and NO_X from power plants. Established under Title IV of the 1990 Clean Air Act Amendments, the ARP isa 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, as demonstrated through past progress reports, led to the application of the market-based emissions trading 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, 2023 is the seventh full year for which most sources covered by MATS have reported emissions data to EPA. On April 25, 2024, EPA announced requirements to strengthen and update MATS for power plants, based on an evaluation of the residual risk and technology review (RTR).

Exposure to mercury and other hazardous air pollutants at certain concentrations and durations can increase chances of neurological and developmental effects, cancer, and reproductive, respiratory, and other health problems. NO_X emissions contribute to the formation of ground-level ozone and fine particle pollution, which cause a variety of adverse human health effects, while SO_2 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 RCU, GNP, and MATS. These reports are critical for monitoring these programs to ensure they are continuing to deliver substantial environmental and human health benefits.

Link to findings: EPA Power Sector Progress Report

Goal 5

Lead Office	Office of Water (OW)

[1] These emissions trading programs are also known as “allowance trading programs” or “cap-and-trade” programs.

Title	Clean Water State Revolving Fund State Reviews (CWSRF)
Link to EPA Strategic Plan	Goal 5: Ensure Clean and Safe Water for All Communities Objective 5.1: Ensure Safe Drinking Water and Reliable Water Infrastructure
Completion Date	October 2024

Purpose and brief description: EPA completes annual reviews (51) of each Clean Water State Revolving Fund Program (CWSRF). These reviews assess if states are effectively implementing the Clean Water State Revolving Fund (CWSRF) program in compliance with the Clean Water Act (CWA).

Question(s) that were addressed: The questions these reviews address include:

- Are states effectively implementing the CWSRF program in compliance with the CWA by leveraging non-federal funds?
- Are the states assisting disadvantaged communities with access to funding?
- Are the states applying fiscal integrity and controls?
- Are the states effectively using Bipartisan Infrastructure Law funds?
- Are the states complying with the EPA's State and Tribal Assistance Grant Program requirements?
- What steps are the states taking to promote climate resiliency and equity through CWSRF funding?

Conclusions and/or (interim) findings:
The Regions conduct the annual reviews as part of their oversight of state programs and where specific issues are identified. Next steps are also identified in the state-specific performance evaluation report (PER). Headquarters' review of the PERs is ongoing.

Use of the conclusions and/or (interim) findings:

- These reviews will help assess if states are: (1) effectively implementing the CWSRF program in compliance with the CWA, (2) increasing the amount of non-federal dollars leveraged, (3) assisting disadvantaged communities with access to funding, (4) applying fiscal integrity and controls, (5) effectively using Bipartisan Infrastructure Law funds, (6)complying with the EPA's State and Tribal Assistance Grant program requirements, and (7) increasingly directing funding to projects that address climate resiliency and equity.
- Through these reviews and in its oversight role, EPA will determine if CWSRF programmatic goals are being met. These results will support future planning and policy decision making, such as needed memos and trainings for the CWSRFs.

Link to findings:
The EPA CWSRF review results are reported out in 51 state-specific Performance Evaluation Reports annually. EPA makes the annual report on the status of the national CWSRF program publicly available. The EPA also shares project and financial data at the national and state level.

The most recent annual reports are available at: Clean Water State Revolving Fund (CWSRF) Reports.

Lead Office	Office of Water
Title	Public Water System Supervision State Reviews and Drinking Water State Revolving Fund Reviews.
Link to EPA Strategic Plan	Goal 5: Ensure Clean and Safe Water for All Communities. Objective 5.1: Ensure Safe Drinking Water and Reliable Water Infrastructure.
Estimated Completion Date	November 2024

Purpose and brief description: The Environmental Protection Agency (EPA) annually conducts reviews of agencies with Public Water System Supervision (PWSS) primacy (55 reviews) and reviews of each state Drinking Water State Revolving Fund (DWSRF) program (51 reviews).

Question(s) that were addressed: These reviews evaluate if primacy entities are effectively implementing the PWSS program to oversee community water system compliance with the Safe Drinking Water Act (SDWA). The questions addressed include:

- For PWSS Program Reviews: Are primacy entities effectively implementing the range of activities in the PWSS program to oversee community water system compliance with the Safe Drinking Water Act?
- For DWSRF Reviews: These reviews evaluate if states are effectively implementing the DWSRF program in compliance with the SDWA. The question these reviews address include:
    - Are states effectively implementing the DWSRF program in compliance with the Safe Drinking Water Act (SDWA) by leveraging non-federal funds?
    - Are the states assisting disadvantaged communities with access to funding?
    - Are the states applying fiscal integrity and controls?
    - Are the states effectively using Bipartisan Infrastructure Law funds?
    - Are the states complying with the EPA's State and Tribal Assistance Grant Program requirements?
    - What steps are the states taking to promote climate resiliency and equity through DWSRF funding?

Conclusions and/or (interim) findings:

- The Office of Water (OW) tracks completion of PWSS Annual Program Reports to ensure that EPA is providing the necessary oversight requirements as described in 40 CFR 141.17(a)(1). While regions have expressed concerns, all primacy agencies continue to meet the requirements for primacy.
- For DWSRF Reviews:
    - The Regions conduct DWSRF annual reviews as part of their oversight of state programs and where specific issues are identified, next steps are also identified in the state-specific performance evaluation report. Headquarters review of all these PERs is ongoing.

Use of the conclusions and/or (interim) findings:

- For PWSS Reviews:
  - The EPA Regions will use annual program reviews to track specific corrective actions if a primacy agency is not implementing parts of the Public Water System (PWS) program properly or may suggest training to improve performance and compliance of primacy agencies' PWSs.
  - Similarly, OW reviews these reports to determine if there are national level issues that warrant a more systematic response, such as targeted outreach to certain type of systems, focused training to primacy agencies on a specific aspect of the SDWA or additional guidance to explain new provisions/complex issues.
- For DWSRF Reviews:
  - Because reports are state-specific, there is not a national report of overall program evaluation.
  - These state-specific reviews will help assess if states are effectively implementing the DWSRF program in compliance with the SDWA, increasing the amount of non-federal dollars leveraged, assisting disadvantaged communities with access to funding, applying fiscal integrity and controls, effectively using Bipartisan Infrastructure Law funds, complying with EPA's State and Tribal Assistance Grant program requirements, and increasingly directing funding to projects that address climate resiliency and equity.
  - Through these reviews and in its oversight role, EPA will determine if DWSRF programmatic goals are being met. These results will support planning and policy decision making, such as needed memos and trainings for the SRFs.

Link to findings:

- Currently, PWSS Annual Program Reviews are not publicly available. Documents are provided to the primacy agency and shared internally on an EPA Headquarters SharePoint site.
- For DWSRF Reviews:
  - EPA's DWSRF review results are reported out in 51 state specific Performance Evaluation Reports annually. EPA makes publicly available an annual report on the status of the national DWSRF program. EPA also shares project and financial data at the national and state level.

Lead Office	Office of Water
Title	Safe Drinking Water Information System (SDWIS) National Community Water System Non-Compliance Review
Link to EPA Strategic Plan	Goal 5: Ensure Clean and Safe Water for All Communities. Objective 5.1: Ensure Safe Drinking Water and Reliable Water Infrastructure.
Completion Date	Ongoing Quarterly Analysis

Purpose and brief description: This review assesses the trends and causes of non-compliance to inform technical, managerial, and financial state and public water system capacity building

training or future drinking water regulation needs, in support of regulatory drinking water compliance.

Question(s) that were addressed: These reviews evaluate if primacy entities are effectively implementing the Public Water System Supervision (PWSS) program to oversee community water system compliance with the Safe Drinking Water Act. The question addressed include:

- What are the barriers and challenges of Community Water Systems maintaining compliance with health-based drinking water standards?

Conclusions and/or (interim) findings: Quarterly data shows that approximately 93 percent of community water systems meet health-based standards.

Use of the conclusions and/or (interim) findings: The EPA breaks down noncompliance information by regulation and by system characteristics to target training and technical assistance.

Link to findings: Quarterly data reports are shared publicly via the SDWIS Federal Data Warehouse.

Lead Office	Office of Water/Region 6
Title	Upkeep and maintaining the Lake Pontchartrain Basin Restoration Program (PRP) Management Conference membership
Link to EPA Strategic Plan	Goal 5: Ensure Clean and Safe Water for All Communities Objective 5.2: Protect and Restore Waterbodies and Watersheds
Completion Date	May 2024

Purpose and brief description: According to Clean Water Act Sections 121 and 320, EPA is to provide administrative and technical assistance to a management conference convened for the Lake Pontchartrain Basin (Basin) and assist and support the activities of the management conference, including the implementation of recommendations of the management conference. As of October 2024, 54 organizations are official members of the PRP Management Conference. Additionally, the PRP Executive Committee, of which EPA has one representative, rewrote the management conference bylaws. The management conference is currently in the process of renewing the Comprehensive Conservation Management Plan and Comprehensive Habitat Management Plan (CCMP), via the leadership of an organization awarded the PRP CCMP Renewal sub-award.

Question(s) that were addressed: Which stakeholder groups participated in PRP in the previous five fiscal years? This activity addressed Clean Water Act Sections 121 and 320 statutory requirements for an active management conference.

Conclusions and/or (interim) findings: Maintaining membership and participation in the PRP management conference will be an ongoing process. The program has increased the number of Management Conference members from 47 (2023) to 54 (2024). One of the goals of the program, is to maintain and increase stakeholders in the Management Conference.

Use of the conclusions and/or (interim) findings: The program collaborates with the management conference to vote on potential PRP funding proposals, participate and make comments on the CCMP revision, support planning and identifying priority investment areas in the Basin.

Link to findings: The EPA PRP website provides management conference information.

Lead Office	Office of Water/Region 6
Title	What the Lake Pontchartrain Basin Restoration Program (PRP) project types have been funded the most in the previous 5 fiscal years?
Link to EPA Strategic Plan	Goal 5: Ensure Clean and Safe Water for All Communities Objective 5.2: Protect and Restore Waterbodies and Watersheds
Completion Date	September 2024

Purpose and brief description: The PRP developed a matrix listing and describing all projects from the last five fiscal years. The activity identified the number of projects related to Comprehensive Conservation Management Plans (CCMP) recommended activities including habitat/coastal restoration, public education and outreach, sewerage repair designs, water quality assessment and improvement and nonpoint source pollution control. The PRP CCMP targets several eligible activities for funding, and the activities collectively contribute to the success of program outcomes and goals. Consistently funding some activities over others may limit the success, effectiveness, and community support for the program.

Question(s) that were addressed: Which PRP program activities have been funded the most since the program's inception in 2002?

Program project types funded by PRP for the past 19 years were reviewed and categorized by percentages. As well as categorized by organization type. As well as categorized by organization type. Project categories include habitat restoration, sewerage, agricultural runoff, CCMP renewal, and stormwater. Organization types that have received subawards include educational, municipal, state, non-profit, regional, and federal.

Conclusions and/or (interim) findings: There have not been a lot of projects implemented towards agricultural and stormwater runoff applications, and the majority of projects implemented are restoration and sewage project types. In regard to organization types that have been funded, non-profits and institutions of higher education are the least popular.

Use of the conclusions and/or (interim) findings: The Lake Pontchartrain Basin Restoration Program plans on working with the pass-through entity to improve the planning of future Notice of Funding Opportunities (NOFOs) to be in line with Fiscal Year schedules, in order to sustain policy decision making, assessing progress toward objectives, and developing strategies to track program goals.

Link to findings: Information on the projects funded by the Lake Pontchartrain Basin Restoration Program can be found at: Lake Pontchartrain Basin Restoration Program: Past Funding Timeline.

Lead Office	Office of Water/Region 6
Title	Revising the Lake Pontchartrain Basin Restoration Program (PRP) Comprehensive Conservation Management Plan (CCMP) in response to GAO-Report GAO-23-105547: Lake Pontchartrain Basin: Additional Transparency and Performance Management Could Improve EPA's Restoration Program
Link to EPA Strategic Plan	Goal 5: Ensure Clean and Safe Water for All Communities Objective 5.2: Protect and Restore Waterbodies and Watersheds
Estimated Completion Date	September 2025

Purpose and brief description: Developing a comprehensive conservation and management plan is a key component of EPA's National Estuary Program (NEP). EPA funded the development of a 1995 comprehensive conservation and management plan for the Basin to serve as a roadmap for future restoration efforts. In 2006, EPA also funded a comprehensive habitat management plan to address the restoration and conservation of habitats in the Basin. On July 29, 2024, the EPA approved an update to the current CCMP in accordance with the statutory language in Clean Water Act (CWA) Section 121. Additionally, an organization has been selected to renew the CCMP in concurrence with the Management Conference, in accordance with NEP guidelines.

Question(s) that were addressed: This activity addressed statutory requirements for PRP.

Conclusions and/or (interim) findings: In spring of 2024, the PRP pass-through entity, University of New Orleans, and Technology Foundation, processed a sub-award to update the CCMP. The CCMP was funded by CWA Section 121 base funding and is being revised following CWA Section 320 guidelines.

Additionally, the PRP program office agrees with the GAO recommendation for a website and launched a public website at Lake Pontchartrain Basin Restoration Program. The PRP website currently describes the program, identifies recent funding, and provides assistance listing information where additional grant-specific details are available. Furthermore, PRP developed a program guidance that provides direction to PRP grantees and informs the Management Conference and the public on key aspects of the program. The program will also produce an Annual Highlights Report that describes highlights of the previous year.

Use of the conclusions and/or (interim) findings: The revised CCMP will be the blueprint for all PRP grant/subaward recipients to follow in developing PRP projects.

Link to findings: The EPA PRP website provides CCMP information at Lake Pontchartrain Basin Restoration Program.

Goal 6

Lead Office	Office of Land and Emergency Management (OLEM)
Title	Significant Evidence-Building Activity: FY 2024 Redevelopment Economics at Remedial Sites (non-federal facility)
Link to EPA Strategic Plan	Goal 6: Safeguard and Revitalize Communities Objective 6.1: Clean Up and Restore Land for Productive Uses and Healthy Communities
Completion Date	January 2024

Purpose and brief description: Cleaning up contaminated sites can serve as a catalyst for economic growth and community revitalization. The Superfund Remedial Program protects human health and the environment while facilitating the redevelopment of sites across the country. 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. The analysis will provide current, reliable business-related information for a subset of Superfund sites in reuse and continued use. These uses can help economically revitalize communities near Superfund sites.

Question(s) that were addressed: What are the economic outcomes associated with reuse of non-federal Superfund remedial sites?

Conclusions and/or (interim) findings: The Superfund Redevelopment Program (SRP) ensures EPA, and its partners, have the tools to return Superfund sites to productive use. Since 2011, the number of sites in reuse for which economic data have been collected, and the number of businesses at those sites, have increased, though that figure has been relatively level for the previous three years. Although the number of businesses and jobs have stayed stable, adjusted sales and income decreased in 2023. In 2023, economic data were collected for 692 sites, which is 21 more sites than were researched in 2022 (FY 2023). This number represents only a portion of all sites in reuse and excludes federal facilities. As of December 2023, there are approximately 496 non-federal facility sites in reuse that do not support on-site businesses, provide jobs, or generate sales revenue.[2] Although SRP expanded the number of sites in the economic research universe in 2023, the number of sites designated as being in reuse also increased as a result of other SRP research efforts. The number of businesses operating at sites in reuse increased by eight between 2022 and 2023. During the same period, the number of jobs increased by 252, annual employment income decreased by $500 million (adjusted), and national annual sales decreased by $5.8 billion (adjusted).

[2] Each year as part of the National Economic Information Update, current reuse information is reviewed for this subset of sites to determine if businesses have opened on-site since the previous year. Site use information gathered as part of SRP reuse inventory efforts also feeds into the annual process of identifying new sites that support businesses.

Use of the conclusions and/or (interim) findings: Economic data are included in budget justifications to Congress and are used in general communication, including the annual Superfund Accomplishments Reports, with key stakeholders, state and local governments, external partners, and the public. Community development organizations, local government, developers etc. can use this data to illustrate potential returns from Superfund site reuse. Internally, EPA considers these findings to be a key data point and results are also compared with previous years to identify whether there are any emerging or changes in trends from year-to-year.

Link to findings: Redevelopment Economics at Superfund Sites.

Lead Office	Office of Land and Emergency Management (OLEM)
Title	FY 2024 Redevelopment Economics at Federal Facility Superfund Site
Link to EPA Strategic Plan	Goal 6: Safeguard and Revitalize Communities Objective 6.1: Clean Up and Restore Land for Productive Uses and Healthy Communities
Estimated Completion Date	January 2025

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 the Comprehensive Environmental Response, Compensation and Liability Act, (CERCLA commonly known as "Superfund") response actions, while protecting human health and the environment. Collaborative efforts among OFAs; developers; and state, local, and tribal partners encourage restoration of these sites. Since federal facility Superfund sites often encompass thousands of acres of buildings, roads, and other infrastructure, their effective and efficient cleanup and reuse can play a pivotal role in a community's economic growth. EPA initiated efforts to collect economic data at a subset of federal facility Superfund sites.

Question(s) that were addressed: Questions that were addressed include:

- What information can EPA provide about Federal Facility Superfund sites in reuse and continued use, including examples of innovative and successful reuses?
- How does the remediation and reuse of Federal Facility Superfund sites economically impact communities?

Conclusions and/or (interim) findings: The FY 2024 Federal Facilities Superfund Economic Analysis is an update and expansion of research efforts from 2016 through 2023. These efforts provide current, reliable business-related information for a subset of federal facility Superfund sites in reuse and continued use. EPA highlights a subset of successful Federal Facility Superfund sites in reuse to serve as a model for other redevelopment successes.

The successful reuse of Federal Facility Superfund sites requires a team of stakeholders, including OFAs; developers; reuse authorities; state, Tribal and local partners; and communities,

to implement locally driven reuse strategies that benefit the community and protect the environment. Because Federal Facility Superfund sites often encompass hundreds of acres with buildings, roads and other infrastructure, their effective and efficient cleanup and reuse can play a pivotal role in a community's identity and economic development.

Use of the conclusions and/or (interim) findings: The analysis will provide current, 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 located near Superfund sites.

Link to findings: The summary of the results will be shared on Redevelopment Economics at Federal Facilities website. In addition, economic data are included in budget justifications to Congress and are used in general communication with other Federal agencies and the public.

Lead Office	Office of Land and Emergency Management (OLEM)
Title	FY 2024 OLEM Population Analysis
Link to EPA Strategic Plan	Goal 6: Safeguard and Revitalize Communities Objective 6.1: Clean Up and Restore Land for Productive Uses and Healthy Communities
Completion Date	August 2024

Purpose and brief description: This descriptive study's purpose is to conduct an annual analysis to support evidence-based descriptions of who may benefit from EPA's cleanup and prevention work. This analysis is done by collecting data on the population living within specified distances of a Superfund site, Brownfields site, Resource Conservation and Recovery Act (RCRA) Corrective Action (CA) facility, Leaking Underground Storage Tank (LUST) site, and/or Underground Storage Tank (UST) facility. Many of these sites and facilities exist in thousands of communities across the United States ranging from rural to large urban settings, and these sites and facilities are often in economically distressed communities. This analysis also contributes to EPA's *America's Children and the Environment Report*, by estimating an indicator that is included in the report on 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.

Question(s) that were addressed: Who may benefit from EPA's cleanup and prevention work related to Superfund sites, Brownfields sites, Resource Conservation and Recovery Act (RCRA) Corrective Action (CA) facility, Leaking Underground Storage Tank (LUST) sites, and Underground Storage Tank (UST) facilities?

Conclusions and/or (interim) findings: To help describe who may benefit from agency cleanup and prevention work, EPA collected data on the population living within certain distances of these sites (i.e., one mile, three miles, etc.). Using census data, EPA found that approximately 213 million people live within three miles of a Superfund remedial site, RCRA Corrective Action facility, or Brownfields site, which is roughly 64 percent of the U.S. population, and includes 65 percent of all children in the U.S. under the age of five. While there

is no single way to characterize communities located near cleanup sites and facilities, this population has more people of color, is lower income, is more linguistically isolated, and is less likely to have a high school education than the average in the U.S. population. 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; groundwater is the source of drinking water for nearly half of all Americans. Approximately 94 percent of the US population lives within 3 miles of an active UST facility, and 74 percent of the US population lives within 3 miles of an open LUST release.

Use of the conclusions and/or (interim) findings: EPA includes results in annual budget reviews with OMB, and in budget justifications for Congress. EPA also uses results in general communications with press, other government agencies, and the public, and for trend analysis. Results also indicate populations sub-groups that are disproportionately located near to cleanup sites, which may indicate a need for intervention.

Link to findings: Office of Land and Emergency Management Program Benefits

Goal 7

Lead Office	Office of Chemical Safety and Pollution Prevention
Title	Assessing IT modernization of EPA pesticide tracking systems
Link to EPA Strategic Plan	Goal 7: Ensure Safety of Chemicals for People and the Environment Objective 7.1: Ensure Chemical and Pesticide Safety
Completion Date	September 2024

Purpose and brief description: In April 2019, EPA kicked off Phase 1 of a multi-year digital transformation to create a fully electronic workflow for registration and reevaluation activities. In early 2020, in advance of the launch of the new system, EPA developed performance metrics and established baselines of performance using current systems for application review. These metrics will allow the EPA to measure the effects of the digital transformation as it aligns with meeting the targets and objectives described in the FY 2022-2026 EPA Strategic Plan. In FY 2020, a pilot of the new system went live and continues to be implemented in phases. The pilot was designed to assess time savings and to visualize workload across the Office of Pesticide Programs (OPP). The pilot is considered completed, however implementation of digital transformation within OPP continues.

Question(s) that were addressed:

- Does this pilot approach show the expected potential for mission transformation through digitalization?
- Does this pilot show how the EPA can assess time savings?

Conclusions and/or (interim) findings: An analysis of the pilot quantified actual value from productivity improvements to be an estimated $5M per year and a 35% efficiency gain, which included variables ranging from time saved gathering data for reporting to searching the document repository for files and routing and signing documents, among other tasks. Efficiencies also yield less quantifiable but important benefits such as allowing more throughput with a shrinking workforce, more comprehensive research due to efficiencies in search functions, more time to spend on substantive issues, and improved employee experience.

Use of the conclusions and/or (interim) findings: The results of the pilot lead to full deployment across OPP which is actively ongoing.

Link to findings: Digital transformation within OPP is an ongoing internal initiative that OPP regularly provides updates on at public venues to be transparent about ongoing changes within the program. Many of these slide decks are available to the public online, see PPDC November 2024 OPP Update for an example.

Additionally, process improvements relating to pesticide registration and registration review activities, as well as information technology improvements, are described annually in the PRIA annual report.

Lead Office	Office of Chemical Safety and Pollution Prevention
Title	TSCA Risk Evaluation Review and Assessments
Link to EPA Strategic Plan	Goal 7: Ensure Safety of Chemicals for People and the Environment Objective 7.1: Ensure Chemical and Pesticide Safety
Completion Date	September 2024

Purpose and brief description: These recurring reviews assess the degree of progress, timely completion of risk evaluations mandated under TSCA, and both the utility and quality of program performance measures.

Question(s) that were addressed: Does EPA's suite of performance measures and its processes for developing TSCA risk evaluation warrant further revision?

Conclusions and/or (interim) findings: EPA has conducted a preliminary screening and technical review of large data sets to more efficiently identify relevant information for prioritization and risk evaluation and can easily flag information that may be useful to retrieve later in the risk evaluation process. As a result, EPA now has a head start on risk evaluations.

Use of the conclusions and/or (interim) findings: Interim findings are that EPA has a much fuller understanding of how these chemicals behave in the environment and their potential hazards and exposures than it had at this point in the process. EPA can use the data to better inform the scope of the risk evaluation.

Lead Office	Office of Chemical Safety and Pollution Prevention
Title	TSCA New Chemicals Activities

Link to EPA Strategic Plan	Goal 7: Ensure Safety of Chemicals for People and the Environment Objective 7.1: Ensure Chemical and Pesticide Safety
Completion Date	December 2023

Purpose and brief description: The purpose of the activity was to help determine if the risk mitigation requirements in new chemical risk management actions, i.e., Significant New Use Rules (SNURs) and orders, are being adhered to.

After EPA reviews and makes a decision on a new chemical notice, EPA is authorized under the Toxic Substances Control Act (TSCA) to implement risk mitigation measures if needed on the manufacture, processing, distribution in commerce, use, or disposal of a new chemical substance; these regulations exist to protect human health and the environment. This process is generally accomplished through the issuance of a TSCA Section 5(e) or 5(f) order, and/or a SNUR. Orders and SNURs may include restrictions on chemical use, production volume limit, domestic manufacture, etc.

For this activity, the 2020 Chemical Data Reporting (CDR) rule data was used to measure adherence/ non-adherence with new chemical action restrictions. The CDR rule requires periodic reporting of data, and certain CDR data reporting fields overlap with certain types of new chemical action restrictions. To measure adherence/non-adherence with new chemical action restrictions, EPA cross-referenced information reported during the 2020 CDR reporting cycle to determine if the data was consistent with the requirements of the risk management action. For example, if a new chemical SNUR restricted the production volume of chemical and CDR data indicated a production volume greater than the SNUR restricted volume, the EPA recorded that as an example of potential non-adherence/non-compliance.

Question(s) that were addressed:

- Does the information reported help ensure chemical manufacturers and importers comply with regulations designed to protect workers, consumers, communities, and the environment?
- Does the process to review compliance with these TSCA requirements meet the needs of the agency in identifying non-compliance?

Conclusions and/or (interim) findings: EPA cross-referenced chemicals with restrictions in SNURs and orders with CDR data. The EPA found potential discrepancies with 14 percent of the total chemicals cross-referenced with CDR, i.e., potential instances of non-adherence/non-compliance with restrictions implemented by the EPA.

Below are findings on the questions addressed:

- **Does the information reported help ensure chemical manufacturers and importers comply with regulations designed to protect workers, consumers, communities, and the environment**? Yes. For the CDR data fields reported that matched chemicals with SNUR or orders with the same restrictions, EPA was able to determine whether certain safety requirements were potentially being adhered to. The results of the review, if explored by EPA's Office of Enforcement and Compliance Assurance (OECA), will

further help ensure chemical manufacturers and importers comply with regulations designed to protect workers, consumers, communities, and the environment.

- **Does the process to review compliance with these TSCA requirements meet the needs of the agency in identifying non-compliance**? This was the first time the new chemicals program used reported data to conduct a systematic review of potential compliance/non-compliance with its new chemical risk management actions. As a result of this activity, EPA's program office, OPPT/NCD, identified instances of potential noncompliance with restrictions in its SNURs or orders. The results of the program's review meet the agency's needs and can be used along with other approaches OECA takes to identify non-compliance with EPA actions.

Use of the conclusions and/or (interim) findings: NCD reported the results to OECA in December 2023. NCD will support OECA, as needed, if OECA chooses to explore the potential discrepancies.

Link to findings: EPA may make general performance results publicly available through a variety of venues, including but not limited to, agency performance reporting at EPA Planning, Budget, and Results and other targeted stakeholder outreach and communications.

Lead Office	Office of Chemical Safety and Pollution Prevention
Title	Pesticide Registration Review
Link to EPA Strategic Plan	Goal 7: Ensure Safety of Chemicals for People and the Environment Objective 7.1: Ensure Chemical and Pesticide Safety
Completion Date	September 2024

Purpose and brief description: These recurring reviews assess the degree of progress and timely completion of docket openings, draft risk assessments, and case completions for the second cycle of pesticide registration review.

Question(s) that were addressed: Does the Office of Chemical Safety and Pollution Prevention (OCSPP)'s suite of pesticide registration review performance measures and processes for meeting pesticide registration review statutory timeframes warrant further revision?
Does the suite of pesticide registration review performance measures affect the quality of the draft risk assessments and risk management decisions?

Conclusions and/or (interim) findings: The Office of Pesticide Programs (OPP)'s suite of pesticide registration review performance measures include measures on registration review dockets opened, draft risk assessments completed, and case completed. Key takeaways for FY 2024 are as follows:

The FY 2024 target for registration review dockets opened was not met due to limited/reduced resources and competing priorities. The available registration review resources were needed to complete other registration review activities, including decisions for cases with initial registration before October 1, 2007, and development and implementation of the Endangered Species Act (ESA) and endocrine disrupter screening program (EDSP) strategies. The EPA did

not meet the target number of draft risk assessments completed for registration review due to programmatic delays in requesting the data needed from pesticide registrants to complete risk assessments. Updates to IT systems contributed to the delays, as the IT infrastructure updates needed to be completed before the new system could be used to electronically request and receive registrant responses to data call-ins. The FY 2024 actual cases completed exceeds the target because two cases moved more quickly through the registration review process than anticipated.

In FY 2023, Congress appropriated $138.6 million for the pesticides program, $27.4 million below the PRIA 5 minimum appropriation level of $166 million. For FY 2024, appropriations for the pesticide program are approximately $132.5 million, $33.5 million below the minimum appropriation trigger and over $38 million below the President's budget request of $170.6 million.

Following the passage of the Pesticide Registration Improvement Extension Act of 2018 (PRIA 4), the EPA had additional fee funding on top of annual maintenance fee collection as it worked to eliminate a maintenance fee surplus that had built up due to an appropriation limitation that was removed by PRIA 4. The Federal Insecticide, Rodenticide, and Fungicide Act (FIFRA) maintenance fees balance from previous FYs were spent down from over $50 million to just around $10 million, less than the Office of the Inspector General (OIG)-recommended level of carryover into a new fiscal year- 4 months' worth, which would equate to around $14 million. Going forward, this additional revenue source above annual collections will not be available as it has been the past several years.

Furthermore, the EPA collected about $8 million less fees than projected for pesticide registration services in FY 2023 and in FY 2024, leaving the agency with fewer resources than expected. Due to the cuts in appropriations and a FIFRA balance that is projected to be below the OIG-recommended level starting in FY 2025, OPP is unlikely to improve its ability to routinely meet the review timeframes envisioned by pesticide stakeholders and by Congress with the passage of PRIA 5 in 2022, since those timeframes were predicated based on an expectation of more resources than were actually gathered.

Use of the conclusions and/or (interim) findings: OPP's resource constraints and IT infrastructure issues restricted the program's abilities to meet registration review performance measures in FY24. OPP expects the implementation of the data call-in builder tool that has been developed through the digital transformation effort to address previous delays in requesting data needs; however, budget constraints are expected to continue into FY25 and may continue to limit the program's ability to meet performance measures. OPP does not see this as a function of the measures or processes themselves that would warrant further revision. Additionally, the quality of registration review deliverables, including draft risk assessments and risk management decisions, are not negatively impacted by the measures themselves, as the program is not currently meeting the annual targets for either measure as a direct result of resources and IT infrastructure issues.

Link to findings: EPA intends to make performance results publicly available. through a variety of venues, including but not limited to, agency performance reporting at EPA Planning, Budget,

and Results and quarterly updates to the pesticide registration review schedule at Upcoming Registration Review Actions.

Lead Office	Office of Chemical Safety and Pollution Prevention
Title	ESA Effects Determinations for Listed Species
Link to EPA Strategic Plan	Goal 7: Ensure Safety of Chemicals for People and the Environment Objective 7.1: Ensure Chemical and Pesticide Safety
Completion Date	September 2024

Purpose and brief description: The Endangered Species Act (ESA) requires that the actions of federal agencies do not jeopardize the continued existence of federally threatened or endangered species or destroy or adversely modify their critical habitat. The EPA is developing a process to incorporate ESA determinations into its new active ingredient registration process and to work towards more routine considerations of ESA determinations for registration review decisions. The EPA anticipates increasing ESA considerations into its registration and registration review decisions at an increasing frequency over the next five fiscal years. In FY 2022, EPA posted the ESA workplan to provide to the public the framework for ESA implementation into pesticide regulatory activities. Data collection for this activity occurs annually.

Question(s) that were addressed:

- Do processes for developing ESA effects determinations warrant further revision?
- Should the EPA develop a new suite of performance measures to measure current or new processes, and if so, what are the options?

Conclusions and/or (interim) findings: EPA performance measures for ESA includes measures on risk assessments supporting pesticide registration and registration review decisions that consider the effects determination or protections for federally threatened and endangered species. Key takeaways for FY 2024 are as follows:

EPA was able to consider effects on endangered species for all new active ingredients it registered in FY 2024, with the majority of these being “no effect” determinations for biopesticides. Historically, EPA has not incorporated ESA determinations into its regulatory decisions other than determinations of “no effects” (mostly for biopesticides), due to the lengthy process of ESA consultation with the Services (U.S. Fish and Wildlife Service and National Marine Fisheries Service). EPA will more routinely incorporate ESA effects determinations into its regulatory decisions and ensure protection for listed species earlier in the consultation process through label mitigation. EPA was also able to make "no effects" determinations for some registration review draft risk assessments, which resulted in an exceedance of the FY 2024 target. Additionally, in FY 2024 EPA finalized is Herbicide Strategy, released a draft insecticide Strategy, and released the Vulnerable Species Action Plan (VSAP). These strategies are a groundbreaking step for implementing early, practical protections for listed species and increasing the efficiency of meeting ESA obligations. The VSAP also provides a framework to adopt early, meaningful protections for a subset for U.S. Fish and Wildlife Services (FWS) listed species.

Use of the conclusions and/or (interim) findings: EPA was able to exceed performance goals for ESA in FY 2024, largely due to the number of "no effects" determinations for biopesticides that were made. The work done in FY 2024 to advance the ESA strategies is expected to result in protections for listed species during registration and registration review risk actions moving forward.

Link to findings: The EPA intends to make performance results publicly available through a variety of venues, including but not limited to, agency performance reporting at EPA Planning, Budget, and Results and other targeted stakeholder outreach and communications.

Cross Agency Strategy 3

Lead Office	Office of Mission Support
Title	Diversity, Equity, Inclusivity, Accessibility Implementation Plan
Link to EPA Strategic Plan	Cross-Agency Strategy 3: Advancing EPA's organizational Excellence and Workforce Equity
Estimated Completion Date	September 2026

Purpose and brief description: In line with President Biden's Executive Order 14035 on Diversity, Equity, Inclusion, and Accessibility in the Federal Workforce, EPA is actively implementing the actions identified in the Diversity, Equity, Inclusion, and Accessibility (DEIA) Plan.

Question(s) that were addressed: EPA has until September 2026 to address the below questions that this activity will address.

- Are agency recruitment, hiring, promotion, retention, professional development, performance evaluations, pay and compensation policies, reasonable accommodations access, and training policies and practices equitable?
- What is the status and effects of existing diversity, equity, inclusion, and accessibility initiatives or programs?
- What are the number and nature of institutional resources available to support human resources activities?

Conclusions and/or (interim) findings: In FY 2024, EPA:

- Identified that EPA achieved Level 2 of the DEIA Maturity Model, Advancing Outcomes. This entails DEIA initiatives yielding improved results and outcomes driven by dedicated resources, strategic planning, goal setting and evaluation. Agency/Component practices promote the values of DEIA, but DEIA may not yet be integrated across Agency/Component mission and strategic planning.
- EPA wanted to provide more consistent and stable level of support for DEIA conferences. In support of that, the agency centralized agency sponsorship of national diversity conferences, thereby increasing support to a broader range of recruitment and employee development opportunities. This resulted in 14 supported DEIA conferences

with 11 sponsored in CY2024. [Note: one conference was sold out, one (FEW) was cancelled and another was cancelled due to a hurricane.]

- The onboarding of permanent senior leadership is essential to the Office of Inclusive Excellence (OIE)'s goal of seamlessly integrating DEIA principles into all facets of agency operations. This situation improved through hiring and onboarding the first OIE Director.
- Launching the Qlik Diversity Dashboard enabled tracking and reporting on aggregate demographic data, enabling EPA to measure the impact of DEIA initiatives and assess effectiveness in hiring and retaining a diverse workforce at all levels.
- Appointment of senior executives as chief diversity officer and deputy chief diversity officer to allows for greater advancement of the agency's DEIA initiatives and ensure a centralized and strategic approach.
- Following recommendations to the Executive Resource Board's Pay and Performance Committee, EPA implemented agency specific language to emphasize DEIA in SES performance.
- Found that Times New Roman reduces accessibility for employees with low vision and learning disabilities and accounted for this by updating EPA's official typeface for letters and memorandums from Times New Roman to Calibri.
- To support inclusion across gender identities, the agency added a self-service option in eBusiness allowing employees to edit gender pronouns to appear in their display name in Microsoft 365 applications, including Outlook and Teams.

Use of the conclusions and/or (interim) findings: EPA will use the results of the above concluded activities to determine whether and to what extent agency practices result in inequitable employment outcomes, and whether agency actions may help to overcome systemic societal and organizational barriers and intends to address those gaps in 2024.

Lead Office	Office of Mission Support
Title	Implementing Multifactor Authentication and Encryption
Link to EPA Strategic Plan	Cross-Agency Strategy 3: Advancing EPA's organizational Excellence and Workforce Equity
Completion Date	September 2024

Purpose and brief description: Executive Order 14028 – Improving the Nation's Cybersecurity mandates that Agencies implement a Zero Trust Architecture in accordance with the National Institute of Standards and Technology (NIST) standards and guidance and requires the implementation a Multifactor Authentication (MFA) for Federal Information Systems Modernization Act (FISMA) Systems. The agency has identified the implementation of MFA as a Long-Term Performance Goal for the FY 2022-2026 EPA Strategic Plan. This activity standardizes information collection regarding MFA for all FISMA systems into the agency's Governance Risk and Compliance (GRC) Information Security management system and provides visibility into compliance for internal IT security stakeholders.

Question(s) that were addressed:

- What FISMA systems currently have implemented MFA?

- What FISMA systems that do not currently have MFA, require MFA to be implemented?

Conclusions and/or (interim) findings: As of FY 2024, 90 percent of the 117 FISMA systems/439 applications comply with MFA standards set forth by NIST. EPA's trajectory and continued efforts in this space are expected to yield achievement of 100 percent compliance in calendar year 2025.

Use of the conclusions and/or (interim) findings: By providing visibility to internal stakeholders, data collection efforts are driving compliance and assisting with FISMA reporting requirements by providing visibility to internal stakeholders.

Section 3: FY 2023 Activities in EPA's Learning Agenda Priority Areas

Lead Office	Office of the Chief Financial Officer (OCFO)
Title	Grant Commitments Met
Link to EPA Strategic Plan	Cross-Agency Strategy 4: Strengthening Tribal, State, and Local Partnerships to Enhance Engagement
Estimated Completion Date	September 2025

Purpose and brief description: The agency's activities for Years 3 and 4 of the Grant Commitments Met project were guided by the overarching agency Learning Agenda question: How can EPA assess the extent to which commitments achieve the intended environmental and/or human health results and identify possible next steps in establishing a comprehensive grant reporting system?

For Years 3 and 4, EPA developed a priority question that, once answered, will better prepare EPA to address the overarching Learning Agenda question. The EPA identified the priority question to support EPA's ability to collectively tell the story of what EPA's grant funding is achieving and to help inform Enterprise-wide grant reporting. The Years 3 and 4 priority question focused on consistently defined outputs and outcomes to facilitate: a general understanding across EPA grant programs and grantees; improved reporting consistency; and the ability to aggregate results across grant programs.

The EPA's efforts to address the priority question for Years 2 and 4 included two major activities: First, EPA identified categories of frequently reported outputs and outcomes and developed common definitions of specific outputs and outcomes that EPA could adopt to support consistent reporting at the Enterprise level. Second, EPA piloted the common outputs/outcomes and definitions with four EPA grant programs: Chesapeake Bay Program; Greenhouse Gas Reduction Fund; Environmental Justice Collaborative Problem-Solving Cooperative Agreement; Promoting Readiness and Enhancing Proficiency to Advance Reporting and Data Program.

Question(s) that were addressed: The following priority question was addressed during Years 3 and 4 of Grant Commitments Met activities: *What could EPA do to prepare grant programs to report on consistently defined outputs and outcomes?*

Conclusions and/or (interim) findings: At the closeout of Years 3 and 4, EPA determined that the common definitions and/or associated measures can prepare grant programs to report on consistently defined outputs and outcomes. The following conclusions were also reached:

1. Grant programs that are new or are undergoing significant changes or expansion may find that the common definitions and/or related measures are particularly helpful and easy to adopt.
2. Standard data collection templates and electronic reporting systems can also support consistent reporting of grant outputs and outcomes.
3. Reducing the reporting burden on grantees and Project Officers will help ensure that the common definitions and/or associated measures are utilized.

4. Ongoing collaboration and technical assistance were important for obtaining programmatic buy-in and adoption during the pilot; however, other approaches for scaling up the common definitions and/or related measures can be effective and feasible.

Use of the conclusions and/or (interim) findings: Building on the results of Years 3 and 4, in year 5, EPA plans to identify four to six programs to participate in a desk review. The EPA shall use data already available (e.g., programs' logic models) to assess which of the common definitions and/or related measures might support the activities and communications of each participating program. The desk review will include assistance with logic model development as well as a slide deck for each program that will include potential gaps in program measures; potential gaps between the program's current approach and the common definitions and related measures; and additional measures, approaches, or other data that the program could use to fill the gaps and improve reporting consistency. Year 5 will culminate in presentations to internal agency audiences regarding the work done by the EPA and the purpose and effectiveness of the common definitions and/or related measures for the support of grant programs.

Lead Office	Office of Mission Support
Title	Evidence Act Learning Agenda: Workforce
Link to Report	Cross-Agency Strategy 3: Advance EPA's Organizational Excellence and Workforce Equity
Completion Date	9/30/2024

Purpose and brief description: The EPA's mission to protect human health and the environment requires a highly skilled and dedicated workforce. Almost forty percent of EPA's workforce is already, or will shortly become, eligible for retirement within the next five years. This, along with changing workforce demographics, impacts every region and program. The EPA has a unique opportunity to transform its human capital processes, including workforce planning, knowledge transfer, and succession management, in order to prepare itself for the future of its work. The EPA is carrying out evidence-building activities to address priority questions related to workforce planning, one of the EPA's Learning Agenda priority areas. The agency will use the results from these evidence-building activities to both inform and develop policies and approaches that can equip employees with the needed competencies, knowledge, and most up-to-date tools to advance EPA's mission. Loss of institutional knowledge due to retirement or turnover can reduces the average level of expertise amongst employees and can impact efficiency, innovative problem solving, and the ability to deliver on certain commitments.

Question(s) that were addressed: List all policy, science/research, regulatory, programmatic and/or operational questions the activity is intended to address.

- Does EPA have access to the tools and strategies needed to analyze and understand the agency's near- and long-term workforce and succession needs?
- What are the critical skills needed to support the agency's mission, now and in the future?
- What are the best strategies to attract, recruit, train and retain a diverse workforce? What makes people stay in the agency long-term?
- What is the best way to ensure knowledge is transferred from outgoing to current and incoming staff to support succession management?

Conclusions and/or (interim) findings: Twenty-one organizations completed Succession Management plans. Findings from the organizations' plans were used to inform these Succession Management plan. Separately, research and analyses were conducted to create the EPA Future Skills Report. This report includes recommendations to adequately identify the competencies necessary to strengthen and modernize the workforce and to meet both the EPA's current and its future mission. It also identifies the current and emerging (e.g., now and in the next decade) ecological and environmental issues and the competencies needed to address these issues.

Use of the conclusions and/or (interim) findings: With agency-wide and programmatic succession management plans in place, OHRS will continue to support organizations in monitoring and evaluating progress toward closing identified skill and resource gaps. Findings from the work also revealed imbalances among program and regional offices in several areas necessary for effective strategic workforce planning. As a result, additional training will be held on workforce analysis and action planning to include measures and metrics. OHRS and OHCO have partnered to tackle hiring strategically by integrating both succession management plans and workforce plans to better inform recruiting decisions. Additional emphasis on agency-wide workforce planning is planned for FY25, where the EPA will work to include a focus on occupational series identified as at-risk through the succession management planning process.

OHRS will work with other EPA organizations to validate of the findings from the EPA Future Skills report in FY25. Validation will start with a pilot, representative group of subject matter experts (SMEs) within one of EPA's program offices. The SMEs will provide feedback on new and emerging competencies to narrow the scope of recommendations and support additional validation efforts (surveys, focus groups and interviews). Following validation, OHRS will develop a set of strategic human capital priorities to build capacity for future mission accomplishment.

Link to findings: The identified workforce activities are considered key components of management's strategic decision-making process; findings will be shared in accordance with requirements related to information that may be privileged or prohibited from disclosure. It is anticipated that relevant results will be shared with internal stakeholders, including senior leaders and the EPA's Human Resource Officer/Program Management Officer community. Aggregate information on findings might be shared with other federal agencies and/or publicly.

Lead Office	Office of Enforcement and Compliance Assurance
Title	Drinking Water Systems Out of Compliance
Link to EPA Strategic Plan	Goal 3: Enforce Environmental Laws and Ensure Compliance Objective 3.2: Detect Violations and Promote Compliance
Estimated Completion Date	September 2027

Purpose and brief description: Drinking water noncompliance is most prominent in small, disadvantaged communities, and it may be higher than the EPA's data suggests due to monitoring and reporting failures. The Drinking Water Systems Out of Compliance learning priority area in the EPA's Learning Agenda consists of 5 different research questions, identified through stakeholder engagement. Collectively, the evaluation of the questions assesses drinking

water data reported to the EPA to determine whether it accurately measures national compliance and substantiates agency policy decisions; considering noncompliance root causes and corresponding technical/managerial/financial (TMF) factors; and testing efficacy of technical assistance, enforcement, and state oversight.

The EPA is using several methods to address this priority area: literature reviews, statistical analysis of existing data, case studies, and gleaning and aggregating information from EPA and states' reports are all employed methods. EPA's evaluations have the potential to increase drinking water compliance rates by identifying Public Water System (PWS) characteristics correlated with noncompliance and evaluating policy instruments, as well as addressing the evaluations' potential ability to impact those characteristics and, subsequently, a PWS' compliance. Our analyses will assist in determining the most effective way to apply compliance assurance tools for increasing compliance in the drinking water program.

The Office of Enforcement and Compliance Assurance (OECA), Office of Water (OW), and the Drinking Water Systems Out of Compliance learning priority workgroup assessed drinking water data to determine whether it accurately measures national compliance and substantiates agency policy decisions.

FY 2025 funds will support prospective studies for Questions 2 and 3 (listed below). Efforts will be focused on retrospective analysis using EPA's inspection and enforcement data. OECA will also work on Question 4, which is closely related to Question 2.

OCEA anticipates evaluating Question 5 – effective oversight -- in future years.

Question(s) that were addressed:

1. Does EPA have ready access to data to measure drinking water compliance reliably and accurately?
2. What factors determine system noncompliance and optimal performance?
3. Does increased use of compliance assurance tools (inspections and enforcement) improve system compliance, and if so under what circumstances?
4. How can EPA determine if a system has the technical, managerial, and financial capacity to provide safe water on a continuous basis to its customers?
5. What EPA oversight activities are effective at assessing and improving state programs' ability to drive compliance?

Conclusions and/or (interim) findings: In FY 2024, OECA completed work on Question 1 (drinking water data availability and reliability) and is drafting a report of the findings in FY 2025. The EPA also completed the first phase of Question 2 (root cause of noncompliance), by confirming water system characteristics that correlate to noncompliance. Beyond Phase 1, EPA is analyzing common characteristics of small systems with good compliance records. For Question 3 (efficacy of inspections and enforcement), EPA improved its drinking water dataset and used it to begin a retrospective analysis.

For Question 1, EPA evaluated four aspects of SDWIS Fed data quality: data transfer errors, compliance determinations, PWS sample results, and effects of monitoring and reporting (M&R)

violations. To that end, EPA evaluated SDWIS data quality and data availability using a limited number of drinking water regulations to provide targeted insight on:

- Data sets and data sources that can be further explored to support assessments of SDWIS Fed data quality.
- Promising analytical approaches to assessing data quality that could be adapted and expanded.
- Potential areas of concern that may warrant further research, or
- Areas in which no apparent widespread concerns were identified.

The results indicate that the agency has ready access to data on the characteristics of regulated PWSs in the U.S., regarding violation determinations, and regarding enforcement actions. These three types of data enable EPA to conduct analyses of PWS compliance status as determined by individual primacy agencies. However, EPA does not have ready access to detailed compliance monitoring data, which are used by primacy agencies to determine standards of compliance. Without compliance monitoring data, the EPA is not able to conduct more detailed analyses on rule implementation and/or comprehensively assess whether violation data reported by states are complete, reliable, and accurate. Furthermore, the EPA does not have ready access to comprehensive qualitative or quantitative national data on PWS technical, managerial, and/or financial capacity, which would facilitate a more robust understanding of PWSs.

For Question 2, which centers around factors of noncompliance and of optimal performance, the EPA completed an analysis of small systems to identify systems performing above or below expectations and are currently expanding such analyses to look more closely at any common characteristics among those in each category. Above-average and below-average system performance was determined based on a small systems' success rate in resolving a health-based violation (HBV). Following this analysis, EPA was able to link census data to PWSs to form an analytical dataset. This linkage allowed the EPA to perform a multivariate statistical analysis to determine how a set of factors relate to the compliance bins. Through this binning approach, OECA was able to determine which factors are associated with better compliance records and which are associated with worse compliance records. The EPA added a mapping component to the analysis to visualize geographic trends related to both lower-performing and higher-performing systems. No consistent correlative factors were revealed, but the mapping component confirmed that geographical factors, such as source water, are important to compliance. The EPA also established a contract with the University of Chicago to assist with the completion of Question 2. This study intends to identify internal factors that influence significant noncompliance and the extent to which those factors are interrelated.

For Question 3, EPA completed improvements to the inspection dataset and began a retrospective analysis to evaluate the impact on PWS compliance with agency on EPA inspections. EPA also continued engaging with the University of Kansas to encourage research efforts to evaluate the efficacy of enforcement regarding compliance with the drinking water program.

Use of the conclusions and/or (interim) findings: For Question 1, regarding data reliability and availability, OECA will use the results of these analyses to understand the limitations, if any, in using SDWIS-Fed data in evaluations of the other four questions in the Learning Agenda priority

area. The EPA may more broadly use the information in continuous improvement efforts relating to supporting data quality and regulatory compliance.

For Question 2, regarding factors of system noncompliance, the EPA will use the results of these analyses to identify key factors of system noncompliance and of optimal performance; the agency will relate those factors to the adjustment of existing policy instruments, or to the creation of new policy instruments.

For Question 3, regarding compliance assurance tools, OECA will use the results of these analyses to examine the most effective uses of said compliance assurance tools.

Section 4: Reports from the Government Accountability Office (GAO) and EPA Office of Inspector General (OIG)

EPA values the findings and recommendations provided in reports from the Government Accountability Office (GAO) and EPA Office of Inspector General (OIG). These reports provide valuable evidence on EPA performance that informs agency program design and implementation. Below is a summary of the reports published by GAO and OIG that informed EPA decision making in FY 2024.

Lead Office	Office of Air and Radiation
Title	Office of Inspector General (OIG) Report: EPA Clean School Bus Program Could be Impacted by Utility Delays
Completion Date	December 2023
Purpose and Approach	To determine whether potential supply chain or production delays could impact EPA's efforts to disburse and manage Clean School Bus Program funds pursuant to section 71101 of the Infrastructure Investment and Jobs Act.
Link to Report	EPA Clean School Bus Program Could Be Impacted by Utility Delays | Office of Inspector General OIG

Lead Office	Office of Air and Radiation
Title	U.S. Government Accountability Office (GAO) Report: Air Quality Sensors: Policy Options to Help Address Implementation Challenges
Purpose and Approach	U.S. ambient air quality is monitored by federal, state, and local agencies through the National Ambient Air Quality Monitoring System. However, that system is unable to provide some of the information that users may need to better manage health risks from air pollution. Lower-cost air quality sensors (sensors) are portable devices that can measure local air quality in real time. Lower-cost air quality sensors have the potential to help meet some of the monitoring information needs that require pollution measurements in additional locations or that require more real-time data. The General Accountability Office (GAO) reviewed key reports and scientific literature; interviewed federal and state agency officials and other stakeholders from academia, industry, and nongovernmental organizations; attended a workshop on issues related to lower-cost air quality sensors; and convened a two-day meeting of 12 experts. These experts included individuals who conduct research on sensor technologies and their uses, develop or manufacture sensor technologies, or use or consider using sensor technologies and data. In light of congressional interest in the role of sensors in identifying air pollution hot spots, fence line monitoring, and community monitoring,

	among other uses, EPA conducted this technology assessment under the authority of the Comptroller General.
Completion Date	March 2024
Link to Report	Air Quality Sensors: Policy Options to Help Address Implementation Challenges | U.S. GAO

Lead Office	Office of Air and Radiation
Title	U.S. Government Accountability Office (GAO) Report: Information on Peak Demand Power Plants
Purpose and Approach	The GAO was asked to examine pollution from "peakers" (e.g., power plants that only operate during peak demand) across the nation. This report provides information on the number and location of peakers in the U.S., their proximity to historically disadvantaged or disproportionately low-income communities, to what extent they emit pollutants, how these pollutants affect the health of people exposed, and alternatives for replacing them. To perform this work, the GAO analyzed data from EPA, the U.S. Department of Energy, and other sources, reviewed relevant literature, and interviewed federal officials and stakeholders from 19 states, industries, and nongovernmental organizations; these interviewees represent a range of diverse perspectives about peakers.
Completion Date	May 2024
Link to Report	Electricity: Information on Peak Demand Power Plants | U.S. GAO

Lead Office	Office of Air and Radiation
Title	Office of the Inspector General (OIG) Report: EPA Did Not Ensure that Two of the Largest Air Oversight Agencies Identified and Inspected Potentially Significant Sources of Air Pollution
Purpose and Approach	To determine whether the U.S. Environmental Protection Agency oversight ensures that state and local air agencies with large compliance-monitoring programs identify high-emitting synthetic-minor sources, known as SM-80s, in accordance with EPA's Clean Air Act Stationary Source Compliance Monitoring Strategy.
Completion Date	July 2024
Link to Report	EPA Did Not Ensure that Two of the Largest Air Oversight Agencies Identified and Inspected Potentially Significant Sources of Air Pollution | Office of Inspector General OIG (epaoig.gov)

Lead Office	Office of Air and Radiation
Title	Office of the Inspector General (OIG) Report: EPA Needs to Improve Internal Controls for Selecting Recipients of Clean School Bus Program Funds
Purpose and Approach	This evaluation was conducted to determine whether EPA followed requirements when selecting recipients for the Infrastructure Investment and Jobs Act's Clean School Bus Program funds.
Completion Date	July 2024

Link to Report	EPA Needs to Improve Internal Controls for Selecting Recipients of Clean School Bus Program Funds | Office of Inspector General OIG

Lead Office	Office of Air and Radiation
Title	U.S. Government Accountability Office (GAO) Report: Port Infrastructure: U.S. Ports Have Adopted Some Automation Technologies and Report Varied Effects
Purpose and Approach	This work began in response to a congressional mandate: Sec. 25 of the Ocean Shipping Reform Act, Pub. L. No. 117-146. The agency assessed the use, availability, and effects of automation technology at ports, as well as to what extent federal agencies have programs and policies regarding the development and adoption of automation technologies.
Completion Date	March 2024
Link to Report	U.S. Ports Have Adopted Some Automation Technologies and Report Varied Effects

Lead Office	Office of Mission Support
Title	Office of Inspector General (OIG) Report: The EPA Needs to Better Implement Internal Access Control Procedures for Its Integrated Risk Information System Database
Purpose and Approach	The U.S. Environmental Protection Agency's Office of the Inspector General (OIG) conducted this audit to determine whether EPA's Integrated Risk Information System (IRIS) database adheres to federal and agency access control requirements. The Integrated Risk Information System Program is a chemical evaluation program under the Office of Research and Development (ORD) and is a critical component of the EPA's capacity to support scientifically sound environmental regulations and policies. The program supports EPA's mission to protect human health and the environment by identifying and characterizing the health hazards of chemicals found in the environment.
Completion Date	October 2023
Link to Report	EPA Needs to Better Implement Internal Access Control Procedures for Its Integrated Risk Information System Database

Lead Office	Office of Mission Support
Title	Office of Inspector General (OIG) Report: The EPA's Enhanced Personnel Security Program Is on Track, but Challenges to Full Implementation Remain.
Purpose and Approach	The U.S. Environmental Protection Agency's Office of the Inspector General (OIG) conducted this evaluation to determine EPA's Personnel Security Branch's progress in implementing a fair and effective enhanced personnel security program in accordance with the Director of National Intelligence's performance standards. Executive Order 13467 requires all executive branch agencies to implement reforms to enhance their personnel

	security programs. These reforms are intended to establish a single vetting system for the federal government. OIG's objective was to determine EPA's progress in implementing a fair and effective enhanced personnel security program in accordance with the Director of National Intelligence's performance standards. The anticipated benefit of this evaluation is greater assurance that all practices and controls are in place to mitigate the risk posed by personnel who potentially represent a threat to national security.
Completion Date	February 2024
Link to Report	The EPA's Enhanced Personnel Security Program Is on Track, but Challenges to Full Implementation Remain.

Lead Office	Office of Mission Support
Title	Office of Inspector General (OIG) Report: The EPA Needs to Develop and Implement Information Technology Processes to Comply with the Federal Information Security Modernization Act for Fiscal Year 2023
Purpose and Approach	The U.S. Environmental Protection Agency's Office of the Inspector General (OIG) conducted this audit to assess EPA's compliance with the FY 2023 Inspector General Federal Information Security Modernization Act of 2014 reporting metrics.
Completion Date	August 2024
Link to Report	EPA Needs to Develop and Implement Information Technology Processes to Comply with the Federal Information Security Modernization Act for Fiscal Year 2023

Lead Office	Office of Mission Support
Title	Government Accountability Office (GAO) Report: CYBERSECURITY: Federal Agencies Made Progress, but Need to Fully Implement Incident Response Requirements
Purpose and Approach	Cyber-based attacks on federal systems have become more damaging and disruptive. The Federal Information Security Modernization Act of 2014 (FISMA) requires that agency information security programs include procedures for detecting, reporting, and responding to security incidents. Executive Order (EO) 14028 builds on FISMA and establishes priorities for the federal executive branch to improve efforts to protect against and respond to persistent and malicious cyber campaigns. The EO, the Office of Management and Budget (OMB), and Cybersecurity and Infrastructure Security Agency (CISA) guidance require agencies to address these priorities.
Completion Date	December 2023
Link to Report	Federal Agencies Made Progress, but Need to Fully Implement Incident Response Requirements

Lead Office	Office of Mission Support

Title	Government Accountability Office (GAO) ARTIFICIAL INTELLIGENCE Agencies Have Begun Implementation but Need to Complete Key Requirements
Purpose and Approach	While there are varying definitions of artificial intelligence (AI), they generally refer to computing systems that "learn" how to improve their performance. AI has the potential to rapidly change the world and holds substantial promise for improving government operations. However, AI poses risks that can negatively impact individuals, groups, organizations, communities, and society. The President's FY 2023 budget request included $1.8 billion for nondefense research and development investment in AI. In addition, some agencies are using AI operationally to identify information security threats and facilitate the review of large datasets, among other uses. Given the rapid growth in capabilities and widespread adoption of AI, the federal government should have safeguards to manage AI's complexities, risks, and societal consequences.
Completion Date	December 2023
Link to Report	ARTIFICIAL INTELLIGENCE Agencies Have Begun Implementation but Need to Complete Key Requirements

Lead Office	Office of Mission Support
Title	Government Accountability Office (GAO) SEXUAL HARASSMENT Actions Needed to Improve Prevention Training for Federal Civilian Employees
Purpose and Approach	Safety from sexual harassment and other harmful behaviors such as sexual assault helps ensure the effectiveness, retention, and morale of the federal workforce, according to federal government research. The Department of Defense (DOD) and other federal agencies have taken steps to address such behaviors, but data show that sexual harassment persists and is underreported. The James M. Inhofe National Defense Authorization Act for Fiscal Year 2023 includes a provision for the General Accountability Office (GAO) to review sexual harassment prevention training at DOD and at other federal agencies.
Completion Date	February 2024
Link to Report	SEXUAL HARASSMENT Actions Needed to Improve Prevention Training for Federal Civilian Employees

Lead Office	Office of Mission Support
Title	Office of Inspector General (OIG): IIJA Build America Buy America Waivers (OIG: 24-N-0037) – agencywide
Purpose and Approach	The U.S. Environmental Protection Agency's Office of the Inspector General (OIG) conducted this project to quantify the extent to which EPA

	is issuing Build America, Buy America (BABA) Act waivers for infrastructure projects.
Completion Date	May 2024
Link to Report	The EPA Does Not Always Track the Use of Build America, Buy America Act Waivers for Infrastructure Projects

Lead Office	Office of Water
Title	Office of Inspector General (OIG) Report: Drinking Water State Revolving Fund Agencies' Perspectives on Their Capacity to Manage Infrastructure Investment and Jobs Act Funds (OIG: OSRE-FY23-0043)
Purpose and Approach	The U.S. Environmental Protection Agency's Office of the Inspector General (OIG) states they "conducted this evaluation to identify (1) drinking water state revolving fund agencies' perspectives on their capacity to manage Infrastructure Investment and Jobs Act funds and (2) obstacles that drinking water state revolving fund agencies' administrators believe limit their capacity to manage Infrastructure Investment and Jobs Act funds. The Drinking Water State Revolving Fund (DWSRF) Program is a financial assistance program that helps states to finance critical water infrastructure projects that further the health protection objectives of the Safe Drinking Water Act. The OIG used a survey to identify state agencies' perspectives on their capacity to manage Infrastructure Investment and Jobs Act (IIJA) funds. Capacity, as addressed in this report, has three relevant dimensions: organizational, financial, and human capital. A lack of capacity within any of these dimensions can adversely impact a state agency's ability to effectively manage federal grant funding, such as Infrastructure Investment and Jobs Act (IIJA) funding and may result in unspent funds."
Completion Date	February 2024
Link to Report	Perspectives on Capacity: Managing Drinking Water State Revolving Fund Infrastructure Investment and Jobs Act Funding

Lead Office	Office of Water
Title	Government Accountability Office (GAO) Report: EPA Urgently Needs a Strategy to Address Cybersecurity Risks to Water and Wastewater Systems
Purpose and Approach	The report reviews cybersecurity threats that the water sector faces and the federal government's efforts to address these threats. The report (1) describes cybersecurity risks and water sector incidents, (2) examines actions selected federal and nonfederal entities have taken to improve water sector cybersecurity, and (3) evaluates the extent to which EPA has taken actions to address known cybersecurity risks to the water sector.
Completion Date	August 2024
Link to Report	Critical Infrastructure Protection: EPA Urgently Needs a Strategy to Address Cybersecurity Risks to Water and Wastewater Systems | U.S. GAO

Lead Office	Office of Water
Title	Office of the Inspector General (OIG) Report: Water Infrastructure Improvements for the Nation (WIIN) Act Grants
Purpose and Approach	To determine whether EPA distributed Water Infrastructure Improvements for the Nation Act (WIIN Act) funds to replace lead service lines in disadvantaged communities in adherence with applicable guidance**.**
Completion Date	September 2024
Link to Report	EPA Awarded WIIN Act Funds Consistent with Nearly All Guidance and Improved its Processes to Increase Transparency of Funding Decisions

Lead Office	Office of Water
Title	Government Accountability Office (GAO) Report: Additional EPA Actions Could Help Public Water Systems Address PFAS in Drinking Water
Purpose and Approach	In 2029, EPA will require certain public water systems to comply with maximum contaminant levels for specific Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) in drinking water. There are concerns about whether systems have sufficient information to implement treatment methods and safely manage the resulting waste. The Government Accountability Office (GAO) was asked to examine PFAS related challenges for public water systems.
Completion Date	September 2024
Link to Report	GAO-24-106523 Highlights, PERSISTENT CHEMICALS: Additional EPA Actions Could Help Public Water Systems Address PFAS in Drinking Water

Lead Office	Office of Water
Title	Office of Inspector General (OIG) Compliance with the [lead] Public Notification Requirements Under Section 2106 of the Water Infrastructure Improvements for the Nation (WIIN) Act (OIG: OA-FY23-0034)
Purpose and Approach	The objective of the audit, as revised on May 2, 2023, was to assess the EPA's preparation to implement the public notification requirements under section 2106 of the Water Infrastructure Improvements for the Nation, or WIIN, Act. Section 2106 adds public notification requirements to the Safe Drinking Water Act for water system exceedances of the lead action level under EPA's Lead and Copper Rule (or subsequent promulgated lead level) Water systems must now notify the public, the state, and EPA of system lead action level exceedances as prescribed by EPA. Further, for an exceedance that has potential to cause serious adverse health effects from short-term exposure, a water system must notify the public, the state, and EPA within 24 hours. If the state or system owner/operator does not provide the required notice, EPA must now notify the public within 24 hours after the Administrator is notified.
Completion Date	September 2024

Link to Report	EPA Should Better Prepare to Implement Public Notification Requirements When Lead in Drinking Water Poses Serious Risks to Human Health

Lead Office	Office of Water
Title	Office of Inspector General (OIG) Report: The EPA Should Improve Annual Reviews to Protect Infrastructure Investment and Jobs Act Grants to Clean Water State Revolving Funds, report no. 24-P-0028.
Purpose and Approach	The purpose of this audit is to determine whether the EPA is prepared to oversee, through its annual review process, the Infrastructure Investment and Jobs Act (IIJA) funds being invested in the Clean Water State Revolving Fund (CWSRF) Program. The OIG reviewed relevant statutes, regulations, policy, and guidance documents, and the OIG selected three EPA regions and one state from each region to examine the annual review process.
Completion Date	March 2024
Link to Report	The EPA Should Improve Annual Reviews to Protect Infrastructure Investment and Jobs Act Grants to Clean Water State Revolving Funds | Office of Inspector General OIG (epaoig.gov)

Lead Office	Office of Water
Title	Office of Inspector General (OIG) Report: *Half the States Did Not Include Climate Adaptation or Related Resilience Efforts in Their Clean Water State Revolving Fund Intended Use Plans,* report no. 24-P-0031.
Purpose and Approach	The purpose of this audit is to determine to what extent (1) the EPA provides guidance and reviews states' Clean Water State Revolving Fund (CWSRF) intended use plans to ensure that the plans, as they relate to climate change resiliency, meet the intent of the presidential policy directive to strengthen and maintain secure, functioning, and resilient critical infrastructure and (2) the states, in their CWSRF planning, consider climate change resiliency to safeguard federal investments, including funding provided by the Infrastructure Investment and Jobs Act (IIJA).
Completion Date	April 2024
Link to Report	Half the States Did Not Include Climate Adaptation or Related Resilience Efforts in Their Clean Water State Revolving Fund Intended Use Plans | Office of Inspector General OIG (epaoig.gov)

Lead Office	Office of Water
Title	Government Accountability Office (GAO) Report: *Clean Water: Revolving Fund Grant Formula Could Better Reflect Infrastructure Needs, and EPA Could Improve Needs Estimate,* report no. GAO-24-106251.
Purpose and Approach	The GAO was asked to review options for the Clean Water State Revolving Fund program's allotment formula. This report (1) describes

	the current formula and how states distribute funds; (2) discusses an expert panel's views on a new formula it developed and examines the effects on allotments; and (3) examines the extent to which EPA has estimated states' needs. The GAO reviewed laws, regulations, and agency documents; analyzed EPA and U.S. Census data; and interviewed EPA officials, state organizations, and officials from eight states selected based on geographic and other factors. The GAO also convened a panel of seven experts to develop a formula using a multi-step process.
Completion Date	July 2024
Link to Report	Clean Water: Revolving Fund Grant Formula Could Better Reflect Infrastructure Needs, and EPA Could Improve Needs Estimate | U.S. GAO

Lead Office	Office of Water
Title	Office of Inspector General (OIG) Report: *Most States Did Not Provide Some Required Fee Information in the Intended Use Plan or Annual Report for Their Clean Water State Revolving Funds,* Report No. 24-N-0069
Purpose and Approach	The U.S. Environmental Protection Agency's Office of Inspector General (OIG) initiated an audit of the EPA's oversight of the Clean Water State Revolving Fund, or CWSRF, Program. While conducting work on that audit, which is complete, OIG found that some states omitted required fee information from the intended use plan or the annual report for their CWSRFs and decided to issue this report.
Completion Date	September 2024
Link to Report	Most States Did Not Provide Some Required Fee Information in the Intended Use Plan or Annual Report for Their Clean Water State Revolving Funds Office of Inspector General OIG (epaoig.gov)

Lead Office	Region 5
Title	Office of Inspector General (OIG) Report: Great Lakes Restoration Initiative Grants Documented Most Achievements, but the EPA Could Improve Monitoring and Reporting
Purpose and Approach	The U.S. Environmental Protection Agency's Office of Inspector General (OIG) conducted this audit to determine the extent to which the Great Lakes Restoration Initiative grants support the EPA's program goals for the Great Lakes.
Completion Date	June 2024
Link to Report	Great Lakes Restoration Initiative Grants Documented Most Achievements, but the EPA Could Improve Monitoring and Reporting