
**U.S. ENVIRONMENTAL PROTECTION AGENCY NATIONAL
PERFORMANCE MEASURES STRATEGY FOR ENVIRONMENTAL
COMPLIANCE AND ENFORCEMENT**

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SUMMARY

In January, 1997 EPA's Office of Enforcement and Compliance Assurance initiated the National Performance Measures Strategy to develop and implement an enhanced set of performance measures for EPA's enforcement and compliance assurance program. This article discusses the results of this effort and Office of Enforcement and Compliance Assurance's plans and goals for performance measurement in the future.

1 INTRODUCTION

EPA's Office of Enforcement and Compliance Assurance is responsible -- along with state environmental agencies -- for enforcing and ensuring compliance with the nation's environmental laws. During the last two years (FY 1996-97) EPA regional and Headquarters enforcement personnel conducted approximately 36,950 inspections of regulated facilities and entities, referred about 721 civil judicial enforcement cases and 540 criminal enforcement cases to the U.S. Department of Justice, issued about 2,183 administrative penalty orders and 2,354 compliance orders and assessed approximately \$436 million dollars in criminal, civil and administrative penalties. For many years, these aggregate "numbers" have been the sole measure of EPA's enforcement and compliance assurance program performance. While they remain an important measure of program performance and accountability to the public, they do not reveal the state of compliance among regulated entities, the environmental results and impact from enforcement and compliance assurance activities, nor the extent to which important environmental objectives and problems are being addressed.

Therefore, in order to present a more comprehensive picture of the impact of enforcement and compliance activity nationwide, Office of Enforcement and Compliance Assurance initiated the National Performance Measures Strategy in January of 1997. The goal was to develop and implement an enhanced set of performance measures for EPA's enforcement and compliance assurance program. This article describes those measures and Office of Enforcement and Compliance Assurance's goals for the future.

2 COMPELLING TRENDS AND THE NEED FOR ENHANCED PERFORMANCE MEASURES

EPA identified the need to develop enhanced performance measures for its enforcement and compliance assurance program as part of the Agency's September 1993 report announcing the reorganization of its enforcement program. That report cited the need to develop "better ways to measure (the) impact" of enforcement and compliance assurance

activities as an improvement desired by both external stakeholders and EPA enforcement personnel. In addition, certain national trends in government, environmental protection and enforcement and compliance assurance programs also compelled Office of Enforcement and Compliance Assurance and the Agency to develop more systematic and comprehensive performance measures.

The trend in government is toward results-based management and greater accountability to taxpayers. At the Federal level, this trend is being realized through the implementation of the Government Performance and Results Act, which requires Federal agencies to develop strategic plans with goals, objectives, and performance measures. Consistent with Government Performance and Results Act requirements and goals, EPA initiated other related strategic planning and performance measurement efforts, including the development of EPA's Strategic Plan and the development of Office of Enforcement and Compliance Assurance's own strategic plan known as the National Enforcement and Compliance Assurance Plan. States and local governments have also moved toward greater accountability for results.

Some of the key elements of the trend in enforcement and compliance assurance programs include strategic targeting for noncompliance problems, assessing risk to set priorities, creating effective deterrence, and using a wider range of tools (i.e., not solely inspections and enforcement actions) to increase compliance. Regulatory and law enforcement agencies of many kinds -- not just those whose jurisdiction covers the environment -- are developing and integrating these approaches in order to optimize their impact on compliance levels and/or human health and safety. The trend in environmental protection is evidenced by a more sophisticated model of protection which integrates incentive-based methods and traditional regulatory approaches, empowers the public with more information about environmental problems and industry performance, and focuses on a second generation of more diverse environmental problems and sources.

The Office of Enforcement and Compliance Assurance began to develop and implement additional measures which capture outcomes in 1994. Over the last three and a half years, the Office of Enforcement and Compliance Assurance convened a "Measures of Success" work group, comprised of EPA headquarters and regional officials; developed and implemented a Case Conclusion Data Sheet to gather new types of information about environmental improvements resulting from completed cases; developed and implemented a reporting measure for compliance assistance activities and realigned single-media data bases to enable collection and analysis of compliance information by industry sector.

These initial activities enabled the Office of Enforcement and Compliance Assurance to make progress in developing and implementing an enhanced set of performance measures. The Office of Enforcement and Compliance Assurance can now supplement traditional enforcement measures with more result-based measures, including: actions taken by regulated entities as a result of enforcement; quantitative environmental impact and qualitative environmental benefit of those actions; and industry-specific information about noncompliance. Despite this progress, we still had "gaps" in our ability to measure environmental impact. Enforcement output measurement needed to be further supplemented by measuring improvements in environmental quality and the state of compliance among regulated entities. We also needed to develop performance measures for new tools and approaches being used to solve environmental problems, e.g., incentive policies to encourage self-disclosure by industry, and compliance assistance efforts to help small businesses understand and meet their compliance obligations. The National Performance Measures Strategy is designed to fill in these "gaps."

3 PRINCIPLES OF THE NATIONAL PERFORMANCE MEASURES STRATEGY

The Office of Enforcement and Compliance Assurance began the public discourse on performance measurement by asking regulatory partners, interested parties and stakeholders, to provide ideas on a variety of issues related to performance measurement.⁽⁴⁾ Among the areas the Office of Enforcement and Compliance Assurance asked participants to discuss were how to measure industry compliance with environmental laws and regulations, and innovative approaches regulated entities used to measure their own compliance efforts. The Office of Enforcement and Compliance Assurance also sought new ideas being used by other environmental, regulatory, or law enforcement agencies to measure the effects of their enforcement and compliance assurance programs, especially the deterrent effect of enforcement activities. The Office of Enforcement and Compliance Assurance also requested input on how to measure the effectiveness of its compliance assistance and incentive activities, as well as the impact of its program in low income/minority population communities.

Through the public meetings and focussed round table discussions in which the full range of stakeholders, regulatory partners and interested parties participated, the Office of Enforcement and Compliance Assurance gleaned these general guiding principles about measuring the performance of its enforcement and compliance assurance program.

- There are diverse and multiple audiences for enforcement and compliance assurance performance measures.
- A combination of measures -- quantitative and qualitative, statistical and narrative, cumulative and categorical, national and localized -- is necessary to measure performance, inform management and serve the full range of audience and purposes.
- The value of individual performance measures and systems of measures should be judged by whether they are relevant, transparent, credible, feasible, functional and comprehensive.
- Performance measures are most effective when they reflect management priorities and are linked to a limited number of program goals and objectives.
- Increased use of performance measures presents many challenges because agencies or programs may influence -- but not necessarily control -- outcomes.
- Problem-specific, tailor-made performance measures are effective for evaluating performance in solving specific environmental and noncompliance problems.
- Performance measures are principally used to evaluate effectiveness and manage more strategically, rather than simply reporting accomplishments to the public in more interesting and informative ways.

The Office of Enforcement and Compliance Assurance used these guiding principles and the ideas and suggestions about performance measurement and specific measures received from stakeholders, regulatory partners, and experts to develop a measurement framework called the "Performance Profile for Enforcement and Compliance Assurance" which it will begin to implement in fiscal year 1998.

4 ENHANCED PERFORMANCE MEASURES: THE PERFORMANCE PROFILE FOR EPA'S ENFORCEMENT AND COMPLIANCE ASSURANCE PROGRAM

4.1 Definitions

In formulating the Performance Profile, the Office of Enforcement and Compliance Assurance uses a standard set of definitions developed by EPA and the Environmental Council of the States (ECOS) and first used as Core Performance Measures contained in Performance Partnership Agreements between EPA and individual states. The definitions consist of three categories of measures -- outputs, outcomes and environmental indicators.

- Outputs are defined as quantitative or qualitative measures of important activities, work products, or actions taken by EPA or by states under delegated Federal programs.
- Outcomes are defined as quantitative or qualitative measures of changes in the behavior of the public or regulated entities caused, at least in part, by actions of government.
- Environmental indicators are defined as quantitative or qualitative measures over time of progress toward achieving environmental or human health objectives.⁽²⁾

The National Performance Measures Strategy framework uses all three of these categories of measures. Besides providing important information individually, the categories also are interrelated --each category is strengthened by the other two, and each category would be weakened or prone to misinterpretation in the absence of any of the others.

4.2 Environmental Indicator Category -- Impact on Environmental, Human Health, and Noncompliance Problems

The first category of the Profile analyzes the impact of the enforcement and compliance assurance program on *selected* environmental or human health problems. Impact will be measured by conducting annual evaluation studies of how the enforcement and compliance assurance program contributed to the achievement of selected Agency objectives included in the EPA Strategic Plan. The objectives selected for evaluation will be from among those targeted through an Office of Enforcement and Compliance Assurance enforcement and compliance assurance strategy developed in consultation with the relevant EPA media program(s). Evaluation studies will examine the Agency's overall progress in achieving the objectives, identify the outputs and outcomes that contributed to the progress, and draw plausible conclusions about the use and effectiveness of various enforcement and compliance assurance tools and initiatives. Over time, these studies should help the Office of Enforcement and Compliance Assurance clarify the links between its actions and improvements in environmental quality, human health or compliance with environmental requirements. [Measure: Annual evaluation studies of selected EPA objectives.]

4.3 Outcome Category—Effects on Behavior of Regulated Populations

The second category describes changes in the behavior of regulated populations. The outcome category includes quantitative or qualitative measures of external behavior by regulated entities caused, at least in part, by actions of EPA. This category includes three types of measures: Levels of Compliance in Regulated Populations; Environmental Improvements by Regulated Entities and Responses of Significant Violators.

4.3.1 Measure: Levels of Compliance in Regulated Populations

The measure is the rates of noncompliance for populations that are fully-inspected, required to self-report compliance information, targeted for special initiatives, or designated as priority industry sectors. This set of measures provides an indication of the state of compliance among regulated entities. Compliance levels can provide a broad measure of the behavior of populations affected to some degree by enforcement and compliance assurance activities.

4.3.2 Measure: Environmental or Human Health Improvements by Regulated Entities

The measure is the environmental and human health improvements initiated as a result of EPA enforcement actions. This set provides an indication of the scope and type of environmental improvements which can be attributed directly to completed EPA enforcement actions. This data will be aggregated and presented by type of improvement, industry sector, statute, and EPA Region.⁽³⁾ Supplemental measures in this set will include pounds of pollutant reductions from enforcement cases and the results and dollar value of injunctive relief. A recent example of our new ability to develop and display this type of information can be found in the Annex to this paper.

4.3.3 Environmental or human health improvements from compliance assistance tools and targeted initiatives

This set of measures provides an indication of the scope and types of improvements resulting from compliance assistance tools and the delivery of compliance assistance through targeted initiatives. Because these outcomes are very specific to the tool or initiative, aggregating them nationally will be difficult. Instead, this measure will produce a set of accomplishments which would be expressed in quantitative or qualitative terms.⁽⁴⁾

4.3.4 Environmental or human health improvements from integrated enforcement and compliance assurance initiatives

This set attempts to demonstrate the scope and types of improvements resulting from initiatives which use some combination of compliance assistance, compliance incentives, and enforcement. These outcomes are very specific to the initiative, and it may not be possible to aggregate them in a national total. This measure is likely to produce accomplishments described in both qualitative and quantitative terms. Establishing a measure for integrated initiatives creates an incentive for the Office of Enforcement and Compliance Assurance managers and staff to develop and conduct such initiatives, and to design them in a way that facilitates measurement of outcomes.

4.3.5 Self-policing efforts by regulated entities using compliance incentive policies

This set indicates how many companies or facilities are identifying, correcting, and disclosing violations under the terms of EPA's self-policing incentive policies. These data will be presented by industry sector, statute, and EPA Region. This measure includes the number of self-policing companies and facilities since the inception of the policy, and the number doing so for the most recent fiscal year.⁽⁵⁾ This measure will also include data about companies and facilities participating in other incentive programs designed to increase compliance with specific requirements in exchange for a reduced penalty.

4.3.6 Measure: Responses of Significant Violators

4.3.6.1 Average number of days for significant violators to return to compliance or enter enforceable plans or agreements

This measure provides an indication of the behavior of significant violators regarding their timeliness in addressing violations. This data will be aggregated and presented by industry sector, statute, and EPA Region.

4.3.6.2 Percentage of significant violators with new or recurrent significant violations within two years of receiving previous enforcement actions

This measure provides an indication of whether significant violators continue to violate after a previous enforcement action. This data will be aggregated and presented by industry sector, statute and EPA Region.

4.4 Output Category -- Enforcement and Compliance Assurance Activities

The third category of the Profile describes activities undertaken by EPA as part of the enforcement and compliance assurance program. The output category includes quantitative or qualitative measures of important activities, work products or actions taken. There are four types of measures in the output category: Monitoring Compliance; Enforcing the Law; Providing Assistance and Information; and Building Capacity.

4.4.1 Measure: Monitoring Compliance

4.4.1.1 Number of inspections, record reviews, responses to citizen complaints, and investigations conducted

This set will provide an indication of EPA's monitoring "presence" among regulated populations. Inspections, record reviews, and investigations are fundamental tools for identifying instances and recognizing patterns of noncompliance. Data from this measure will be aggregated and presented by industry sector, statute, and EPA Region. Supplemental measures will include percentage of individual industry sectors inspected, and percentage of inspections occurring in low income/minority communities or at previously uninspected sites.

4.4.2 Measure: Enforcing the Law

4.4.2.1 Number of notices of violation issued, civil (administrative and judicial) and criminal enforcement actions initiated and concluded, and number of self-policing settlements concluded

This set will provide an indication of EPA's enforcement "presence" among regulated populations. Enforcement actions provide a powerful deterrent to noncompliance, provide incentives for voluntary compliance, and prevent noncomplying entities from getting an unfair economic or competitive advantage over entities who invest resources in compliance.

Data from this measure would be aggregated and presented by industry sector, statute, and EPA Region. Supplemental measures will include percentage of cases in low income/minority communities, types of environmental impact from concluded cases, types of Supplemental Environmental Projects from concluded cases, the number of significant

violators relative to the number of inspections and number of regulated facilities, and jail time and penalty amounts by statute. These measures can serve as “intermediate outcomes”, information about compliance that can be especially useful until valid compliance rates are determined.

4.4.3 Measure: Providing Assistance and Information

4.4.3.1 Number of facilities/entities reached through: compliance assistance tools and initiatives; distribution of compliance information.

This set will provide an indication of the amount and types of regulated entities potentially affected by compliance assistance efforts, and the number and types of recipients potentially empowered by information about facility or sector compliance. A supplemental measure will be the number and types of compliance assistance and information tools developed.

4.4.4 Measure: Building Capacity

4.4.4.1 Capacity building efforts provided by EPA to state, local or tribal programs.

This set will provide an indication of efforts made to build enforcement and compliance assurance capacity among other levels of government. Capacity building efforts include assistance with investigations or cases, and training programs to build specific skills. Capacity building by EPA has a “multiplier effect” by positioning other levels of government to identify and address noncompliance. Data from this measure could be aggregated and presented by type of assistance, type of recipient, and EPA Region. Supplemental measures could include some indication of the quality and use of the capacity building effort.

5 THE PERFORMANCE PROFILE AS A MANAGEMENT AND ACCOUNTABILITY TOOL

The framework of activities (outputs), effects on behavior (outcomes), and environmental impacts (indicators) forms the Performance Profile for EPA's Enforcement and Compliance Assurance Program. When implemented and utilized, the Profile will be a valuable tool for EPA program managers and staff, the general public, environmentalists, environmental justice advocates, regulatory partners, Congress, oversight agencies, and regulated industries.

The Profile offers many advantages to measuring performance. The previous approach focussed on a limited set of outputs and did not emphasize development and analysis of outcome measures. The Profile improves upon that approach in several ways:

- The Profile measures the full range of program outputs, including compliance assistance, providing information to the public, compliance incentives, along with the traditional output measures for compliance monitoring and enforcement. Through the use of supplemental measures, the Profile moves beyond mere counting of outputs to measure important operational aspects of those outputs.

- The Profile begins to illustrate the links between activities and effects by combining outputs and outcomes in the same measurement system. Outputs can be examined in conjunction with outcomes and managers can build their understanding of combinations of outputs that might influence certain outcomes.
- The Profile connects program outputs and outcomes to EPA's Government Performance and Results Act goals and objectives by more systematically measuring the contribution of the enforcement and compliance assurance program to the achievement of Agency objectives. It moves those objectives to the forefront of management attention and thereby promotes more strategic approaches to program management.
- The Profile increases the power and value of each measure by combining them in a set which can be used to meet a wide range of needs. Each measure provides an important piece of information about the performance of EPA's enforcement and compliance assurance program. But no single measure or type of measure conveys enough information to evaluate fully the performance of the program. The individual measures are similar to pieces of a puzzle or mosaic: individually, the pieces do not describe very much about the whole; together, the pieces can convey a coherent picture.
- The Profile provides an instrument for improved program management. The Profile measures activities and their results, and promotes evaluation of program effectiveness. It provides an action tool for managers to develop and modify strategies through fact-based analysis.
- The Profile provides a window for improved accountability. The Profile makes transparent to stakeholders, Congress, oversight agencies and the public the key activities and results of the enforcement and compliance assurance program, as well as the performance of regulated entities in complying with the law.

6 CONTINUING IMPROVEMENT OF PERFORMANCE MEASURES

One of the Office of Enforcement and Compliance Assurance's objectives is to continue to seek and implement enhanced performance measures. This objective reflects an understanding that developing and using performance measures is an ongoing and iterative process. The Office of Enforcement and Compliance Assurance will pursue this objective through a variety of means designed to ensure that performance measurement contributes effectively to the continued improvement of the enforcement and compliance assurance program. The Office of Enforcement and Compliance Assurance's goal is to fully implement or conduct pilot projects (possibly with state regulatory agencies, external stakeholders, and other interested parties) for each of the measures during FY 1998.

As part of this process, the Office of Enforcement and Compliance Assurance will continue working with state environmental agencies to align performance measurement efforts, review current data reporting and collection systems, and explore ways to provide the public with electronic access to Profile data. The Office of Enforcement and Compliance Assurance has also undertaken a review of significant noncompliance policies to determine if revisions of definitions or other features are necessary. Potential changes to current policy

may have an impact on some of the measures. The Office of Enforcement and Compliance Assurance will also continue to examine ways to measure the deterrent effect of its activities. A number of the studies, articles, and reports which EPA reviewed in developing the Strategy describe approaches to measuring the deterrent effect of enforcement strategies or tools, including many used in regulatory programs other than environmental protection. Some of these approaches deserve further review for their applicability to environmental enforcement and compliance assurance programs.

The Office of Enforcement and Compliance Assurance will also explore how best to translate the performance measures in the Profile into personnel performance standards that will motivate and (if necessary) change behavior of the EPA managers and staff to emphasize important activities and results, and will continue to actively pursue and learn from other regulatory and enforcement agencies' efforts, such as GPRA implementation efforts, to develop and use performance measures. Valuable lessons can be learned from their efforts and from oversight agencies' reviews of them.

As the Office of Enforcement and Compliance Assurance gains more experience and confidence in using the performance measures it will better be able to analyze the relationship of resource inputs, such as dollars and personnel utilization, to outputs and outcomes. It seems clear that the Government Performance and Results Act envisions this linkage between activity and performance. The Strategy will enable EPA to more effectively evaluate the results and impact of its enforcement and compliance programs, strategically plan and target its activities, and apply resources in more efficient and cost-effective ways.

The National Performance Measures Strategy is an important step in the Office of Enforcement and Compliance Assurance's continued efforts to establish more meaningful and comprehensive performance measures. Implementation of the Performance Profile has been a major priority of the Office of Enforcement and Compliance Assurance throughout Fiscal Year 1998, and the use and refinement of the Profile will be a priority for the foreseeable future. This is an ambitious undertaking that will require a significant commitment of resources. However, given its importance for helping EPA assess how it is carrying out its fundamental mission to protect human health and the environment, it is an effort that must -- and will -- be made.

For a more in-depth discussion about the National Performance Measures Strategy, please refer to "Measuring the Performance of EPA's Enforcement and Compliance Assurance Program" the final report of the Measures Strategy released December 22, 1997. This report, as well as more information and related documents about the Strategy, can be found on OECA's web-site at: <http://www.epa.gov/oeca/perfmeas>. Annex 1 contains excerpts from an April 13, 1999 Memorandum from Frederick F. Stiehl, Director of Enforcement Planning, Targeting and Data Division in the Office of Compliance, Office of Enforcement and Compliance Assurance, on the subject of "FY 1998 RECAP Measures of Success Management Report." RECAP Stands for Reporting for Enforcement and Compliance Assurance Priorities. The Annex includes a master list of Tables and Graphs in that report and selected tables and graphs.

ENDNOTES AND REFERENCES

1. The Office of Enforcement and Compliance Assurance conducted more than 20 public meetings and round table sessions, consulted with experts and practitioners, and reviewed dozens of studies and articles. Ideas about better performance measures have been offered by representatives of national and local environmental organizations, environmental justice advocates, regulated industries

and companies, state environmental protection agencies and associations, state attorneys general offices and associations, federal oversight and management agencies, federal regulatory and law enforcement agencies, environmental policy institutes, Congressional staff, and academic experts. See Steve Herman, "Environmental Performance Data Helps EPA measure the Impact of its Environmental Enforcement and Compliance Assurance Program," *National Environmental Enforcement Journal*, April 1997. This paper draws directly from a paper published in the National Association of Attorney General's Journal article already published (Stahl, Michael M., "EPA's National Performance Measures Strategy," National Association of Attorneys General (NAAG) *Environmental Enforcement Journal*, December 1997/January 1998).

2. These definitions are also consistent with similar definitions used in the Government Performance and Results Act.
3. The Office of Enforcement and Compliance Assurance collected this type of information for FY 1996 and FY 1997 on the Case Conclusion Data Sheet. For FY 1997, for example, about one-third of all activities ("tasks") required by civil judicial and administrative enforcement settlements called for regulated entities to physically change the way they operated their facilities or reduce emissions or discharges to the environment. Another one-third of the activities ("tasks") required by civil enforcement settlements called for regulated entities to improve their environmental management systems, take preventive actions to avoid noncompliance or enhance the "public's right to know" through such actions as conducting tests or environmental audits, complying with the Toxic Release Inventory or other reporting or record keeping requirements, properly manifesting hazardous wastes, etc. The data also indicated that about 43 percent of the injunctive relief and 54 percent of the Supplemental Environmental Projects provided additional human health/worker protection. Similarly, 27 percent of injunctive relief and 24 percent of Supplemental Environmental Projects protected natural ecosystems.
4. EPA and several state environmental agencies (e.g., Massachusetts, Connecticut, Washington, Oregon, Illinois) have conducted assistance initiatives targeted at specific industry sectors. Some of these initiatives have produced outcome data about environmental improvements at facilities receiving compliance assistance. For example, some initiatives documented increased use of environmentally-beneficial business practices at facilities receiving compliance assistance
5. For example, since the inception of the self-policing policy 234 companies voluntarily disclosed violations at more than 750 facilities nationwide and EPA has settled with 78 companies at 423 facilities.

For a more in-depth discussion about the National Performance Measures Strategy, please refer to "Measuring the Performance of EPA's Enforcement and Compliance Assurance Program" the final report of the Measures Strategy released December 22, 1997. This report, as well as more information and related documents about the Strategy, can be found on OECA's web-site at: <http://www.epa.gov/oeca/perfmeas>. Annex 1 contains excerpts from an April 13, 1999 Memorandum from Frederick F. Stiehl, Director of Enforcement Planning, Targeting and Data Division in the Office of Compliance, Office of Enforcement and Compliance Assurance, on the subject of "FY 1998 RECAP Measures of Success Management Report." RECAP Stands for Reporting for Enforcement and Compliance Assurance Priorities. The Annex includes a master list of Tables and Graphs in that report and selected tables and graphs.

ANNEX 1 ENFORCEMENT ACTIVITY AND ENVIRONMENTAL RESULTS MEASURES IN THE UNITED STATES, 10/97-10/98: EXAMPLES

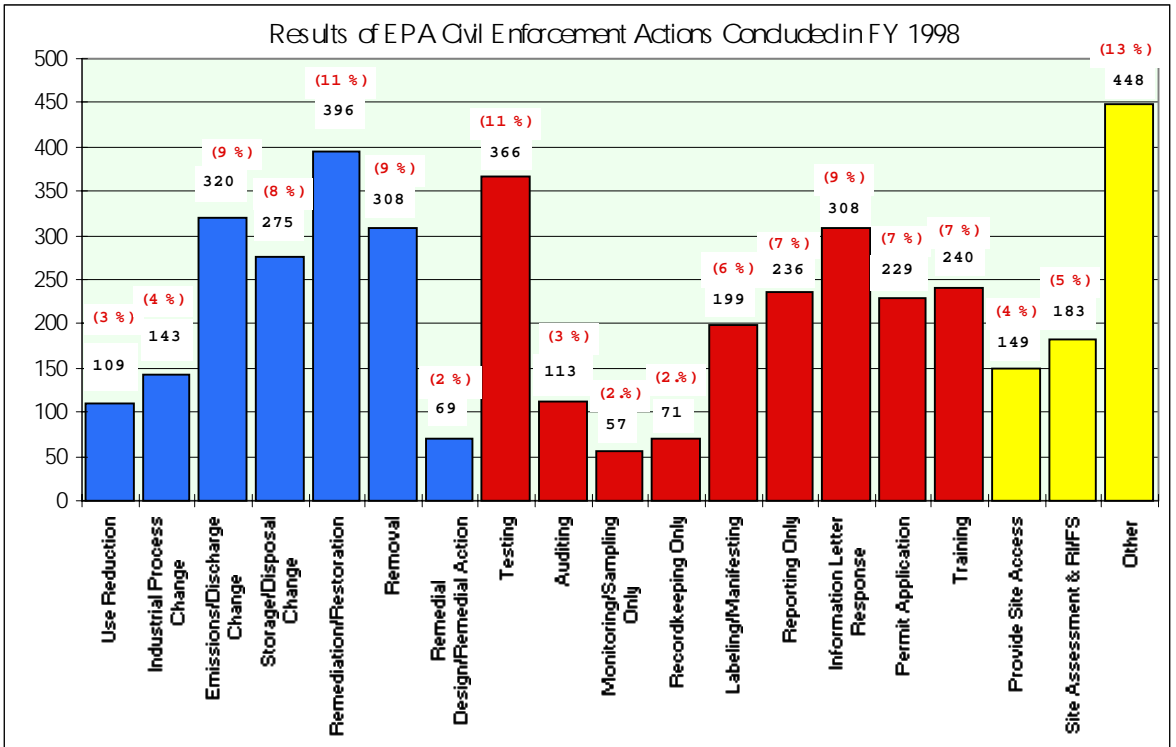
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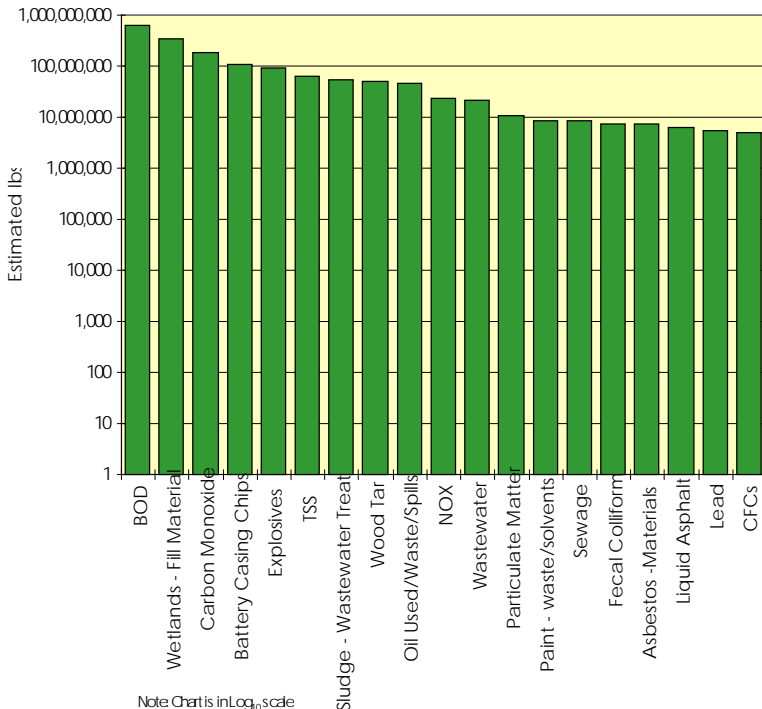
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Environmental Results Measures for Enforcement



Complying actions were reported for 3,103 of the 3,479 FY 1998 settlements. Multiple complying actions were reported for some settlements.

Twenty Pollutants with the Largest Reductions Reported for FY 1998

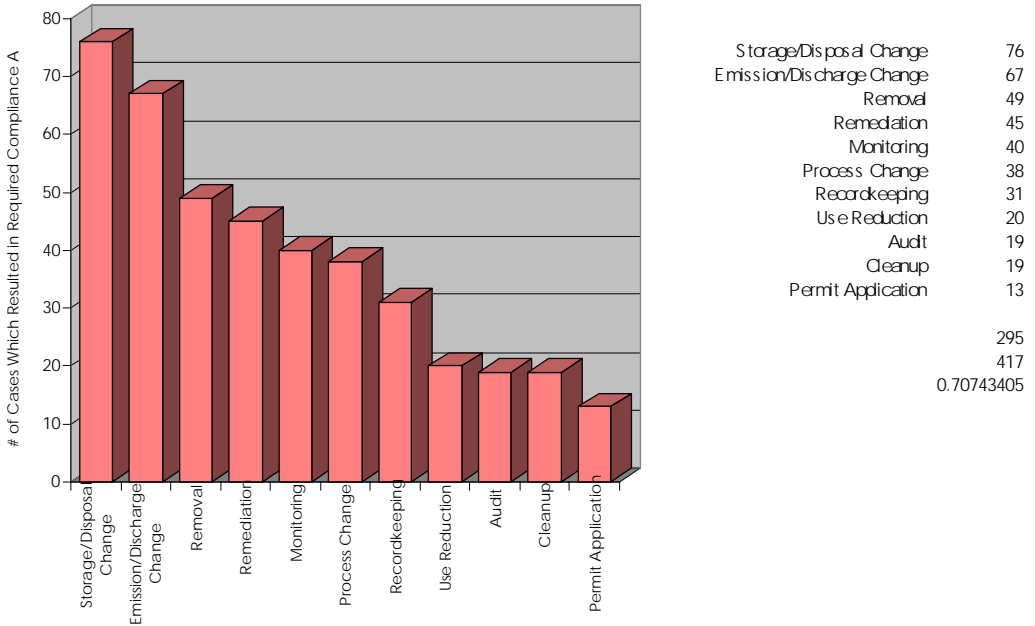


Pollutants	Lbs. Reduced
Contaminated Soils	16,340,993,624
BOD	610,832,822
Wetlands Fill Material	344,216,000
Carbon Monoxide	188,434,000
Battery Casing Chips	112,000,167
Explosives	96,000,000
TSS	63,547,926
Sludge	53,400,000
Wood Tar	50,000,000
Oil Used/Waste/Spills	46,129,576
NOx	23,656,162
Wastewater	21,473,824
Particulate Matter	10,946,000
Paint - waste/solvents	8,662,038
Sewage	8,413,300
Fecal Coliform	7,364,280
Asbestos - Materials	7,139,733
Liquid Asphalt	6,300,000
Lead	5,415,642
CFCs	5,039,470

Note Chart is in Log₁₀ scale

Criminal Enforcement: Examples of Activity and Environmental Results Measures

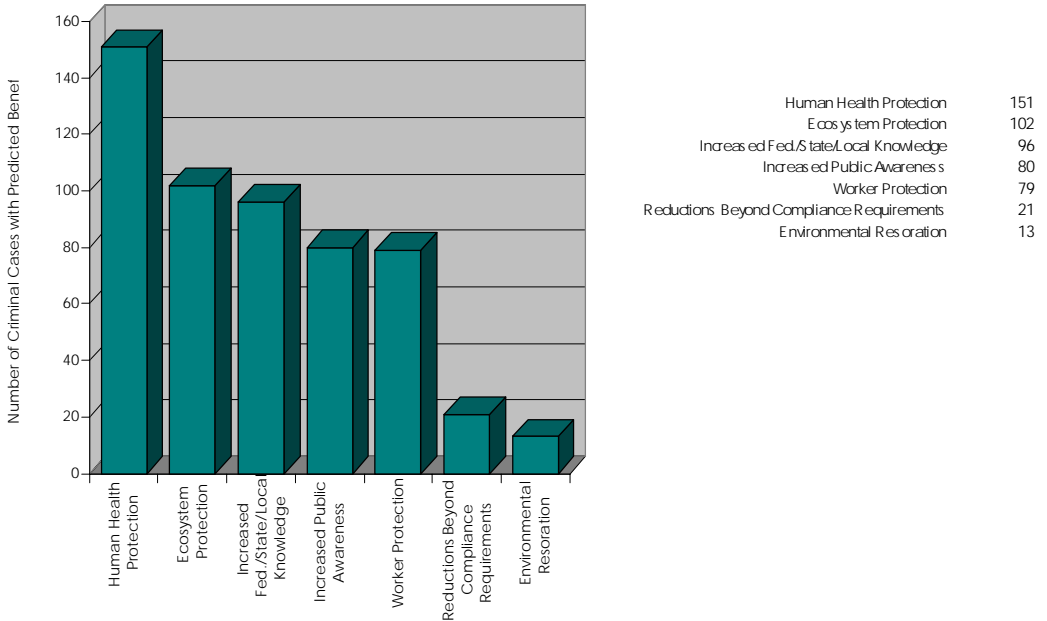
Compliance Activities Resulting from FY 1998 Criminal Investigations/Resolutions



OECA/OC/EPT/DD/EB - December 10, 1998

Data reflects the compliance activities resulting from 420 criminal investigations/cases concluded during FY 1998.

Qualitative Environmental Impacts of FY 1998 Criminal Cases

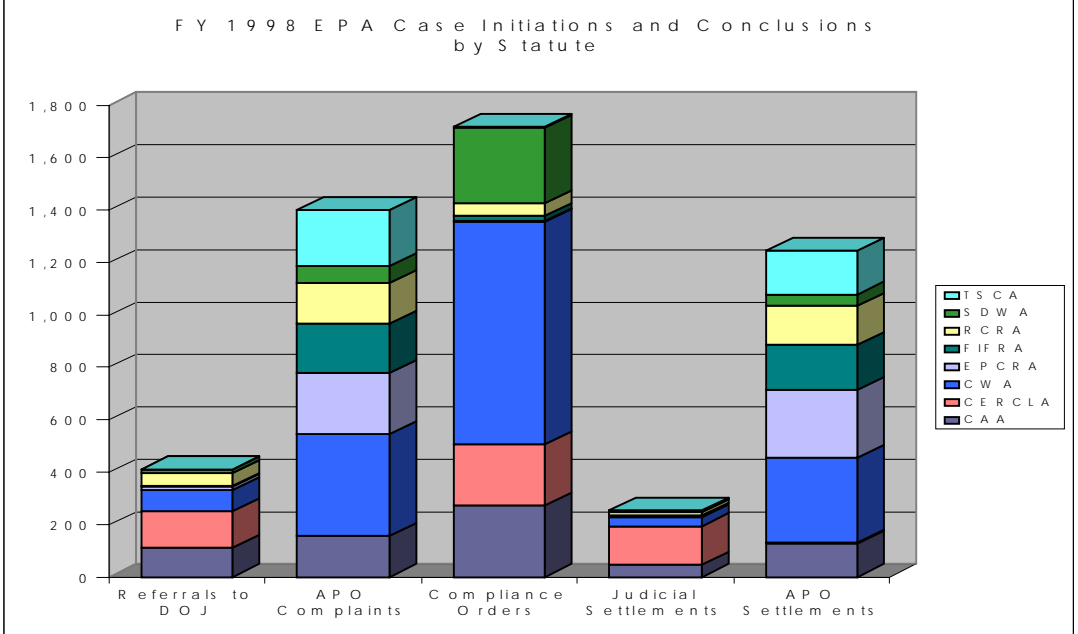


OECA/OC/EPT/DD/EB - December 10, 1998

Data reflects the predicted benefits of 420 criminal investigations/cases concluded during FY 1998.

Examples of Enforcement Activity Measures

TSCA: Toxic Substances Control Act
 SDWA: Safe Drinking Water Act
 RCRA: Resource Conservation and Recovery Act: solid and hazardous waste
 FIFRA: Fugicide, Insecticide, Fungicide and Rodenticide Act
 EPCRA: Emergency Planning and Community Right to Know Act
 CWA: Clean Water Act
 CERCLA: Comprehensive Emergency Response and Cleanup Liability Act
 CAA: Clean Air Act



December 15, 1998 - OECA/OC/EPT/D/T

FY 1998 Inspectors at Regulated Facilities (RECAP Inspectors)

	I	II	III	IV	V	VI	VII	VIII	IX	X	Totals
CAA [EPA & State]	(SIP/NSPS/NEESHAP)										
	# of Class A, SIM and NEESHAP Minors										
	# Covered inspections										
	% Inspected (coverage)										
Total inspections											
% NOT Inspected last 3 years											
Optional Voluntary Reporting	# of non-NEESHAP Minor Sources Inspected*										
	Total inspections at non-NEESHAP Minors*										
CWA [EPA & State]	# of majors										
	# Inspected										
	% Inspected (coverage)										
	# pretreatment programs										
# Inspected											
Region by Region Breakdown											
EPCRA [all EPA]	Section 313										
	non-Section 313										
FIFRA	- State										
	- EPA										
TSCA	- EPA										
	- State										
RCRA	- State										
	- EPA										

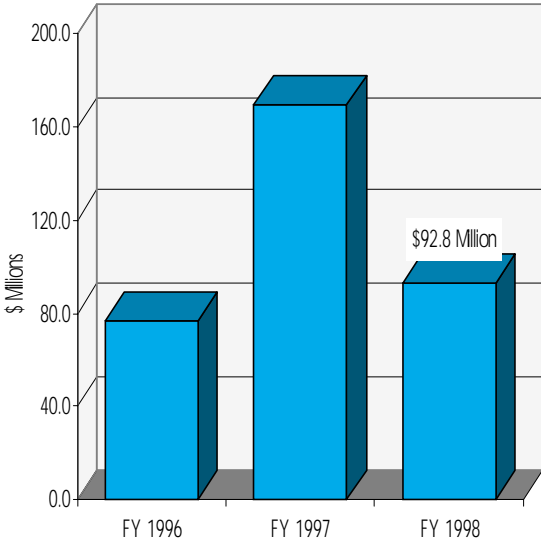
Inspections at Regulated Facilities = 101,631

In addition, there were 96 HQ Good Laboratory Practices Inspectors and 14 HQT SCA Inspectors included in totals.

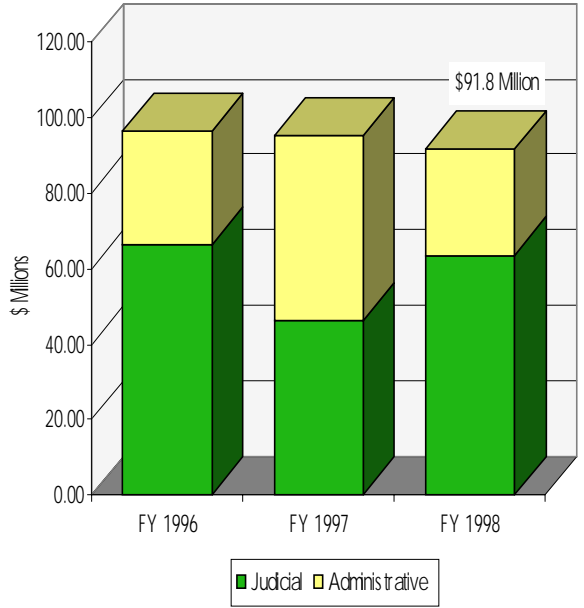
* Data pulled from AFS, although these inspection data are not required to be reported

Dollar Value of EPA Enforcement Actions Concluded in FY 1998

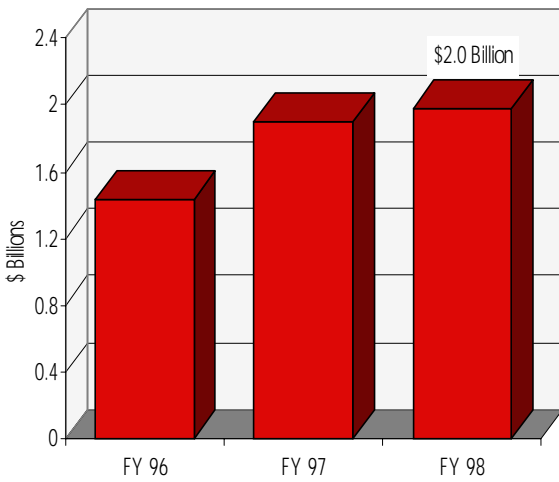
EPA Criminal Penalties



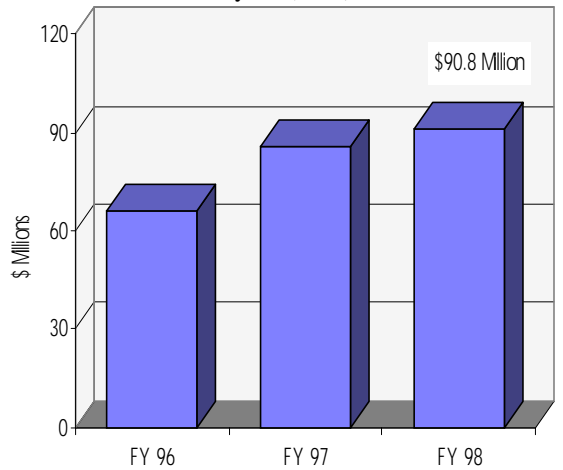
EPA Civil Penalties



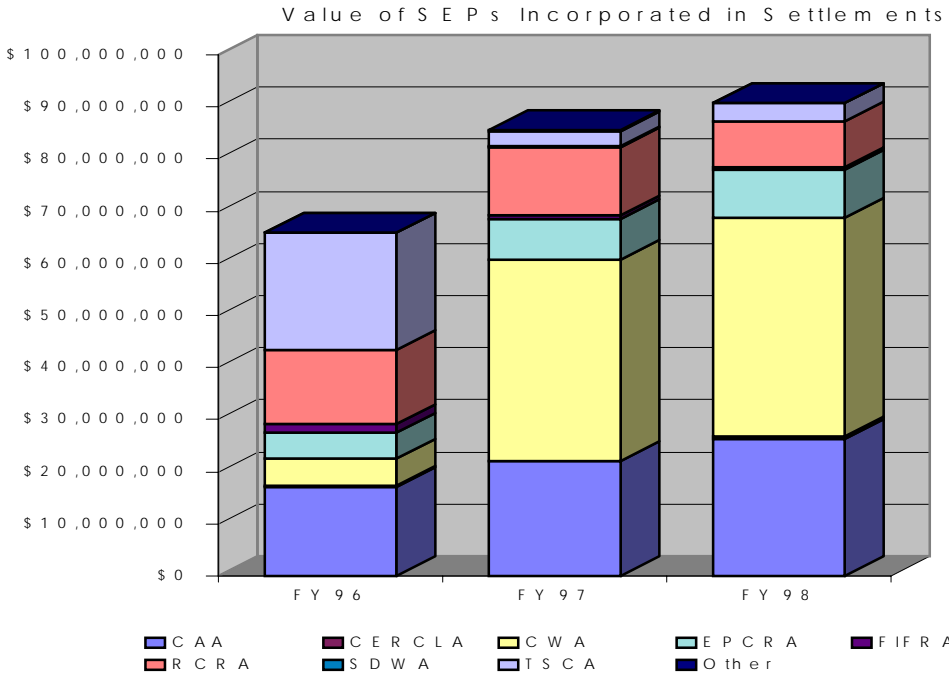
Value of Injunctive Relief



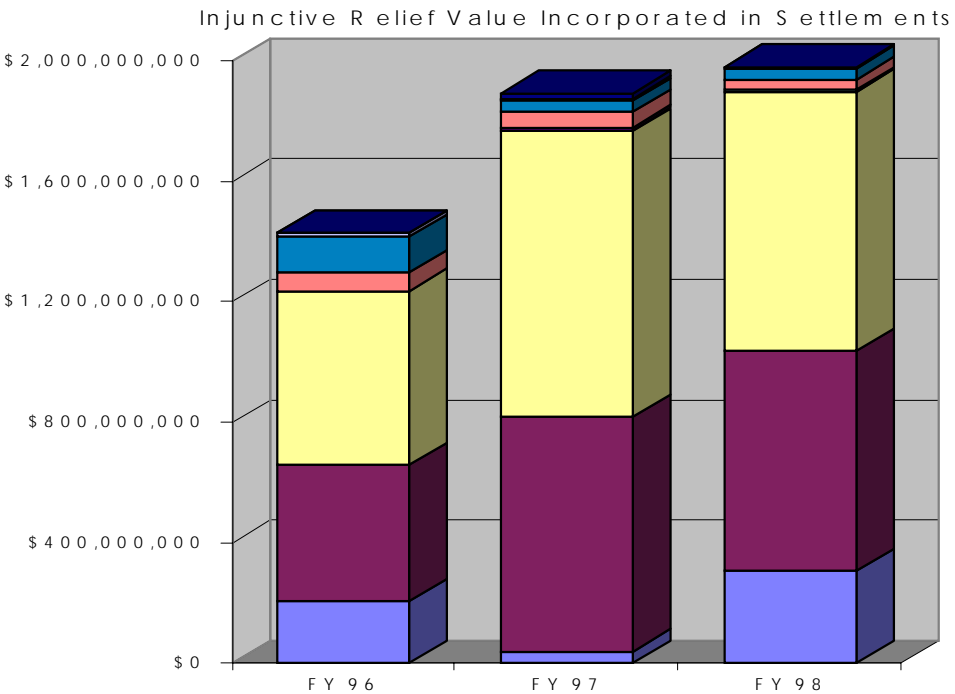
Value of EPA Supplemental Environmental Projects (SEPs)



EPA Enforcement Case Values Beyond Penalty Assessments - FY 1996 to FY 1998

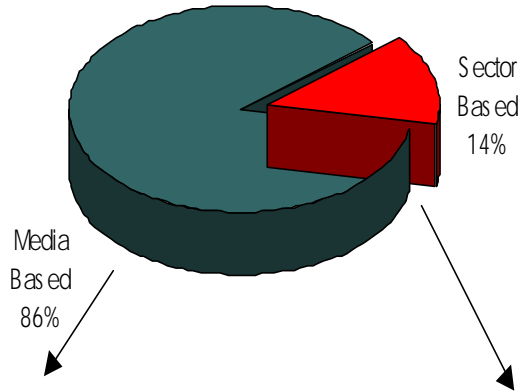


CAA: Clean Air Act	FIFRA: Fugicide, Insecticide, Fungicide and Rodenticide Act
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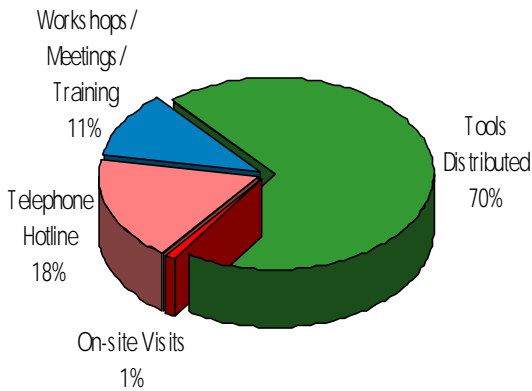


EPA Compliance Assistance Efforts Reach 246,602 Regulated Entities During FY 1998

Nature of Compliance Assistance Activities

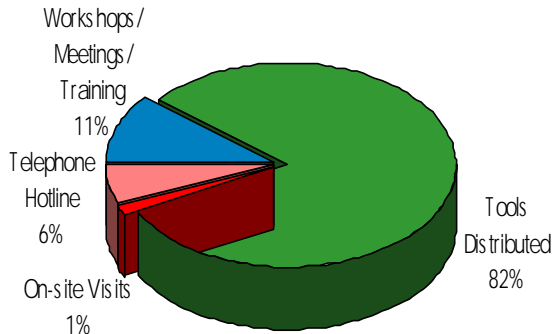


Distribution of Media-based Assistance Activities



Represents 211,696 media-based assistance activities

Distribution of Sector-based Assistance Activities



Represents 34,906 sector-based assistance activities