

**NATIONAL ENVIRONMENTAL GOALS PROJECT  
INVENTORY OF INDICATORS**

**Final Report**

**Prepared by:**

**Westat, Inc.  
1650 Research Boulevard  
Rockville, MD 20850**

**For:**

**U.S. Environmental Protection Agency  
401 M Street, S.W.  
Washington, D.C. 20460**

**This work was conducted under  
EPA Contract Number 68-W-1-0019**

**October 9, 1994**



# U.S. Environmental Protection Agency

## Libraries

[Contact Us](#) | [Print Version](#)

[EPA Home](#) > [Information Sources](#) > [Libraries](#) > [Online Library System](#) > OLS Record

## OLS Record



*Display Records as Bibliography*

### RECORD NUMBER: 1

<b>Main Title</b>	National environmental goals project inventory of indicators : draft report /				
<b>Publisher</b>	Westat, Inc.,				
<b>Year Published</b>	1994				
<b>OCLC Number</b>	44596378				
<b>Report Number</b>	68-W1-0019				
<b>Holdings</b>	<table> <tr> <th>LIBRARY</th><th>CALL NUMBER</th></tr> <tr> <td>EJED</td><td>EPA 560/1994 WI/001</td></tr> </table>	LIBRARY	CALL NUMBER	EJED	EPA 560/1994 WI/001
LIBRARY	CALL NUMBER				
EJED	EPA 560/1994 WI/001				
<b>Owner Libraries</b>	EJE- OPPT Library/Washington,DC				
<b>Holdings Modified</b>	EJE   20000728 ;				
<b>Place Published</b>	Rockville, MD :				
<b>Bib Level</b>	m				
<b>OCLC Time Stamp</b>	20000717104826				
<b>Cataloging Source</b>	OCLC/T				
<b>Language</b>	eng				
<b>PUB Date Free Form</b>	1994.				
<b>Collation</b>	1 v. (various pagings) ; 28 cm.				
<b>Notes</b>	"EPA Contract Number: 68-W1-0019." "May 13, 1994."				
<b>Subject Added Ent</b>	Environmental indicators--United States ; Environmental policy--United States--Forecasts				
<b>Corp Au Added Ent</b>	United States. Environmental Protection Agency. ; Westat, inc.				
<b>OCLC Rec Leader</b>	00851nam 2200241Ka 45010				



*Display Records as Bibliography*

If there is an AREA footer, put it her

---

[EPA Home](#) | [Privacy and Secunity Notice](#) | [C](#)

Last updated on Tuesday, December 31s  
URL

http //cave epa gov/cgi/nph-bwcfgis/BASIS/ncat/lib/ncat/DDW?W%3D+%28TITLE+PH+WORD+%27national+environmental+goals+project+inver

## **ACKNOWLEDGMENTS**

This report was prepared by Westat staff Robert Clickner, Ph.D., Project Director, Jill Weiner, Brian Dietz, Michael Vendetti and Annmarie Howard.

We wish to acknowledge the direction and guidance provided by the EPA Delivery Order Project Officer, Herbert Lacayo, Ph.D., and the Alternate Delivery Order Project Officer, Tim Stuart, Ph.D.

This report was developed with the assistance of the EPA Data Quality Action Team chaired by Tim Stuart of the Environmental Statistics and Information Division of EPA, and the Interagency Committee on Environmental Trends chaired by Ray Clark of the CEQ and Tim Stuart of the EPA. The authors also wish to thank the following EPA and non-EPA federal agency personnel who provided information and assistance for this report:

### **Environmental Protection Agency**

Barry Burgan, Office of Water  
Chuck Spooner, Office of Water  
Tracy Alfredson, Office of Solid Waste  
Craig Barber, Environmental Monitoring and Assessment Program  
Tom Curran, Office of Air and Radiation  
Barbara Parzygnat, Office of Air Quality Planning and Standards  
Loren Hall, Office of Prevention, Pesticides, and Toxic Substances  
Bill Hanson, Office of Prevention, Pesticides, and Toxic Substances  
Janet Whitehurst, Office of Prevention, Pesticides, and Toxic Substances  
Scott Blair, Office of Solid Waste and Emergency Response  
Vicki L. Thomas, Great Lakes Program Office  
Kent Mountford, Chesapeake Bay Program Office  
Dave Evans, Superfund  
Bob Blades, Office of Air and Radiation  
Kathleen Hogan, Office of Air  
Mimi Dannel, Office of Water  
Dave Weitman, Office of Water  
Rob Wood, Office of Water  
Alice Mayo, Office of Water  
Len Fitch, Office of Water  
Tom Armitage, Office of Science and Technology

### **Department of Agriculture**

Ann Vandeman, Economic Research Service  
Van Johnson, National Agricultural Statistics Service  
Dick Cline, Forest Service  
Dan Smith, Soil Conservation Service



**Department of Commerce**

Gerald Barton, National Oceanic and Atmospheric Administration  
Jesse Havard, Bureau of the Census  
Tim Slaper, Bureau of Economic Analysis

**Department of Energy**

Bill Breed, Office of Environmental Analysis  
Dick Olson, Oak Ridge National Laboratory  
Art Anderson, Energy Information Administration

**Department of Health and Human Services**

Fred Seitz, National Center for Health Statistics

**Department of the Interior**

Jim Colby, Bureau of Land Management  
Donald Waite, Bureau of Land Management  
Harvey Doerkson, Office of Policy Analysis  
Tim Smith, U.S. Geological Survey  
Cliff Haupt, U.S. Geological Survey  
Ken Eggleston, Bureau of Reclamation  
Dean Tucker, National Park Service  
Phil Wondra, National Biological Survey

**Department of Labor**

Joseph DuBois, Occupational Safety and Health Administration

**Department of Transportation**

Cindy Burbank, Federal Highway Commission  
Rick Rizzo, Federal Highway Commission

**Tennessee Valley Authority**

Lynn Brown

## TABLE OF CONTENTS

<u>Chapter</u>		<u>Page</u>
1	INTRODUCTION .....	1-1
2	GOALS/DATABASE MATRIX.....	2-1
3	DATA SETS/DATABASES/DATA SERIES .....	3-1
4	INVENTORY OF INDICATORS SORTED BY GOAL TOPIC ...	4-1
	4.1 EPA Goal Topic: Clean Surface Waters.....	4-5
	4.2 EPA Goal Topic: Safe Drinking Water.....	4-14
	4.3 EPA Goal Topic: Clean Air .....	4-20
	4.4 EPA Goal Topic: Safe Indoor Environments.....	4-26
	4.5 EPA Goal Topic: Stratospheric Ozone Layer Protection .	4-31
	4.6 EPA Goal Topic: Climate Change Risk Reduction .....	4-33
	4.7 EPA Goal Topic: Ecological Protection.....	4-39
	4.8 EPA Goal Topic: Safe Food.....	4-59
	4.9 EPA Goal Topic: Cleanup of Contaminated Sites.....	4-64
	4.10 EPA Goal Topic: Worker Health and Safety.....	4-67
	4.11 EPA Goal Topic: Prevention of Oil Spills and Chemical Accidents .....	4-70
	4.12 EPA Goal Topic: Prevention of Wastes and Harmful Chemical Releases .....	4-76
	4.13 EPA Goal Topic: Improved Understanding of the Environment .....	4-86
5	LIST OF INDICATORS SORTED BY AGENCY.....	5-1
	5.1 EPA/Chesapeake Bay Program Indicators .....	5-2
	5.2 EPA/Great Lakes National Program Office Indicators ....	5-4
	5.3 EPA/Office of Water Indicators .....	5-5
	5.4 EPA/Office of Air and Radiation Indicators.....	5-7
	5.5 EPA/Office of Solid Waste and Emergency Response Indicators .....	5-9
	5.6 EPA/Office of Prevention, Pesticides and Toxic Substances Indicators .....	5-12
	5.7 General EPA Indicators.....	5-13
	5.8 Department of Agriculture Indicators.....	5-14
	5.9 Department of Commerce Indicators .....	5-15
	5.10 Department of Energy Indicators.....	5-16

## TABLE OF CONTENTS (continued)

<u>Chapter</u>		<u>Page</u>
	5.11 Department of Health and Human Services Indicators...	5-17
	5.12 Department of Justice Indicators.....	5-19
	5.13 Department of Labor Indicators.....	5-20
	5.14 Department of the Interior Indicators .....	5-21
	5.15 Department of Transportation .....	5-22
	5.16 Tennessee Valley Authority Indicators.....	5-23
 6	 <b>LIST OF INDICATORS, SORTED BY HIERARCHICAL LEVEL WITHIN GOAL TOPIC.....</b>	 <b>6-1</b>
	6.1 EPA Goal Topic: Clean Surface Waters .....	6-2
	6.2 EPA Goal Topic: Safe Drinking Water.....	6-4
	6.3 EPA Goal Topic: Clean Air .....	6-6
	6.4 EPA Goal Topic: Safe Indoor Environments.....	6-7
	6.5 EPA Goal Topic: Stratospheric Ozone Layer Protection .	6-8
	6.6 EPA Goal Topic: Climate Change Risk Reduction .....	6-9
	6.7 EPA Goal Topic: Ecological Protection.....	6-10
	6.8 EPA Goal Topic: Safe Food.....	6-13
	6.9 EPA Goal Topic: Cleanup of Contaminated Sites.....	6-14
	6.10 EPA Goal Topic: Worker Health and Safety.....	6-15
	6.11 EPA Goal Topic: Prevention of Oil Spills and Chemical Analysis .....	6-16
	6.12 EPA Goal Topic: Prevention of Wastes and Harmful Chemical Releases .....	6-17
	6.13 EPA Goal Topic: Improved Understanding of the Environment .....	6-19
 7	 <b>DATA REPORT SUMMARIES FROM SELECTED DEPARTMENTS AND AGENCIES.....</b>	 <b>7-1</b>

### List of Tables

<u>Table</u>		<u>Page</u>
2-1	Data Sets Available for Reporting Against Cross-Program Goals	
	2-2	
3-1	EPA and Non-EPA Databases and Datasets.....	3-2

4-1	Indicators by Goal Topic and Hierarchical Level .....	4-4
-----	---	-----

## TABLE OF CONTENTS (continued)

### List of Figures

<u>Figure</u>		<u>Page</u>
4-1	A Continuum of Information on Environmental Indicators .....	4-2

## **1. INTRODUCTION**

The Environmental Statistics and Information Division (ESID) has been charged with improving the EPA's capabilities to use existing and newly collected environmental data to support national and regional assessments of the state of the environment, including progress toward the national environmental goals and to identify emerging environmental problems.

The purpose of this report is to provide assistance to the Data Quality Action Team (QAT) in the selection and analysis of indicators and data sets to support the national reporting of environmental conditions, including reporting progress toward the national environmental goals. "Environmental indicators" refers to either direct or indirect measures of environmental quality that can be used to assess status and trends in the environment's ability to support human and ecological health. While ideal measures of environmental quality would be direct measurements of actual human health and ecological well being, such are not always available.

This report presents an inventory of over 450 national indicators and over 100 existing data sets that may be suitable for national assessments and reporting against the national goals. Some of the indicators are currently being reported by EPA; others have been proposed as potential indicators. Chapter 2 presents a revised and updated version of the Data QAT Goals/Data Matrix. The following chapter, Chapter 3, provides an inventory of databases and datasets that are potentially useful to the National Environmental Goals Project. Chapter 4 presents an inventory of indicators. The inventory is sorted by the 13 goal topics; within goal topics, indicators are listed alphabetically. Chapters 5 and 6 present abridged information on the indicators in different sort orders, for ease of references. Chapter 5 presents the indicators sorted by the relevant agency or program. Chapter 6 presents the indicators sorted - within goal topic - by hierarchical level, a measure of how closely the indicator relates to direct measurements of human or ecological health. The final chapter, Chapter 7, consists of a series of data report summaries. Data sources utilized and referenced in this report are found within EPA, and from other federal agencies and private organizations.

## **2 GOALS/DATA MATRIX**

This chapter presents a revised and updated version of the Data QAT Goals/Data Matrix of data that may be suitable for reporting progress toward the national goals. The Data/Goals matrix identifies data sets available through government agencies and offices within EPA, by the 13 current goal topics.

The EPA Offices of Water (OW), Solid Waste and Emergency Response (OSWER), Air and Radiation (OAR), Prevention, Pesticides and Toxic Substances (OPPTS), and Research and Development (ORD) possess data potentially useful to the National Goals Project. For each goal topic data sets available from each office and other agencies are displayed. Environmental "stressors" are shown where applicable, and italicized entries indicate less relevant but useful data sets.

Matrix columns identify offices within EPA or non-EPA federal agencies. There is one row for each of the 13 goal topics. Each cell identifies potentially relevant data sets for each goal topic under the specified office. In some cases certain offices have no information relevant to a goal topic.

Following the Goals/Data Matrix is a glossary of abbreviations and acronyms. In addition to defining the acronyms and abbreviations, this section frequently gives a one-sentence summary of the contents of the data set.

**Table 2-1: Data Sets Available For  
Reporting Against Cross-Program Goals\***

Goals	EPA Office					Other
	OW	OSWER	OAR	OPPTS	ORD	
Clean Surface Waters	305(b) 319, ODES 303(d) STORET GLFMP		ERAMS ADS NOPES	NPSurvey      ----- TRI TSCA Inv. PMU/PIN	EMAP (some) LTMP	DOI - 1 NOAA - 1 States - 1 CDC NADP/NTN WHO SCS TVA
Stressors** are shown below dashed lines	PCS 304(l) NEEDS					
Prevention of Wastes and Harmful Chemical Releases	NPDES Permits PCS 304(l) HWTW NEEDS	BRS MSW Report		TRI TSCA Inv. PMU/PIN	EMAP (some)	USDA - 1 NOAA - 2 DOE - 1 DOT - 1 BOC - 2 NCFAP ATSDR
Safe Drinking Water	STORET 305(b) FRDS HWTW   ----- PCS 304(l) NEEDS		ERAMS ADS NOPES	NPSurvey      ----- TRI PMU/PIN TSCA Inv.		CDC WHO States - 2 TVA
Clean Air			AIRS    ----- XATEF	     ----- TRI TSCA Inv. PMU/PIN	TEAMS Study (Case Studies)   ----- NVOCDB NEROS	NPS (Rural) WHO DOE - 6
Cleanup of Contaminated Sites	Sediments (Three Regions)	RCRIS CERCLIS STARS (UST)	RADON			DOD ATSDR NOAA - 5 NBII
Safe Indoor Environments	FRDS		INDOOR AIR RADON		TEAM Studies (Several Cities)	NRC
Stratospheric Ozone Layer Protection			    ----- XATEF	     ----- TRI TSCA Inv.	(Future)	NASA DOE - 5

Goals	EPA Office					Other
	OW	OSWER	OAR	OPPTS	ORD	
Improved Understanding of the Environment	STORET 305(b)		AIRS	TRI		DOI - 2 INFO-TERRA NOAA - 3 USDA - 2 CEQ DOE - 2 DOT - 2 TVA
Ecological Protection	305(b) ODES STORET/BIOS <i>GLFMP</i>  ----- PCS NEEDS		AIRS ERAMS ADS <i>NOPEs</i>	TRI  ----- <i>PMI/PIN</i> <i>TSCA Inv.</i>	EMAP (Some) NSWS LTMP	DOI - 3 NOAA - 4 USDA - 3 NCFAP TVA DOE - 5 FDA NFS Regions - NEPA, EIS BOC - 1
Safe Food	STORET 305(b) ODES FAD <i>GLFMP</i>		ERAMS ADS	----- TRI	AQUIRE IRIS EMAP (Some)	FDA, WHO USDA - 4 DOI - 4, CDC DOANE NCFAP NOAA - 5 NCHS OPPE States - 2
Prevention of Oil Spills and Chemical Accidents		ARIP ERNS		TRI (Accident Releases)		ATSDR States - 3 BOC - 2
Worker Health and Safety						NIOSH OSHA DOANE BLS NCFAP
Climate Change Risk Reduction			----- XATEF METH	----- TRI		DOE - 4 NASA NOAA - 6

\* - Less relevant but useful data shown in italics

\*\* - "Stressor" data include pollutant loadings and other factors that stress environmental quality



## GLOSSARY OF ABBREVIATIONS

**303(d):** Office of Water: Lists of waters still needing TMDLs.

**305(b):** Office of Water: Section 305(b) Reports.

**304(l):** Office of Water: Section 304(l) lists of waters, facilities, loadings.

**319:** Office of Water: Section 319 Assessments

**ADS:** Atmospheric Research and Exposure Assessment Laboratory: Acid Deposition System.

**AIRS:** Office of Air Quality Planning and Standards: Aerometric Information Retrieval System

**AQUIRE:** Office of Research and Development: Aquatic Information Retrieval System.

**ARIP:** Office of Solid Waste and Emergency Response: Accident Release Information Program Database.

**ATSDR:** HHS/Agency for Toxic Substances and Disease Registry: HAZDAT Database.

**BLS:** Bureau of Labor Statistics: Annual Survey of Occupational Injury and Illness

**BOC-1:** Bureau of the Census: Decennial Census of Population; National and Subnational Population Estimates and National and State Population Projections; Survey of Pollution Abatement Costs and Expenditures.

**BOC-2:** Bureau of the Census: National and Subnational Population Estimates and National and State Population Projections; Survey of Pollution Abatement Costs and Expenditures.

**BRS:** Office of Solid Waste: Biennial Reporting System.

**CDC:** Center for Disease Control: Waterborne Disease Outbreak Surveillance, Disease from Fish/Shellfish.

**CEQ:** Council of Environmental Quality: Annual Report to Congress

**CERCLIS:** Office of Emergency and Remedial Response: Comprehensive Environmental Response, Compensation and Liability Information System.

**DOD:** Department of Defense: Defense Environmental Restoration Program

**DOE-1:** Department of Energy: Month and State Current Emission Trends; National Energy Information Center.

**DOE-2:** Department of Energy: Subsurface Microbiology Culture Collection (SMCC).

**DOE-4:** Department of Energy: Atmospheric Radiation Measurement (ARM) Program Data; Data on Country-Specific and Global Emissions of CO<sub>2</sub> from Fossil-Fuel Combustion and Cement Production; Data on Global Long-Term Monthly Temperature, Precipitation and Atmospheric Pressure Records; and Data on Monthly and Daily Temperature and Precipitation records for the US - all available at Carbon Dioxide Information Analysis Center (CDIAC), Oak Ridge National Laboratory.

**DOE-5:** Department of Energy - National Energy Information Center: Environmental Measurements Lab Data.

**DOE-6:** Department of Energy - Atmospheric Studies in Complex Terrain (ASCOT) Program Data

**DOI-1:** US Fish and Wildlife Service (USF&WL): National Contamination Biomonitoring Program; Biomonitoring and Environmental Status and Trends; National Wetlands Inventory; North American Breeding Bird Survey; Waterfowl Breeding Population and Habitat Survey. National Park Service: National Wild and Scenic Rivers. US Geological Survey (USGS): National Hydrologic Benchmark Network Program; National Stream Quality Accounting Network; National Water-Quality Assessment Program (some data); National Water Conditions Reporting System; National Biological Survey: National Biological Information Infrastructure (NBII).

**DOI-2:** USGS: Earth Science Data Directory; National Water Data Storage and Retrieval System (WATSTORE); National Water Data Exchange (NAWDEX); National Water Information Clearinghouse; National Water Use Information Program..

**DOI-3:** USF&WL: Biomonitoring and Environmental Status and Trends; National Wetlands Inventory; Waterfowl Breeding Population and Habitat Survey. USGS: National Water Quality Assessment Program (NAWQA). National

**Biological Survey:** National Biological Information Infrastructure (NBII).

**DOI-4:** USF&WL: National Contaminant Biomonitoring Program.

**DOT-1:** Marine Pollution Retrieval System; National Transportation Statistics.

**DOT-2:** Department of Transportation: Marine Pollution Retrieval System.

**EMAP:** Office of Research and Development: Environmental Monitoring and Assessment Program.

**ERAMS:** Office of Radiation Programs: Environmental Radiation Ambient Monitoring Program.

**ERNS:** Office of Emergency and Remedial Response: Emergency Response Notification System.

**FDA:** Food and Drug Administration: Total Dietary Study (Market Basket Survey).

**FRDS:** Office of Ground and Drinking Water: Federal Reporting Data System.

**GLFMP:** Great Lakes Program Office: Great Lakes Fish Monitoring Program.

**HWIW:** Office of Ground and Drinking Water: Hazardous Waste Injection Well Database.

**INDOOR AIR:** Office of Air and Radiation: Indoor Air Data Collection System

**INFOTERRA:** International Environmental Information Exchange Network.

**IRIS:** Office of Research and Development: Integrated Risk Information System.

**LTMP:** Office of Research and Development: Long-Term Monitoring Project.

**METH:** Office of Air and Radiation: Methane Concentration Estimates.

**MSW Report:** Office of Solid Waste: Characterization of MSW in the US (biennial).

**NADP/NTN:** National Atmospheric Deposition Monitoring Network: Acid Deposition Data Network.

**NAPAP:** Office of Research and Development: National Acid Precipitation Assessment Program.

**NASA:** National Aeronautics and Space Administration: Master Directory; Goddard Space Flight Center.

**NBII:** National Biological Survey: National Biological Information Infrastructure.

**NCFAP:** National Center for Food and Agricultural Policy: National Herbicide Use Database.

**NCHS:** HHS/National Center for Health Statistics: Hispanic Health and Nutrition Examination Survey (HHANES); National Health and Nutrition Examination Survey (NHANES).

**NEEDS:** Office of Water: Needs Survey of Existing and Proposed POTWs.

**NEROS:** Atmospheric Research and Exposure Assessment Laboratory: Northeast Regional Oxidant Study

**NFS:** EPA/USF&WL: National Fisheries Study (1982).

**NIOSH:** National Institute of Occupational Safety and Health: NIOSHTIC.

**NOAA-1:** Fisheries Statistics Program, Living marine Resources, National Coastal Wetlands Inventory, National Estuarine Inventory, Classified Shellfishing Waters.

**NOAA-2:** National Coastal Pollutant Discharge Inventory Program.

**NOAA-3:** National Climate Data Center; National Geophysical Data Center, National Oceanographic Data Center, Ocean Pollution Data and Information Network.

**NOAA-4:** Fisheries Statistics Program; Living Marine Resources; National Coastal Wetlands Inventory, National Shellfish Register of Classified Estuary Waters.

**NOAA-5:** National Status and Trends Program (some data).

**NOAA-6:** National Environmental Data Referral Service and NOAA Earth System Data Directory.

**NOPES:** Nonoccupational Pesticide Exposure Study

**NPDES PERMITS:** Office of Water: National Pollutant Discharge Elimination System.

**NPS:** National Park Service: Visibility Monitoring Network; Gaseous Pollutant Monitoring Network.

**NPSurvey:** Office of Pesticides Programs: National Pesticides Survey.

**NRC:** Nuclear Regulatory Commission: Radioactive Material Released from Nuclear Power Plants.

**NSWS:** Office of Research and Development: National Surface Water Survey (National Lake and National Stream Surveys).

**NVOCDB:** Office of Research and Development: National VOC Database.

**ODES:** Office of Water: Ocean Data Evaluation System.

**OPPE Pesticide Food Residue:** Office of Policy, Planning, and Evaluation: Anticipated Residues in Food

**OSHA:** Occupational Safety and Health Administration: Integrated Management Information System

**PCS:** Office of Water: NPDES Permit Compliance System.

**PGWDB:** Office of Pesticides Programs: Pesticides in Groundwater Database.

**PMI/PIN:** Office of Pesticide Programs: Pesticide Information Network.

**RADON:** Office of Air and Radiation: National Residential Radon Survey

**RCRIS:** Office of Solid Waste: Resource Conservation and Recovery Information System.

**SCS:** USDA Soil Conservation Service: National Resource Inventory.

**Sediments:** Office of Water: National Sediments Inventory

**STARS (UST):** Office of Solid Waste and Emergency Response: Underground Storage Tank Database

**States-1:** State data on Index of Biological Integrity (some data).

**States-2:** State Health Departments, also data on Fish Contamination (some data).

**States-3:** State data on Accidental Releases, etc.

**STORET:** Office of Water and Office of Information Resource Management: Storage and Retrieval Data System which contains the Water Quality File, the Biological System (BIOS) and the Daily Flow System.

**TEAM Studies:** Office of Research and Development: Includes CO TEAM, VOC TEAM, NOPES, and PTEAM.

**TRI:** Office of Toxic Substances: Toxics Releases Inventory.

**TSCA Inv.:** Office of Toxic Substances: Toxic Substance Control Act (TSCA) Inventory.

**TSCATS:** Office of Toxic Substances: TSCA Test submissions.

**USDA-1:** Economic Research Service (ERS) and National Agricultural Statistics Service (NASS): Agricultural Chemical Use on Field Crops; Agricultural Chemical Use on Fruits and Nuts; Agricultural Chemical Use on Vegetables; Economic Research Service (ERS): 1989 Cotton Water Quality Database; Fertilizer Use Statistics; Water Quality and Farm Chemical Studies.

**USDA-2:** National Agricultural Library: Water Quality Information Center.

**USDA-3:** Economic Research Service: Major Uses of Land in the United States. Soil Conservation Service: National Resource Inventory. US Forest Service: Forest Insect and Disease Conditions in the United States; Forest Inventory and Analysis; Wildland Fire Statistics; Tree Planting in the United States; Land Areas of the National Forest; Recreation Information Management System.

**USDA-4:** Microbiology and Residue Computer Information System

**WHO:** World Health Organization, et al; Global Environmental Monitoring Systems: Air, Soil and Water (GEMS).

**XATEF: Office of Air and Radiation: Crosswalk/Air  
Toxics Emissions Factor DBMS.**

### **3. DATA SETS/DATABASES/DATA SERIES**

This chapter provides an inventory of databases and datasets that are potentially useful to the National Goals Project.

Table 3.1 briefly identifies all databases and datasets (using acronyms) from EPA and non-EPA sources as defined in the Goals/Data matrix. The full database name and/or a brief description of the dataset are displayed, followed by the name of the sponsoring agency.

For currently available datasets, a more thorough description follows the matrix. Names, acronyms, sponsoring agencies, and location and phone number for dataset location are included. Information on data coverage, chemical compounds, environmental media, geographic coverage, and frequency of collection, is provided for each available dataset.

Table 3-1: EPA and non-EPA Databases and Datasets

Matrix Name/ Abbreviation	Database name and/or description	Sponsoring Agency	Page Number
319	- Section 319 Assessments	Office of Water	3-35
303(d)	- Lists of water still needing TMDLs	Office of Water	3-36
304(l)	- 304(l) Short List Database (Short List)	Office of Water	3-36
305(b)	- Section 305(b) reports	Office of Water	3-36
ADS	- Acid Deposition System	Atmospheric Research and Exposure Assessment Lab	3-7
AIRS	- Aerometric Information Retrieval System	Office of Air Quality Planning and Standards	3-24
AQUIRE	- Aquatic Information Retrieval System	Office of Research and Development	3-24
ARIP	- Accidental Release Information Program Database	Office of Solid Waste and Emergency Response	3-25
ATSDR	- Hazardous Substances Release/Health Effects Database	Agency for Toxic Substances and Disease Registry	3-19
BLS	- Annual Survey of Occupational Injury and Illness	Bureau of Labor Statistics	3-29
BOC-1	- Decennial Census of Population	Bureau of Census	3-17
	- National and Subnational Population Estimates and National and State Population Projections		3-17
	- Survey of Pollution Abatement Costs and Expenditures		3-17
BOC-2	- National and Subnational Population Estimates and National and State Population Projections	Bureau of Census	3-17
	- Survey of Pollution Abatement Costs and Expenditures		3-17
BRS	- Biennial Reporting System	Office of Solid Waste	3-24
CDC	- Waterborne Disease Outbreak Surveillance	Centers for Disease Control	3-19
	- Disease from Fish/Shellfish		
CEQ	- CEQ's Annual Report to Congress	Council of Environmental Quality	3-37
CERCLIS	- Comprehensive Environmental Response, Compensation and Liability Information System	Office of Emergency and Remedial Response	3-24
DOD	- Defense Environmental Restoration Program	Dept of Defense	3-34
DOE-1	- Month and State Current Emissions Trends	National Energy Information Center	3-18
DOE-2	- Subsurface Microbiology Culture Collection	Department of Energy	3-34
DOE-4	- Carbon Dioxide Information Analysis Center	Oak Ridge National Labs	3-39
	- Atmospheric Radiation Measurement Program		3-39
DOE-5	- Environmental Measurements Laboratory Data	National Energy Information Center	3-19
	- Ambient Ozone Concentrations	Brookhaven National Laboratory Division	3-35
DOE-6	- Atmospheric Studies in Complex Terrain	Argonne National Laboratory	3-39

Matrix Name/ Abbreviation	Database name and/or description	Sponsoring Agency	Page Number
DOI-1	- National Contamination Biomonitoring Program	USF&WL	3-22
	- Biomonitoring and Environmental Status and Trends		3-25
	- National Wetlands Inventory		3-22
	- North American Breeding Bird Survey		3-19
	- Waterfowl Population and Habitat Survey		3-20
	- National Wild and Scenic Rivers System	National Park Service	3-20
	- National Hydrologic Benchmark Network Program	USGS	3-22
	- National Stream Quality Accounting Network		3-20
	- National Water Conditions Reporting System		3-20
	- National Water Quality Assessment Program		3-25
	- National Biological Information Infrastructure	National Biological Survey	3-30
DOI-2	- Earth Science Data Directory	USGS	3-21
	- National Water Data Storage and Retrieval System		3-21
	- National Water Data Exchange		3-21
	- National Water Use Information Program		3-22
	- National Water Information Clearinghouse		3-21
DOI-3	- Biomonitoring and Environmental Status and Trends	USF&WL	3-25
	- Waterfowl Breeding Population and Habitat Survey		3-20
	- National Water Quality Assessment Program	USGS	3-25
	- National Biological Information Infrastructure	National Biological Survey	3-30
DOI-4	- National Contaminant Biomonitoring Program	USF&WL	3-22
DOT-1	- Marine Pollution Retrieval System	US Coast Guard/Research and Special Program Admin.	3-25
	- National Transportation Statistics		3-23
DOT-2	- Marine Pollution Retrieval System	US Coast Guard	3-25
EMAP	- Environmental Monitoring and Assessment Programs	Office of Research and Development	3-7
ERAMS	- Environmental Radiation Ambient Monitoring Program	Office of Research and Development	3-7
ERNS	- Emergency Response Notification System	Office of Emergency and Remedial Response	3-8
FDA	- Total Dietary Study (Market Basket Study)	Food and Drug Administration	3-33
FRDS	- Federal Reporting Data System	Office of Groundwater and Drinking Water	3-30
GLFMP	- Great Lakes Fish Monitoring Program	Great Lakes National Program Office	3-31
HWIW	- Hazardous Waste Injection Well Database	Office of Groundwater and Drinking Water	3-33
INDOOR AIR	- Indoor Air Data Collection System	Office of Air and Radiation	3-39
INFOTERRA	- International Environmental Information Exchange Network	Interagency Effort	3-10
IRIS	- Integrated Risk Information System	Office of Research and Development	3-25
LTMP	- Long-Term Monitoring Project	Office of Research and Development	3-8
METH	- Methane Concentration Estimates	Office of Air and Radiation	3-36

Matrix Name/ Abbreviation	Database name and/or description	Sponsoring Agency	Page Number
MSW Report	- Characterization of MSW in the US	Office of Solid Waste	3-40
NADP/NTN	- Acid Deposition Data Network	National Atmospheric Deposition Monitoring Network	3-32
NAPAP	- National Acid Precipitation Assessment Program	Office of Research and Development	3-31
NASA	- Master Directory	Goddard Space Flight Center	3-31
NBII	- National Biological Information Infrastructure	National Biological Survey	3-30
NCFAP	- National Herbicide Use Database	National Center for Food and Agricultural Policy	3-34
NCHS	- Hispanic Health and Nutrition Examination Survey	DHHS/National Center for	3-37
	- National Health and Nutrition Examination Survey	Health Statistics	3-38
NEEDS	- Needs survey of existing and potential POTWs	Office of Water	3-37
NEROS	- Northeast Regional Oxidant Study	ORD/AREAL	3-8
NFS	- National Fisheries Study (1982)	EPA/USF&WL	3-35
NIOSH	- Data on Worker Safety	NIOSH	3-35
NOAA-1	- Fisheries Statistics Program	NOAA	3-17
	- Living Marine Resources		3-18
	- National Coastal Wetlands Inventory		3-29
	- National Status and Trends		3-16
	- National Estuarine Inventory		3-16
	- Classified Shellfishing Waters		3-18
NOAA-2	- National Coastal Pollutant Discharge Inventory Program	NOAA	3-16
NOAA-3	- National Climate Data Center	NOAA	3-18
	- National Geophysical Data Center		3-33
	- Ocean Pollution Data and Information Network		3-28
NOAA-4	- Fisheries Statistics Programs	NOAA	3-17
	- Living Marine Resources		3-18
	- Natinal Shellfish Register of Classified Estuary Waters		3-16
	- National Coastal Wetlands Inventory		3-29
NOAA-5	- National Status and Trends Program	NOAA	3-16
NOAA-6	- National Environmental Data Referral Service	NOAA	3-38
	- NOAA Earth System Data Directory		3-38
NOPEs	- Nonoccupational Pesticide Exposure Study	Atmospheric Research and Exposure Assessment Lab	3-33
NPDES Permits	- National Pollutant Discharge Elimination System Permits	Office of Water	3-32
NPS	- Visibility Monitoring Network	National Parks Service	3-23
	- Gaseous Discharge Elimination System		3-23
NPSurvey	- National Pesticide Survey	Office of Pesticides Program	3-8
NRC	- Radioactive Material Released from Nuclear Power Plants	Nuclear Regulatory Commission	3-23
NSWS	- National Surface Water Survey	Office of Research and Development	3-11



Matrix Name/ Abbreviation	Database name and/or description	Sponsoring Agency	Page Number
NVOCDB	- National VOC Database	Office of Research and Development	3-11
ODES	- Oceanic Data Evaluation System	Office of Water	3-9
OPPE Pesticide Food Residue	- Anticipated Residue in Food	Office of Policy, Planning and Evaluation	3-9
OSHA	- Integrated Management Information System	Occupational Safety and Health Administration	3-28
PCS	- NPDES Permit Compliance System	Office of Water	3-32
PMI/PIN	- Pesticides Information Network	Office of Pesticides Program	3-27
RADON	- National Residential Radon Survey	Office of Air and Radiation	3-11
RCRIS	- Resource Conservation and Recovery Information System	Office of Solid Waste	3-25
SCS	- National Resources Inventory	USDA/Soil Conservation Service	3-13
Sediments	- National Sediments Inventory	Office of Water	3-37
STARS (UST)	- Underground Storage Tanks	Office of Solid Waste and Emergency Response	3-40
States-1	- State data on Index of Biological Integrity	State Governments	*
States-2	- State Health Departments	State Health Departments	**
	- Data on Fish Contamination	State Governments	**
States-3	- State Data on Accidental Releases	State Governments	**
STORET	- Storage and retrieval Data Systems containing the Water Quality Files, the Biological System (BIOS) and the Daily Flow System	Office of Water and Office of Information Resource Management	3-32
TEAMS	- Total Exposure Assessment Methodology Study (Includes CO TEAM, VOC TEAM, NOPEs, and PTEAM)	Office of Research and Development	3-9/10
TRI	- Toxic Release Inventory	Office of Toxic Substances	3-7
TSCA Inv	- Toxic Substances Control Act Inventory	Office of Toxic Substances	3-9
TSCATS	- Toxic Substances Control Act (TSCA) Test submissions	Office of Toxic Substances	3-9
TVA	- Water Resources and Ecological Monitoring	Tennessee Valley Authority	3-34
USDA-1	- Agricultural Chemical Use on Field Crops	ERS/NASS	3-12
	- Agricultural Chemical Use on Fruits and Nuts		3-13
	- Agricultural Chemical Use on Vegetables		3-13
	- 1989 Cotton Water Quality Database	ERS	3-15
	- Fertilizer Use and Price Statistics		3-12
	- Water Quality and Farm Chemical Studies		3-12
USDA-2	- Water Quality Information Center	National Agricultural Library	3-30
USDA-3	- Major Use of Land in the US	ERS	3-13
	- National Resource Inventory	SCS	3-13
	- Forest Insect and Disease Conditions in the US	US Forest Service	3-14
	- Forest Inventory and Analysis		3-14
	- Wildland Fire Statistics		3-14
	- Tree Planting in the United States		3-14
	- Land Areas of the National Forest		3-15
	- Recreation Information System		3-15

Matrix Name/ Abbreviation	Database name and/or description	Sponsoring Agency	Page Number
USDA-4	- Microbiology and Residue Computer Information System	USDA	3-12
WHO	- Global Environmental Monitoring Systems (GEMS)	World Health Organization	3-26/27
XATEF	- Air Toxics Emissions Factor Database Management System	Office of Air and Radiation	3-25

\* State data was not explored - much is available through respective federal programs

\*\* State data is accessible from state-run programs

<b>Data Base Name (Acronym)</b>	Toxic Release Inventory (TRI)
<b>Sponsoring Agency</b>	EPA, Office of Toxic Substances
<b>Contact</b>	National Library of Medicine's TOXNET system (301-496-6531)
<b>Data Coverage:</b>	
<b>Environmental/Compounds</b>	Inorganic compounds, VOCs, semi-VOCs, pesticides, PCBs, asbestos, acids/acid aerosols, bases
<b>Environmental/Media</b>	Air (point and non-point emissions), water, soil or sediment, bulk chemicals, ions (including fluoride), underground injection, off-site transfers (&POTWs)
<b>Other</b>	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1987-present
<b>Collection Frequency</b>	Yearly

<b>Data Base Name (Acronym)</b>	Acid Deposition System (ADS)
<b>Sponsoring Agency</b>	EPA, Atmospheric Research & Exposure Assessment Laboratory (AREAL)
<b>Contact</b>	National Technical Information Service (703-487-4650)
<b>Data Coverage:</b>	
<b>Environmental/Compounds</b>	Inorganic compounds, ions and physical and chemical indicators of water quality
<b>Environmental/Media</b>	Water (precipitation)
<b>Other</b>	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1978-present
<b>Collection Frequency</b>	Generally weekly; daily in southern Canada; extra samples after weather event

<b>Data Base Name (Acronym)</b>	Environmental Monitoring and Assessment Program (EMAP)
<b>Sponsoring Agency</b>	EPA, Office of Research and Development
<b>Contact</b>	National Technical Information Service (703-487-4650)
<b>Data Coverage:</b>	
<b>Environmental/Compounds</b>	Currently inorganic compounds, semi-VOCs, pesticides, PCBs (soil); acids (water); particulates, criteria pollutants, acids (air)
<b>Environmental/Media</b>	Water, air soil, food sources
<b>Other</b>	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1990-present
<b>Collection Frequency</b>	Once every 4 years during season specific to each research category

<b>Data Base Name (Acronym)</b>	Environmental Radiation Ambient Monitoring System (ERAMS)
<b>Sponsoring Agency</b>	EPA, Office of Radiation Programs
<b>Contact</b>	EPA, Office of Radiation Programs (205-270-3433)
<b>Data Coverage:</b>	
<b>Environmental/Compounds</b>	Radionuclides; particulates (gross beta radiation); radiation (alpha, beta, gamma)
<b>Environmental/Media</b>	Water (including surface water, drinking water, and precipitation); air; food sources (milk)
<b>Other</b>	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1973-present
<b>Collection Frequency</b>	Varies for each water source; milk collected monthly

<b>Data Base Name (Acronym)</b>	Emergency Response Notification System (ERNS)
<b>Sponsoring Agency</b>	EPA, Office of Emergency and Remedial Response (OERR)
<b>Contact</b>	ERNS Information Line (202-260-2342)
<b>Data Coverage:</b>	
Environmental/Compounds	Inorganic compounds, VOCs, trihalomethanes, semi-VOCs, pesticides, PCBs, dioxins/furans, radionuclides, acid/acid aerosols, and criteria pollutants
Environmental/Media	Water, soil or sediment, air
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1986-present
<b>Collection Frequency</b>	Sampling data are not included in ERNS

<b>Data Base Name (Acronym)</b>	Long-Term Monitoring Project (LTM)
<b>Sponsoring Agency</b>	EPA, Office of Research and Development
<b>Contact</b>	John Stoddard, ManTech Environmental Technology Inc., (503-757-4441)
<b>Data Coverage:</b>	
Environmental/Compounds	Inorganic compounds; physical and chemical indicators of water quality; ions
Environmental/Media	Surface water
Other	
<b>Geographic Coverage</b>	Regional (Catskill, Maine, Vermont, New York, Upper Midwest & Colorado Rockies)
<b>Time Coverage</b>	1983-present
<b>Collection Frequency</b>	Catskills-monthly; Maine and Vermont-quarterly; 3 times per summer in Colorado

<b>Data Base Name (Acronym)</b>	Northeast Regional Oxidant Study (NEROS)
<b>Sponsoring Agency</b>	EPA, Office of Research and Development
<b>Contact</b>	National Technical Information Service (NTIS) (703-487-4650)
<b>Data Coverage:</b>	
Environmental/Compounds	Criteria pollutants (NO <sub>x</sub> , CO, O <sub>3</sub> , SO <sub>2</sub> ), VOCs (hydrocarbons), ions (including sulfate, nitrate, ammonium), index of fine particles (scattering coefficient)
Environmental/Media	Air
Other	
<b>Geographic Coverage</b>	Regional (Northeast)
<b>Time Coverage</b>	1979-1980
<b>Collection Frequency</b>	Twice (for one month in the summer 1979, and one month in the summer of 1980)

<b>Data Base Name (Acronym)</b>	National Pesticide Survey (NPS)
<b>Sponsoring Agency</b>	EPA, Office of Pesticide Programs
<b>Contact</b>	Drinking Water Hotline (800-426-4791)
<b>Data Coverage:</b>	
Environmental/Compounds	Pesticides, nitrate, inorganic compounds
Environmental/Media	Water (wells--municipal and private, before treatment or blending)
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1988-1990
<b>Collection Frequency</b>	Each site sampled once (1,300 sites total)

<b>Data Base Name (Acronym)</b>	Toxic Substance Control Act (TSCA) Inventory
<b>Sponsoring Agency</b>	EPA, Office of Toxic Substances
<b>Contact</b>	National Library of Medicine, (301-496-6193 or 617-235-1715)
<b>Data Coverage:</b>	
Environmental/Compounds	Inorganic compounds, VOCs, semi-VOCs, pesticides, PCBs, dioxins/furans, radionuclides, asbestos, acids, bases, all other substances covered under TSCA
Environmental/Media	Bulk chemicals
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1985-present
<b>Collection Frequency</b>	Not applicable; each study within TSCATS contains its own sampling protocols

<b>Data Base Name (Acronym)</b>	Ocean Data Evaluation System (ODES)
<b>Sponsoring Agency</b>	EPA, Office of Water
<b>Contact</b>	Bob King, EPA, Office of Water (202-260-7050)
<b>Data Coverage:</b>	
Environmental/Compounds	Inorganic compounds, organic metals, VOCs, trihalomethanes, semi-VOCs, pesticides, PCBs, dioxins/furans, radionuclides, asbestos, microorganisms & ions
Environmental/Media	Water (primarily near sewage discharge outfalls), soil (marine sediments), human food sources (fish/shellfish)
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1979-present
<b>Collection Frequency</b>	Varied (most collected quarterly, some daily, some annually)

<b>Data Base Name (Acronym)</b>	Anticipated Residues in Food (OPPE Pesticide Food Residue)
<b>Sponsoring Agency</b>	EPA, Office of Policy, Planning and Evaluation
<b>Contact</b>	National Technical Information Service (703-487-4650)
<b>Data Coverage:</b>	
Environmental/Compounds	Pesticides
Environmental/Media	Human food sources
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1980-present (over 85% of the data are from 1985-1988; updated in 1991)
<b>Collection Frequency</b>	Not applicable; sampling and analysis data are obtained from other agencies

<b>Data Base Name (Acronym)</b>	Carbon Monoxide Total Exposure Assessment Methodology Study (CO TEAM)
<b>Sponsoring Agency</b>	EPA, Office of Research and Development
<b>Contact</b>	National Technical Information Service (703-487-4650)
<b>Data Coverage:</b>	
Environmental/Compounds	Carbon Monoxide
Environmental/Media	Air, human samples (exhaled breath)
Other	
<b>Geographic Coverage</b>	City or municipality (DC and Denver Standard Metropolitan Statistical Areas)
<b>Time Coverage</b>	1982-1983
<b>Collection Frequency</b>	One sample from each DC participant, and two from participants in Denver.

<b>Data Base Name (Acronym)</b>	Volatile Organic Compound Total Exposure Assessment Methodology Study (VOC TEAM)
<b>Sponsoring Agency</b>	EPA, Office of Acid Deposition, Environmental Monitoring and Quality Assurance
<b>Contact</b>	National Technical Information Service (703-487-4650)
<b>Data Coverage:</b>	
Environmental/Compounds	VOCs
Environmental/Media	Air, water, human samples (exhaled breath)
Other	
<b>Geographic Coverage</b>	City or municipality (NJ, CA, MD, NC, ND)
<b>Time Coverage</b>	1980-1987
<b>Collection Frequency</b>	Daily during different seasons (two 12-hour samples per person and household)

<b>Data Base Name (Acronym)</b>	Nonoccupational Pesticide Exposure Study (NOPES)
<b>Sponsoring Agency</b>	EPA, Atmospheric Research and Exposure Assessment Laboratory
<b>Contact</b>	NTIS (703-487-4650)
<b>Data Coverage:</b>	
Environmental/Compounds	Pesticides
Environmental/Media	Air, water, food sources, dermal contact
Other	
<b>Geographic Coverage</b>	City or municipality (FL and MA)
<b>Time Coverage</b>	1985-1988
<b>Collection Frequency</b>	Single and multi-season data collection over three years

<b>Data Base Name (Acronym)</b>	Particle Total Exposure Assessment Methodology Study (PTEAM)
<b>Sponsoring Agency</b>	EPA, Atmospheric Research and Exposure Assessment Laboratory
<b>Contact</b>	Lance A. Wallace, EPA, EPIC Building (703-341-7509)
<b>Data Coverage:</b>	
Environmental/Compounds	Particulates (PM10, PM2.5, particle-bound elements, particle-bound polycyclic aromatic hydrocarbons (PAHs), particle-bound phthalates, nicotine)
Environmental/Media	Air
Other	
<b>Geographic Coverage</b>	Riverside, CA
<b>Time Coverage</b>	September-November 1990
<b>Collection Frequency</b>	Daily for 48 hours (September 22, 1990 to November 9, 1990)

<b>Data Base Name (Acronym)</b>	INFOTERRA/USA Directory of Environmental Sources
<b>Sponsoring Agency</b>	EPA
<b>Contact</b>	INFOTERRA/USA, EPA (202-260-5917)
<b>Data Coverage:</b>	INFO EXCHANGE RESOURCE - NOT A DATABASE
Environmental/Compounds	
Environmental/Media	Environmental information, fields of environmental enterprise, and a description of services
Other	International environmental exchange network; provide reliable, comprehensive and timely environmental information to requestors
<b>Geographic Coverage</b>	International
<b>Time Coverage</b>	1975-present
<b>Collection Frequency</b>	

<b>Data Base Name (Acronym)</b>	National Surface Water Survey (NSWS)
<b>Sponsoring Agency</b>	EPA, Office of Research and Development
<b>Contact</b>	National Technical Information Service (NTIS) (703-487-4650)
<b>Data Coverage:</b>	
Environmental/Compounds	Inorganic compounds, ions (including fluoride), physical and chemical indicators of water quality
Environmental/Media	Surface water (lakes and streams)
Other	
<b>Geographic Coverage</b>	Regional (NE, Upper Midwest, New England, mid-Atlantic, SE, mountainous West)
<b>Time Coverage</b>	1984, 1985, 1986
<b>Collection Frequency</b>	Varies; one time only and seasonal

<b>Data Base Name (Acronym)</b>	National Residential Radon Survey (NRRS)
<b>Sponsoring Agency</b>	EPA, Office of Radiation Programs
<b>Contact</b>	Frank Marcinowski, EPA (202-260-4189)
<b>Data Coverage:</b>	
Environmental/Compounds	Radon
Environmental/Media	Indoor Air
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1989-1990
<b>Collection Frequency</b>	Yearly

<b>Data Base Name (Acronym)</b>	National VOC Data Base
<b>Sponsoring Agency</b>	EPA, Office of Research and Development
<b>Contact</b>	Dr. Jitendra Shah, President, G2 Environmental, Inc. (503-228-2335)
<b>Data Coverage:</b>	
Environmental/Compounds	VOCs
Environmental/Media	Air
Other	
<b>Geographic Coverage</b>	National; Canada (limited data for Canada only for 1970-1980)
<b>Time Coverage</b>	1970-1984
<b>Collection Frequency</b>	Variable; depends on particular source of data

<b>Data Base Name (Acronym)</b>	Agricultural Chemical Usage
<b>Sponsoring Agency</b>	USDA, National Agricultural Statistics Service (NASS)
<b>Contact</b>	USDA Economic Research Service/NASS (800-999-6779)
<b>Data Coverage:</b>	
Environmental/Compounds	Pesticides, fertilizers
Environmental/Media	Bulk chemicals
Other	
<b>Geographic Coverage</b>	Selected states
<b>Time Coverage</b>	1990-present
<b>Collection Frequency</b>	Annual for field crops; biannual for vegetables and fruits

<b>Data Base Name (Acronym)</b>	Microbiology and Residue Computer Information System (MARCIS)
<b>Sponsoring Agency</b>	USDA, Food Safety and Inspection Service
<b>Contact</b>	Office of Information and Legislative Affairs, USDA (202-447-9113)
<b>Data Coverage:</b>	
Environmental/Compounds	Inorganic compounds, VOCs, semi-VOCs, pesticides, PCBs, radionuclides, microorganisms, antibiotics, veterinary drugs
Environmental/Media	Food sources
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1976-present
<b>Collection Frequency</b>	Daily

<b>Data Base Name (Acronym)</b>	Agricultural Chemical Use on Field Crops
<b>Sponsoring Agency</b>	USDA/National Agricultural Statistics Service and Economic Research Service
<b>Contact</b>	Merritt Padgitt, Economic Research Service, RTD (202-219-0433)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	Wheat, corn, soybeans, cotton, rice, potatoes, grain sorghum and peanuts
Other	Pesticides, fertilizers, and tillage practices
<b>Geographic Coverage</b>	All dominate U.S. production states (approximately 35-47 states)
<b>Time Coverage</b>	1990-present
<b>Collection Frequency</b>	Annual

<b>Data Base Name (Acronym)</b>	Fertilizer Use and Price Statistics
<b>Sponsoring Agency</b>	USDA, Economic Research Service, Resource and Technology Division
<b>Contact</b>	Harold Taylor, Economic Research Service, RTD (202-219-0464)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	U.S. fertilizer use and prices and nutrients applied per acre for major farm States, 1964-1991, for corn, cotton, soybeans, and wheat
Other	Annual statistics of fertilizer nutrients applied to field crops and fertilizer prices
<b>Geographic Coverage</b>	Varies; predominant states which produce the field crops
<b>Time Coverage</b>	1964-1991
<b>Collection Frequency</b>	Annual

<b>Data Base Name (Acronym)</b>	Water Quality and Farm Chemical Studies
<b>Sponsoring Agency</b>	Economic Research Service, Resource and Technology Division
<b>Contact</b>	Merritt Padgitt, Economic Research Service, RTD (202-219-0433)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	Pesticide and fertilizer use, pest and nutrient management practice, cropping history, livestock enterprises
Other	Information needed to understand the relationships among farming activities; resources char. such as soil type, terrain, and climate; and ground water quality
<b>Geographic Coverage</b>	CA., IN, NA, WA, South GA, IO/IL, ID, Lower Susquehanna, Albemarle-Pamlico
<b>Time Coverage</b>	1990 and 1991
<b>Collection Frequency</b>	One time data collection effort



<b>Data Base Name (Acronym)</b>	<b>Agricultural Chemical Use on Fruits and Nuts</b>
<b>Sponsoring Agency</b>	<b>USDA/National Agricultural Statistics Service and Economic Research Service</b>
<b>Contact</b>	<b>Merritt Padgett, Economic Research Service, RTD (202-219-0433)</b>
<b>Data Coverage:</b>	
<b>Environmental/Compounds</b>	
<b>Environmental/Media</b>	Fruit and nut products, farm sales and income, production expenditures, farm size and other characteristics of fruit and nut farms and operators
<b>Other</b>	Pesticide and fertilizer use along with information on nonchemical pest management and other cultural practices used in fruit and nut production
<b>Geographic Coverage</b>	14 predominant fruit and nut producing states
<b>Time Coverage</b>	1990-present
<b>Collection Frequency</b>	Every 2 years

<b>Data Base Name (Acronym)</b>	<b>Agricultural Chemical Use on Vegetables</b>
<b>Sponsoring Agency</b>	<b>USDA/National Agricultural Statistics Service and Economic Research Service</b>
<b>Contact</b>	<b>Merritt Padgett, Economic Research Service, RTD (202-219-0433)</b>
<b>Data Coverage:</b>	
<b>Environmental/Compounds</b>	
<b>Environmental/Media</b>	Vegetable products, farm sales and income, production expenditures, farm size, and other characteristics of vegetable farms and operators
<b>Other</b>	Pesticide and fertilizer use along with information on nonchemical pest management and other cultural practices used in vegetable production
<b>Geographic Coverage</b>	AZ, CA, FL, MI and TX in 1990 (14 states in 1992)
<b>Time Coverage</b>	1990-present
<b>Collection Frequency</b>	Every other year

<b>Data Base Name (Acronym)</b>	<b>Major Uses of Land in the United States</b>
<b>Sponsoring Agency</b>	<b>Economic Research Service, Resource and Technology Division</b>
<b>Contact</b>	<b>Arthur B. Daugherty, Economic Research Service (202-219-0424)</b>
<b>Data Coverage:</b>	
<b>Environmental/Compounds</b>	
<b>Environmental/Media</b>	Estimates for major land use classes; cropland; grassland pasture and range; forest land; special use; and unclassified use
<b>Other</b>	Major uses of land in the United States
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	Shortly before 1943, until 1993
<b>Collection Frequency</b>	Every 5 years

<b>Data Base Name (Acronym)</b>	<b>National Resources Inventory (NRI)</b>
<b>Sponsoring Agency</b>	<b>Soil Conservation Service, Resources Inventory Division</b>
<b>Contact</b>	<b>Jeff Goebel, Soil Conservation Service (202-720-4530)</b>
<b>Data Coverage:</b>	
<b>Environmental/Compounds</b>	
<b>Environmental/Media</b>	Soil char. and interpretations; land: cover, use, treatment; erosion; conservation treatment needs; vegetative conditions; potential for conversion to cropland
<b>Other</b>	Data on the status, condition, and trends of the nation's soil, water, and related resources
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1942-present
<b>Collection Frequency</b>	Every 5 years

<b>Data Base Name (Acronym)</b>	Forest Insect and Disease Conditions in the United States
<b>Sponsoring Agency</b>	U.S. Forest Service, Forest Pest Management
<b>Contact</b>	Thomas H. Hofacker, U.S. Dept. of Agriculture (202-205-1600)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	Data on federal, state and private forest lands: type of insect/disease damage, size of are affected, and dollars lost by region and ownership
Other	Insect and disease conditions on forest lands of all ownerships since 1952
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1952-present
<b>Collection Frequency</b>	Yearly

<b>Data Base Name (Acronym)</b>	Forest Inventory and Analysis (FIA)
<b>Sponsoring Agency</b>	U.S. Forest Service, Forest Inventory, Economics, and Recreation Research
<b>Contact</b>	James T. Bones, U.S. Dept. of Agriculture (202-205-1343)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	Land use and ownership, forest type, stand age and size and volume classes, harvest history, soils and tree data and other vegetation data & non-timber data
Other	Extent, condition, ownership, & composition of the nation's forests; info. about wildlife habitat, forage production, & other resource char. needed for resource planning
<b>Geographic Coverage</b>	Entire United States and Puerto Rico
<b>Time Coverage</b>	1930-present
<b>Collection Frequency</b>	Continuous

<b>Data Base Name (Acronym)</b>	Wildland Fire Statistics
<b>Sponsoring Agency</b>	U.S. Forest Service, Fire and Aviation Management Staff
<b>Contact</b>	Judith Leraas, U.S. Forest Service (202-205-1498)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	Year-to-date and annual figures for number of wildland fires and acres burned on public and private lands; origin of fires is available for Forest Service lands only
Other	Data on wildland fires on public and private lands throughout the United States
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	Current
<b>Collection Frequency</b>	Daily by the Boise Interagency Fire Center & yearly by the Fire and Aviation Staff

<b>Data Base Name (Acronym)</b>	Tree Planting in the United States
<b>Sponsoring Agency</b>	U.S. Forest Service, State and Private Forestry
<b>Contact</b>	Robert D. Mangold, U.S. Forest Service (202-205-1379)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	Number of tree seedlings planted or seeded; acres of tree planting; acres of timber stand improvement; and production of tree planting stock
Other	National summary of tree planting in the United States
<b>Geographic Coverage</b>	United States and Territories
<b>Time Coverage</b>	Current
<b>Collection Frequency</b>	Yearly

<b>Data Base Name (Acronym)</b>	Land Areas of the National Forest
<b>Sponsoring Agency</b>	U.S. Forest Service, Lands Staff
<b>Contact</b>	Philip S. Dunning, Dept. of Agriculture (202-205-0843)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	Number of units and acreages of all forest area in the United States
Other	Gross and net areas are generated by survey and map compilation; other data are generated by census and inventory
<b>Geographic Coverage</b>	All fifty states, Puerto Rico, and the Virgin Islands
<b>Time Coverage</b>	1891-present
<b>Collection Frequency</b>	Annual

<b>Data Base Name (Acronym)</b>	Recreation Information Management System
<b>Sponsoring Agency</b>	U.S. Forest Service, Recreation, Cultural Resources and Wilderness
<b>Contact</b>	Robert M. Cron, USDA Forest Service (202-205-1408)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	Recreation visitor days by type of activity, number of sites and capacity by kind of site, recreation trail mileage, and service level for various types of trails
Other	Information on the use, condition, and facilities of recreation sites within the over 191 million acres of the National Forest System
<b>Geographic Coverage</b>	All Forest Service owned land in the continental US, Alaska, and Puerto Rico
<b>Time Coverage</b>	Current
<b>Collection Frequency</b>	Annual

<b>Data Base Name (Acronym)</b>	1989 Cotton Water Quality Database
<b>Sponsoring Agency</b>	Economic Research Service, Resource and Technology Division
<b>Contact</b>	Merritt Padgett, Economic Research Service, RTD (202-219-0433)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	Share of acres treated, average number of treatments, and application rate for each pesticide material or nutrient applied; nonchemical pest management info.
Other	Pesticide and fertilizer use; benchmark information about pest management, soil conservation, tillage, and water management practices
<b>Geographic Coverage</b>	AL, AK, AZ, CA, GA, LA, MI, MS, NM, NC, OK, SC, TN, and TX
<b>Time Coverage</b>	1989
<b>Collection Frequency</b>	Only once in 1989

<b>Data Base Name (Acronym)</b>	National Shellfish Register of Classified Estuarine Waters (Register)
<b>Sponsoring Agency</b>	U.S. Dept. of Commerce, National Oceanic and Atmospheric Admin.
<b>Contact</b>	National Technical Info. Service (703-487-4650)
<b>Data Coverage:</b>	
Environmental/Compounds	Microorganisms, inorganic compounds, pesticides, PCB's, radionuclides, meteorological and hydrographic data
Environmental/Media	Surface water
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1966-present
<b>Collection Frequency</b>	States collect monthly (Register data compiled every 5 years)

<b>Data Base Name (Acronym)</b>	National Status and Trends for Marine Environment Quality (NS&T)
<b>Sponsoring Agency</b>	U.S. Dept. of Commerce, National Oceanic and Atmospheric Admin.
<b>Contact</b>	SEA Grant Program (401-792-6114)
<b>Data Coverage:</b>	
Environmental/Compounds	Inorganic compounds, semi-VOCs, pesticides, PCBs, radionuclides
Environmental/Media	Fish/shellfish, marine sediment
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1984-present (for benthic fish and sediments)
<b>Collection Frequency</b>	Yearly

<b>Data Base Name (Acronym)</b>	National Coastal Pollutant Discharge Inventory (NCPDI)
<b>Sponsoring Agency</b>	U.S. Dept. of Commerce, National Oceanic and Atmospheric Admin. (NOAA)
<b>Contact</b>	Mitchell Katz, NOAA, ORCA, SEA Division (301-443-0453)
<b>Data Coverage:</b>	
Environmental/Compounds	Inorganic compounds; pesticides; microorganisms; PCBs (original 1982 data only); physical and chemical indicators of water quality; other
Environmental/Media	Surface water
Other	
<b>Geographic Coverage</b>	National (estuarine, coastal and oceanic waters of the US excluding Great Lakes)
<b>Time Coverage</b>	1982, 1987 (estimates are periodically updated)
<b>Collection Frequency</b>	Not applicable--no samples collected; estimates made on a seasonal basis

<b>Data Base Name (Acronym)</b>	National Estuarine Inventory (NEI)
<b>Sponsoring Agency</b>	U.S. Dept. of Commerce, National Oceanic and Atmospheric Admin. (NOAA)
<b>Contact</b>	John Klein, NOAA, ORCA, SEA Division (301-443-8843)
<b>Data Coverage:</b>	
Environmental/Compounds	See NCPDI, NS&T, and Register for more information
Environmental/Media	See NCPDI, NS&T, and Register for more information
Other	estuarine and fluvial drainage areas, water surface area, volume, tidal range, salinity regime, and freshwater inflow, land use and population growth data
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1983-present
<b>Collection Frequency</b>	See NCPDI, NS&T, and Register for more information

<b>Data Base Name (Acronym)</b>	Decennial Census of Population
<b>Sponsoring Agency</b>	Bureau of the Census, Population Division
<b>Contact</b>	Philip N. Fulton, Assistant Division Chief for Census Programs (301-763-7890)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	
Other	Demographic and economic characteristics
<b>Geographic Coverage</b>	US, Puerto Rico, Virgin Islands, Guam, American Samoa, Northern Marianas & Palau
<b>Time Coverage</b>	Current
<b>Collection Frequency</b>	Once per decade (one-in-six are sampled)

<b>Data Base Name (Acronym)</b>	National and Subnational Population Estimates and National and State Population
<b>Sponsoring Agency</b>	Bureau of the Census, Population Division
<b>Contact</b>	Frederick W. Hollmann, National Projections Branch (301-763-7950)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	
Other	Population estimates
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	Current
<b>Collection Frequency</b>	Yearly

<b>Data Base Name (Acronym)</b>	Survey of Pollution Abatement Costs and Expenditures
<b>Sponsoring Agency</b>	Bureau of the Census, Industry Division
<b>Contact</b>	Jesse Havard, Bureau of the Census, Industry Division (301-763-1755)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	
Other	Estimates of pollution abatement operating costs and capital expenditures are made for manufacturing plants with 20 employees or more (except the apparel group)
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1973-present (except 1987)
<b>Collection Frequency</b>	Annually

<b>Data Base Name (Acronym)</b>	Fisheries Statistics Program
<b>Sponsoring Agency</b>	National Oceanic and Atmospheric Admin., National Marine Fisheries Services
<b>Contact</b>	Mark Holliday, National Marine Fisheries Service (301-713-2328)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	Information on monthly and annual commercial landings in pounds and value by species, state, county, year, waterbody, and distance from shore
Other	Biological, economic, and sociological statistics on domestic commercial and recreational fisheries, and foreign landings in the U.S. Exclusive Economic Zone
<b>Geographic Coverage</b>	U.S. and Puerto Rico ports and 50 ports outside the 50 states
<b>Time Coverage</b>	Current
<b>Collection Frequency</b>	Daily, monthly, and/or yearly depending on subject and area covered

<b>Data Base Name (Acronym)</b>	Living Marine Resources
<b>Sponsoring Agency</b>	National Oceanic and Atmospheric Admin., National Ocean Service
<b>Contact</b>	Tom LaPointe, National Oceanic and Atmospheric Administration (301-443-0453)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	Distributions of life stage, statistics on commercial harvest, and status of seabird colonies
Other	Data on spatial and temporal distributions of marine species (invertebrates, fishes, seabirds, and mammals)
<b>Geographic Coverage</b>	U.S., Exclusive Economic Zone including Alaska, excluding Hawaii and Puerto Rico
<b>Time Coverage</b>	1960-present
<b>Collection Frequency</b>	Ongoing

<b>Data Base Name (Acronym)</b>	Classified Shellfishing Waters
<b>Sponsoring Agency</b>	National Oceanic and Atmospheric Admin. (NOAA), National Ocean Service
<b>Contact</b>	Sharon Adamany, NOAA (301-713-3000)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	Name, location, classification, size, and pollution sources
Other	Waters are classified for the commercial harvest of oysters, clams, and mussels based on the presence of actual or potential pollution sources and coliform bacteria levels in surface
<b>Geographic Coverage</b>	East, West, and Gulf Coasts of the U.S.
<b>Time Coverage</b>	1966-1990
<b>Collection Frequency</b>	1966, 1971, 1974, 1980, 1985, 1990; the next survey is scheduled for 1995

<b>Data Base Name (Acronym)</b>	National Climatic Data Center (NCDC)
<b>Sponsoring Agency</b>	National Oceanic and Atmospheric Administration (NOAA)
<b>Contact</b>	National Climatic Data Center, NOAA (704-271-4800)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	Climatic variables (temperature, precipitation, solar radiation, storms, wind, and floods) are summarized for both short-term and long-term periods of record
Other	Collect, process, and archive meteorological and climatological data from a global network of stations
<b>Geographic Coverage</b>	Global land and sea, but coverage is primarily U.S. and dependencies
<b>Time Coverage</b>	Mid-1800's to the present
<b>Collection Frequency</b>	Daily or monthly depending on type and source of information

<b>Data Base Name (Acronym)</b>	Month and State Current Emission Trends (MSCET)
<b>Sponsoring Agency</b>	Argonne National Laboratory for the U.S. Dept. of Energy (DOE)
<b>Contact</b>	Chuck Cilek (708-972-4237)
<b>Data Coverage:</b>	
Environmental/Compounds	NOx, SO2, VOCs
Environmental/Media	Air (outdoor urban, outdoor rural, and/or stack emissions)
Other	
<b>Geographic Coverage</b>	National (48 contiguous states)
<b>Time Coverage</b>	1975-present
<b>Collection Frequency</b>	Monthly

<b>Data Base Name (Acronym)</b>	National Energy Information Center
<b>Sponsoring Agency</b>	Energy Information Administration
<b>Contact</b>	National Energy Information Center, U.S. Dept. of Energy (202-586-8800)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	Energy sources; energy reserves; total production; consumption; energy imports and exports; economic and statistical info.; data on fuel types, production of electricity and nuclear and hydroelectric power; use of renewable energy sources
Other	Collect and publish data and prepare analyses on energy production, consumption, prices, and resources, and projections of energy supply and demand
<b>Geographic Coverage</b>	Entire U.S. and some global
<b>Time Coverage</b>	Current
<b>Collection Frequency</b>	Monthly, quarterly, yearly, biennially, and triennially

<b>Data Base Name (Acronym)</b>	Hazardous Substance Release / Health Effects Database
<b>Sponsoring Agency</b>	U.S. Dept. of Health and Human Services, (ATSDR)
<b>Contact</b>	Mike Perry, Agency for Toxic Substances and Disease Registry (404-639-0720)
<b>Data Coverage:</b>	
Environmental/Compounds	Inorganic compounds, VOCs, trihalomethanes, semi-VOCs, pesticides, PCBs, dioxins/furans, radionuclides, asbestos, ions (including fluoride)
Environmental/Media	Water, soil, air, food sources, human samples (urine)
Other	
<b>Geographic Coverage</b>	National (United States and U.S. Inventories)
<b>Time Coverage</b>	1980-present
<b>Collection Frequency</b>	Varies, depending upon conditions at the site & the agency collecting the samples

<b>Data Base Name (Acronym)</b>	Waterborne Disease Outbreak Surveillance
<b>Sponsoring Agency</b>	Center for Disease Control and Prevention, Public Health Service
<b>Contact</b>	Waterborne Disease Outbreak Surveillance Coordinator (404-488-4050)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	
Other	Characteristics of water intended for drinking, water intended for recreational use, and outbreaks of gastroenteritis on ocean-going passenger vessels
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1971-present
<b>Collection Frequency</b>	Ongoing

<b>Data Base Name (Acronym)</b>	North American Breeding Bird Survey
<b>Sponsoring Agency</b>	U.S. Fish and Wildlife Service, Office of Migratory Bird Management
<b>Contact</b>	Bruce Peterjohn, Patuxent Wildlife Research Center (301-498-0330)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	
Other	Total number of individuals recorded by species, survey route, and state
<b>Geographic Coverage</b>	Roadside routes within each one degree block of latitude and longitude
<b>Time Coverage</b>	1966-present
<b>Collection Frequency</b>	Annually

<b>Data Base Name (Acronym)</b>	National Wild and Scenic Rivers System
<b>Sponsoring Agency</b>	National Park Service, Park Planning and Protection Division
<b>Contact</b>	John Haubert, Outdoor Recreation Planner (202-208-4290)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	
Other	Quantity and distance of rivers in the National Wild and Scenic Rivers System
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	Late 1970's-early 1980's
<b>Collection Frequency</b>	Biennially or as designations occur

<b>Data Base Name (Acronym)</b>	National Stream Quality Accounting Network (NASQAN)
<b>Sponsoring Agency</b>	U.S. Geological Survey, Water Resources Division
<b>Contact</b>	Richard A. Smith, U.S. Geological Survey (703-648-6870)
<b>Data Coverage:</b>	
Environmental/Compounds	Water characteristics and trace elements
Environmental/Media	Freshwater
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1972-present
<b>Collection Frequency</b>	Bimonthly at 58% of the sites, and quarterly at 42% of the sites

<b>Data Base Name (Acronym)</b>	National Water Conditions Reporting System
<b>Sponsoring Agency</b>	U.S. Geological Survey, Water Resources Division
<b>Contact</b>	Thomas G. Ross, Hydrologic Information Unit (703-648-6814)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	
Other	Streamflow data and classed data
<b>Geographic Coverage</b>	U.S., Puerto Rico and southern Canada
<b>Time Coverage</b>	1951-1980
<b>Collection Frequency</b>	Monthly

<b>Data Base Name (Acronym)</b>	Waterfowl Breeding Population and Habitat Survey
<b>Sponsoring Agency</b>	U.S. Fish and Wildlife Service, Office of Migratory Bird Management
<b>Contact</b>	Dr. Robert J. Blohm, U.S. Fish and Wildlife Service (703-358-1838)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	
Other	Number of breeding waterfowl by species and number of waterbodies available during the breeding season
<b>Geographic Coverage</b>	US and Canadian regions
<b>Time Coverage</b>	Current
<b>Collection Frequency</b>	Annually



<b>Data Base Name (Acronym)</b>	Earth Science Data Directory (ESDD)
<b>Sponsoring Agency</b>	U.S. Geological Survey
<b>Contact</b>	ESDD Project Manager, U.S. Geological Survey (703-648-7112)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	
Other	Specific earth science and natural resource data
<b>Geographic Coverage</b>	Global
<b>Time Coverage</b>	BEING CREATED
<b>Collection Frequency</b>	Ongoing

<b>Data Base Name (Acronym)</b>	National Water Data Storage and Retrieval System (WATSTORE)
<b>Sponsoring Agency</b>	U.S. Geological Survey, Branch of Computer Technology
<b>Contact</b>	U.S. Geological Survey, WATSTORE Program Office (703-648-5605)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	Surface water and ground water
Other	Streamflow, chemical analyses, water data parameters, geologic and inventory data, summary data on water use
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1971-present
<b>Collection Frequency</b>	

<b>Data Base Name (Acronym)</b>	National Water Data Exchange (NAWDEX)
<b>Sponsoring Agency</b>	U.S. Geological Survey
<b>Contact</b>	U.S. Geological Survey, National Water Data Exchange (703-648-6848)
<b>Data Coverage:</b>	INFORMATION EXCHANGE RESOURCE - NOT A DATABASE
Environmental/Compounds	
Environmental/Media	
Other	Assist users of water data in the identification, locations and acquisition of needed data
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	Current
<b>Collection Frequency</b>	

<b>Data Base Name (Acronym)</b>	National Water Information Clearinghouse
<b>Sponsoring Agency</b>	U.S. Geological Survey, National Water Information Clearinghouse
<b>Contact</b>	Chief, National Water Information Clearinghouse (800-426-9000 or 703-648-6832)
<b>Data Coverage:</b>	INFORMATION EXCHANGE RESOURCE - NOT A DATABASE
Environmental/Compounds	
Environmental/Media	
Other	Manage and coordinate the exchange of water resources information with Federal, State, and local governmental agencies, academia, industry and the general public
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	Current
<b>Collection Frequency</b>	

<b>Data Base Name (Acronym)</b>	National Water Use Information Program
<b>Sponsoring Agency</b>	U.S. Geological Survey, Water Resources Division
<b>Contact</b>	Wayne Solley, U.S. Geological Survey (703-648-5670)
<b>Data Coverage:</b>	
<b>Environmental/Compounds</b>	
<b>Environmental/Media</b>	Surface and ground water
<b>Other</b>	Public supply, domestic, commercial, industry, mining, irrigation, livestock, thermoelectric power generation, and hydroelectric power generation
<b>Geographic Coverage</b>	U.S., Puerto Rico, Virgin Islands, and District of Columbia
<b>Time Coverage</b>	1978-present
<b>Collection Frequency</b>	Every 5 years nationally; many states publish monthly or annual water use data

<b>Data Base Name (Acronym)</b>	National Wetlands Inventory (NWI)
<b>Sponsoring Agency</b>	U.S. Fish and Wildlife Service, Fish and Wildlife Enhancement
<b>Contact</b>	Thomas E. Dahl or Linda Shaffer, National Wetland Inventory (813-893-3624)
<b>Data Coverage:</b>	
<b>Environmental/Compounds</b>	
<b>Environmental/Media</b>	
<b>Other</b>	Status and trends information for selected wetland types
<b>Geographic Coverage</b>	National (includes 70% of US, 22% of Alaska as well as Hawaii, Puerto Rico, Guam)
<b>Time Coverage</b>	1975-present
<b>Collection Frequency</b>	Data collected continuously with updates on a ten-year cycle

<b>Data Base Name (Acronym)</b>	National Hydrologic Bench-Mark Network Program
<b>Sponsoring Agency</b>	U.S. Geological Survey, Water Resources Division, Office of Water Quality
<b>Contact</b>	Richard A. Smith, Hydrologist (703-648-6870)
<b>Data Coverage:</b>	
<b>Environmental/Compounds</b>	Water characteristics, trace elements, radionuclides
<b>Environmental/Media</b>	Freshwater
<b>Other</b>	
<b>Geographic Coverage</b>	37 states (58 locations)
<b>Time Coverage</b>	1964-present
<b>Collection Frequency</b>	Quarterly at 78% of sites, bimonthly at 18% of sites, monthly at 4% of sites

<b>Data Base Name (Acronym)</b>	National Contaminant Biomonitoring Program (NCBP)
<b>Sponsoring Agency</b>	U.S. Dept. of the Interior, U.S. Fish and Wildlife Service
<b>Contact</b>	Donald W. Steffek, U.S. Fish and Wildlife Service (703-358-2148)
<b>Data Coverage:</b>	
<b>Environmental/Compounds</b>	Pesticides, PCBs, VOCs, semi-VOCs, and inorganic compounds in fish (earlier data do not include the toxic metals and PCBs), pesticides and PCBs in birds
<b>Environmental/Media</b>	Fish and bird samples
<b>Other</b>	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1965-1985 for black ducks and mallards; 1967-1985 for starlings; 1967-1988 for fish
<b>Collection Frequency</b>	Varies; mainly on 2-3 year basis; future sampling expected to occur every 5 years

<b>Data Base Name (Acronym)</b>	National Park Service Gaseous Pollutant Monitoring Network
<b>Sponsoring Agency</b>	National Park Service (NPS), Air Quality Division
<b>Contact</b>	Miguel I. Flores, National Park Service - AIR (303-969-2072)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	Ozone, sulfur dioxide, and meteorological parameters including wind speed, wind direction, temperature, dew point, solar radiation, and precipitation
Other	Establish baseline concentrations, assess trends in air quality; judge compliance; develop and revise control policies; provide data; correlate effects of existing air quality on park
<b>Geographic Coverage</b>	Nationwide in selected Class I and II National Park units
<b>Time Coverage</b>	Current
<b>Collection Frequency</b>	Hourly

<b>Data Base Name (Acronym)</b>	National Park Service Visibility Monitoring Network
<b>Sponsoring Agency</b>	National Park Service, Air Quality Division
<b>Contact</b>	William C. Malm, National Survey Park Service - AIR (303-491-8292)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	View, atmospheric extinction coefficient, and Beta scattering; PM-10, fine mass, nitrates, sulfates, organic and elemental carbon, elements, optical absorption, and atmospheric levels of hydrogen, carbon, nitrogen, and oxygen
Other	Optical monitoring and fine particle sampling
<b>Geographic Coverage</b>	Nationwide; however, primarily in the western United States
<b>Time Coverage</b>	1978-present
<b>Collection Frequency</b>	Hourly and weekly

<b>Data Base Name (Acronym)</b>	National Transportation Statistics
<b>Sponsoring Agency</b>	Research and Special Programs Administration
<b>Contact</b>	Kathleen Bradley, Volpe National Center for Transportation Info. (617-494-2614)
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	
Other	Statistics on various transportation modes, descriptions of U.S. transportation, and supplementary data
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1955-present
<b>Collection Frequency</b>	Annual

<b>Data Base Name (Acronym)</b>	Radioactive Materials Released from Nuclear Power Plants
<b>Sponsoring Agency</b>	U.S. Nuclear Regulatory Commission (NRC)
<b>Contact</b>	National Technical Information Service (703-487-4650)
<b>Data Coverage:</b>	
Environmental/Compounds	Radionuclides
Environmental/Media	Water (liquid effluent); air (emissions); soil (solid waste)
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1978-present
<b>Collection Frequency</b>	Mixed frequency; quarterly, semiannual, or annual depending on the license

<b>Data Base Name (Acronym)</b>	Aerometric Information Retrieval System (AIRS)
<b>Sponsoring Agency</b>	EPA, Office of Air Quality Planning and Standards
<b>Contact</b>	John Bosch, Chief, National Air Data Branch (919) 541-5583
<b>Data Coverage:</b>	
Environmental/Compounds	Lead, CO, SO <sub>2</sub> , NO <sub>x</sub> , Ozone, VOC's, TSP, PM <sub>10</sub>
Environmental/Media	Air
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1987-present
<b>Collection Frequency</b>	Annually

<b>Data Base Name (Acronym)</b>	Aquatic Toxicity Information Retrieval (AQUIRE)
<b>Sponsoring Agency</b>	EPA, Environmental Research Lab
<b>Contact</b>	Anne Pilli, Environmental Research Lab, (218) 720-5516
<b>Data Coverage:</b>	
Environmental/Compounds	Inorganic compounds, VOC's, semi-VOC's, pesticides, PCB's, dioxins/furans, radionuclides
Environmental/Media	Aquatic food sources (e.g., fish, shellfish, algae)
Other	
<b>Geographic Coverage</b>	National and International
<b>Time Coverage</b>	1970-present
<b>Collection Frequency</b>	Periodically (no specific frequency collection given)

<b>Data Base Name (Acronym)</b>	Biennial Reporting System
<b>Sponsoring Agency</b>	EPA, Office of Solid Waste and Emergency Response
<b>Contact</b>	John Fogerty, Office of Solid Waste and Emergency Response, (202) 260-4697
<b>Data Coverage:</b>	
Environmental/Compounds	Hazardous waste including inorganic compounds; pesticides; VOC's; semi-VOC's; ignitable, corrosive, and reactive wastes
Environmental/Media	Water, Soil, Air, Bulk Chemicals
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1981-Present
<b>Collection Frequency</b>	Biennial

<b>Data Base Name (Acronym)</b>	Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS)
<b>Sponsoring Agency</b>	EPA, Office of Emergency and Remedial Response
<b>Contact</b>	Mike Cullen (202) 260-2131
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1980-Present
<b>Collection Frequency</b>	On-Line Updating

<b>Data Base Name (Acronym)</b>	Accidental Release Information Program System (ARIP)
<b>Sponsoring Agency</b>	EPA, Office of Solid Waste and Emergency Response (OSWER)
<b>Contact</b>	Vannessa Rodriguez (202) 260-7913
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1980-Present
<b>Collection Frequency</b>	

<b>Data Base Name (Acronym)</b>	Integrated Risk Information System (IRIS)
<b>Sponsoring Agency</b>	EPA, Office of Research and Development
<b>Contact</b>	Linda Tuxen (202) 260-5949
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	
Other	
<b>Geographic Coverage</b>	
<b>Time Coverage</b>	
<b>Collection Frequency</b>	

<b>Data Base Name (Acronym)</b>	Marine Pollution Retrieval System
<b>Sponsoring Agency</b>	U.S. Department of Transportation, U.S. Coast Guard, Marine and Environmental Protection Division
<b>Contact</b>	Mary Robey U.S. Coast Guard (202) 267-6670
<b>Data Coverage:</b>	
Environmental/Compounds	Inorganic Compounds, VOC's, trihalomethanes, semi-VOC's, pesticides, PCB's, dioxins/furans, radionuclides, acids/acid aerosols
Environmental/Media	Water, soil, air
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1973-Present
<b>Collection Frequency</b>	Data collected when spills occur

<b>Data Base Name (Acronym)</b>	Resource Conservation Recovery Information System (RCRIS)
<b>Sponsoring Agency</b>	EPA, Office of Solid Waste and Emergency Response
<b>Contact</b>	Kevin Phelps, EPA, Office of Solid Waste and Emergency Response (202) 260-4697
<b>Data Coverage:</b>	
Environmental/Compounds	Hazardous Waste including inorganic compounds; pesticides; VOC's; semi-VOC's; ignitable, corrosive, and reactive wastes
Environmental/Media	Water, Soil, bulk chemicals
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1980-Present
<b>Collection Frequency</b>	Data collected as events occur

<b>Data Base Name (Acronym)</b>	Biomonitoring of Environmental Status and Trends Program (BEST)
<b>Sponsoring Agency</b>	U.S. Department of the Interior, Division of Environmental Contaminants
<b>Contact</b>	Wayne Willford, USF&WL Service 202/482-3880
<b>Data Coverage:</b>	
Environmental/Compounds	Environmental Contaminants
Environmental/Media	Tissue, organisms
Other	
<b>Geographic Coverage</b>	National on Fish and Wildlife Service Lands and some species found outside Service Lands
<b>Time Coverage</b>	Begins in 1994
<b>Collection Frequency</b>	To be determined

<b>Data Base Name (Acronym)</b>	National Water Quality Assessment Program (NAWQA)
<b>Sponsoring Agency</b>	U.S. Department of the Interior, U.S. Geological Survey
<b>Contact</b>	Patrick Leahy, Deputy Assistant Chief Hydrologist for NAWQA (202) 648-5012
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	
<b>Collection Frequency</b>	

<b>Data Base Name (Acronym)</b>	Crosswalk/Air Toxics Emissions Factor Database Management System (XATEF)
<b>Sponsoring Agency</b>	EPA, Office of Air Quality Planning and Standards (OAQPS)
<b>Contact</b>	Anne Pope, EPA (919) 541-5373
<b>Data Coverage:</b>	
Environmental/Compounds	(Emissions) particulates, inorganic compounds, VOC's, semi-VOC's, pesticides, PCB's, dioxin/furans, radionuclides, asbestos, acids/acid aerosols, criteria pollutants
Environmental/Media	Air
Other	
<b>Geographic Coverage</b>	
<b>Time Coverage</b>	
<b>Collection Frequency</b>	Annually

<b>Data Base Name (Acronym)</b>	Global Environmental Monitoring Systems (GEMS)
<b>Sponsoring Agency</b>	World Health Organization (WHO); United Nations Environment Programme (UNEP); Food and Agriculture Organization (FAO) of the United Nations
<b>Contact</b>	Dr. David Mage, (WHO) 41-22-91-3729 Gardner Evans, EPA (919) 541-3887
<b>Data Coverage:</b>	
Environmental/Compounds	Particulates; criteria pollutants (sulfur dioxide and some data on nitrogen dioxide, carbon monoxide, and lead)
Environmental/Media	Air
Other	
<b>Geographic Coverage</b>	Global (over 60 countries)
<b>Time Coverage</b>	1972-Present
<b>Collection Frequency</b>	Varies; samples collected by individual countries; data collected daily by participating agencies; reported to the Collaborating Center on a quarterly schedule

<b>Data Base Name (Acronym)</b>	Global Environmental Monitoring Systems (GEMS)
<b>Sponsoring Agency</b>	World Health Organization (WHO); United Nations Environment Programme (UNEP); Food and Agriculture Organization (FAO) of the United Nations
<b>Contact</b>	Dr. Martine Allard, (WHO) (416) 336-6441
<b>Data Coverage:</b>	
Environmental/Compounds	Inorganic compounds; VOC's (benzene); semi-VOC's (phenol); pesticides; PCB's, microorganisms (total and fecal coliform); physical and chemical indicators of water quality; ions (including fluoride)
Environmental/Media	Surface and ground water
Other	
<b>Geographic Coverage</b>	Global (over 60 countries)
<b>Time Coverage</b>	1976-Present
<b>Collection Frequency</b>	Varies; samples collected by individual countries; data collection by participating agencies and the Collaborating Center varies from country to country

<b>Data Base Name (Acronym)</b>	Global Environmental Monitoring Systems (GEMS)
<b>Sponsoring Agency</b>	World Health Organization (WHO); United Nations Environment Programme (UNEP); Food and Agriculture Organization (FAO) of the United Nations
<b>Contact</b>	Dr. Gerry Moy, (WHO) 41-22-791-3698 Jerry Burke, U.S. Department of Health and Human Services(FDA), (202) 245-1307
<b>Data Coverage:</b>	
Environmental/Compounds	Inorganic compounds; pesticides; PCB's; aflatoxins
Environmental/Media	Food
Other	
<b>Geographic Coverage</b>	Global (over 60 countries)
<b>Time Coverage</b>	1979-Present
<b>Collection Frequency</b>	Varies; samples collected by individual countries; data collected yearly by participating institutions; approximately every 3 years by the data center

<b>Data Base Name (Acronym)</b>	Pesticide Information Network (PIN)
<b>Sponsoring Agency</b>	EPA, Office of Pesticide Programs
<b>Contact</b>	Constance Hoheisel, EPA, (703) 557-5455
<b>Data Coverage:</b>	
Environmental/Compounds	Pesticides (some studies also contain information required for drinking water testing on inorganic compounds, VOC's, dioxins/furans, aesthetic)
Environmental/Media	Water; soil; air; food sources; non-food sources (plants, animals); human samples; bulk chemicals
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1970-Present
<b>Collection Frequency</b>	Irregular; each project has its own sampling frequency

<b>Data Base Name (Acronym)</b>	Ocean Pollution Data and Information Network (OPDIN)
<b>Sponsoring Agency</b>	National Oceanic and Atmospheric Administration (NOAA)
<b>Contact</b>	Roz Cohen, Chief OPDIN , NOAA (202) 606-4539
<b>Data Coverage:</b>	
Environmental/Compounds	Various pollution types (unnamed)
Environmental/Media	Water (oceans and the Great Lakes)
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1978-present
<b>Collection Frequency</b>	Annual

<b>Data Base Name (Acronym)</b>	Integrated Management Information System (IMIS)
<b>Sponsoring Agency</b>	DOL/Occupational Safety and Health Administration (OSHA)
<b>Contact</b>	John Katalinas, Office of Management Data Systems (202) 219-7008
<b>Data Coverage:</b>	
Environmental/Compounds	OSHA controlled hazardous substances
Environmental/Media	actual measurements in industrial settings
Other	firm name, location and industry
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1979 to present (federal data 60% of nations); 1984-1990 to present (State OSHA Plans
<b>Collection Frequency</b>	Data collected as part of inspections conducted daily

<b>Data Base Name (Acronym)</b>	Annual Survey of Occupational Injury and Illness
<b>Sponsoring Agency</b>	Bureau of Labor Statistics
<b>Contact</b>	William Weber, Office of Safety, Health, and Working Conditions
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	
Other	Private Sector, Rates and Numbers of work related injury and illness by SIC
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1972 to present
<b>Collection Frequency</b>	Annual data collection on calendar year basis

<b>Data Base Name (Acronym)</b>	National Coastal Wetlands Inventory
<b>Sponsoring Agency</b>	DOC/National Oceanic and Atmospheric Administration
<b>Contact</b>	Don Field, Office of Ocean Conservation and Assessment, (301) 443-0453
<b>Data Coverage:</b>	see National Wetlands Inventory
Environmental/Compounds	
Environmental/Media	
Other	
<b>Geographic Coverage</b>	All coastal counties and estuaries as described by NOAA's National Estuarine Inventory program on the East, West Gulf Coasts
<b>Time Coverage</b>	1989
<b>Collection Frequency</b>	Data were collected on a one-time basis



<b>Data Base Name (Acronym)</b>	Water Quality Information Center
<b>Sponsoring Agency</b>	USDA/National Agricultural Library
<b>Contact</b>	Joe Makuch, Water Quality Information Center
<b>Data Coverage:</b>	This is not a database. The Center collects, organizes and disseminates information on the scientific, educational, and public policy aspects of water quality and agriculture
Environmental/Compounds	
Environmental/Media	
Other	
<b>Geographic Coverage</b>	
<b>Time Coverage</b>	
<b>Collection Frequency</b>	

<b>Data Base Name (Acronym)</b>	National Biological Information Infrastructure (NBII)
<b>Sponsoring Agency</b>	DOI/National Biological Survey
<b>Contact</b>	Phil Wondra, National Biological Survey (303) 969-2590
<b>Data Coverage:</b>	This is not a database. The NBII is a data library that allows users to discover, access, and analyze data located in files, publications and computers from many sources
Environmental/Compounds	
Environmental/Media	
Other	
<b>Geographic Coverage</b>	
<b>Time Coverage</b>	
<b>Collection Frequency</b>	

<b>Data Base Name (Acronym)</b>	Federal Reporting Database System
<b>Sponsoring Agency</b>	EPA/Office of Groundwater and Drinking Water
<b>Contact</b>	Cecil J. Sexton, Office of Groundwater and Drinking Water, (202) 260-7276
<b>Data Coverage:</b>	
Environmental/Compounds	Inorganic compounds, VOCs, Semi-VOCs, pesticides, PCBs, and physical and chemical indicators of water quality
Environmental/Media	Surface water and ground water
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1976-present
<b>Collection Frequency</b>	Various depending on size of the public water supply and the monitoring requirements of state and federal regulations

<b>Data Base Name (Acronym)</b>	Great Lakes Fish Monitoring Program
<b>Sponsoring Agency</b>	EPA/Great Lakes National Program Office
<b>Contact</b>	David DeVault, Great Lakes National Program Office
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	
Other	
<b>Geographic Coverage</b>	
<b>Time Coverage</b>	
<b>Collection Frequency</b>	

<b>Data Base Name (Acronym)</b>	National Acid Precipitation Assessment Program (Version 2) (NAPAP)
<b>Sponsoring Agency</b>	EPA/Air and Energy Engineering Research Laboratory
<b>Contact</b>	Janice Wagner, EPA-RTP, (919) 541-1818
<b>Data Coverage:</b>	
Environmental/Compounds	Criteria pollutants, VOCs, total hydrocarbons, total and size fractionated particulates, acids/acid aerosols, and inorganic compounds
Environmental/Media	Air (point and area source emissions)
Other	
<b>Geographic Coverage</b>	National (48 contiguous states and the District of Columbia) and Canada (up to 60 degrees north latitude)
<b>Time Coverage</b>	1985
<b>Collection Frequency</b>	Performed once in 1985

<b>Data Base Name (Acronym)</b>	Global Change Master Directory (GCMD)
<b>Sponsoring Agency</b>	National Aeronautic and Space Administration
<b>Contact</b>	Angelia Bland, Master Directory User Support (301) 513-1687
<b>Data Coverage:</b>	The GCMD is a multidisciplinary directory of data sets that are of potential interest to the earth and space sciences research community. The primary contents of the Master Directory are descriptions of data sets.
Environmental/Compounds	
Environmental/Media	
Other	
<b>Geographic Coverage</b>	
<b>Time Coverage</b>	
<b>Collection Frequency</b>	

<b>Data Base Name (Acronym)</b>	National Pollutant Discharge Elimination System (NPDES) Permit Compliance System (PCS)
<b>Sponsoring Agency</b>	EPA/Office of Water Enforcement and Permits
<b>Contact</b>	Dela Ng, Office of Water Enforcement and Permits, (202) 475-8323
<b>Data Coverage:</b>	
<b>Environmental/Compounds</b>	Inorganic compounds, VOCs, semi-VOCs, PCBs, radionuclides, microorganisms, and physical and chemical indicators of water quality
<b>Environmental/Media</b>	Effluent discharges, both municipal and private
<b>Other</b>	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1986-present
<b>Collection Frequency</b>	Mixed frequency; site-specific based on the NPDES permit requirement

<b>Data Base Name (Acronym)</b>	Storage and Retrieval of Water Quality Data (STORET)
<b>Sponsoring Agency</b>	EPA/Office of Water
<b>Contact</b>	Thomas Pandolfi, EPA, (202) 260-7030
<b>Data Coverage:</b>	
<b>Environmental/Compounds</b>	Inorganic compounds, VOCs, semi-VOCs, pesticides, PCBs, radionuclides, and physical and chemical indicators of water quality
<b>Environmental/Media</b>	Water (surface water, ground water); soil (sediment); food sources (fish)
<b>Other</b>	
<b>Geographic Coverage</b>	National; U.S. Territories; portions of Canada
<b>Time Coverage</b>	1950s (some data from 1910s)-present
<b>Collection Frequency</b>	Varies by organization collecting data

<b>Data Base Name (Acronym)</b>	National Acid Deposition Program/National Trends Network
<b>Sponsoring Agency</b>	Interagency Effort
<b>Contact</b>	Ranard J. Pickering, U.S. Geological Survey, (703) 648-6875
<b>Data Coverage:</b>	
<b>Environmental/Compounds</b>	Hydrogen, sulfate, nitrate, ammonium, calcium, chloride, magnesium, sodium, and potassium ions
<b>Environmental/Media</b>	Precipitation
<b>Other</b>	pH and specific conductance of precipitation
<b>Geographic Coverage</b>	National (although not all States have stations with their boundaries)
<b>Time Coverage</b>	1979-present
<b>Collection Frequency</b>	Weekly (only some sites)

<b>Data Base Name (Acronym)</b>	Nonoccupational Pesticide Exposure Study (NOPES)
<b>Sponsoring Agency</b>	EPA/Atmospheric Research and Exposure Assessment Laboratory (AREAL)
<b>Contact</b>	Andrew E. Bond, AREAL, (919) 541-4329
<b>Data Coverage:</b>	
Environmental/Compounds	Pesticides
Environmental/Media	Air, water, food sources, dermal contact
Other	
<b>Geographic Coverage</b>	City or municipality (Jacksonville, FL, and Springfield/Chicopee, MA)
<b>Time Coverage</b>	1985-1988
<b>Collection Frequency</b>	Single and multi-seasons data collection over three years

<b>Data Base Name (Acronym)</b>	Total Diet Study (Market Basket Study)
<b>Sponsoring Agency</b>	DHHS/Food and Drug Administration
<b>Contact</b>	Ellis L. Gunderson, Division of Contaminants Chemistry, (202) 245-1152
<b>Data Coverage:</b>	
Environmental/Compounds	Inorganic compounds, semi-VOCs, pesticides, PCBs, and radionuclides
Environmental/Media	Drinking water, human food sources
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1961-present
<b>Collection Frequency</b>	Quarterly

<b>Data Base Name (Acronym)</b>	National Geophysical Data Center (NGDC)
<b>Sponsoring Agency</b>	DOC/National Oceanic and Atmospheric Administration
<b>Contact</b>	NGDC Information Services Division, NOAA/NESDIS, (303) 497-6958
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	
Other	Marine geophysical parameters, marine geological parameters, geothermal parameters, snow and ice data, earthquake and tsunami data and geomagnetic data
<b>Geographic Coverage</b>	
<b>Time Coverage</b>	
<b>Collection Frequency</b>	

<b>Data Base Name (Acronym)</b>	Hazardous Waste Injection Well Database (HWTW)
<b>Sponsoring Agency</b>	EPA/Office of Groundwater and Drinking Water
<b>Contact</b>	Mario Salazar, Groundwater Protection Division, (202) 260-5530
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	Ground water
Other	
<b>Geographic Coverage</b>	
<b>Time Coverage</b>	
<b>Collection Frequency</b>	

<b>Data Base Name (Acronym)</b>	Defense Environmental Restoration Program (DERP)
<b>Sponsoring Agency</b>	Department of Defense
<b>Contact</b>	Public Affairs Office at installation of interest
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1984-present
<b>Collection Frequency</b>	Annually

<b>Data Base Name (Acronym)</b>	Water Resources and Ecological Monitoring
<b>Sponsoring Agency</b>	Tennessee Valley Authority
<b>Contact</b>	Dr. Neil E. Carter, TVA-Water Resources Division
<b>Data Coverage:</b>	
Environmental/Compounds	Turbidity, suspended solids, toxicity screening, selected metals, dissolved oxygen, pH, and major cations and anions
Environmental/Media	Surface water
Other	
<b>Geographic Coverage</b>	Tennessee Valley
<b>Time Coverage</b>	
<b>Collection Frequency</b>	Varies depending on media and compound

<b>Data Base Name (Acronym)</b>	National Herbicide Use Database
<b>Sponsoring Agency</b>	National Center for Food and Agricultural Policy
<b>Contact</b>	Leonard Gianessi, National Center for Food and Agricultural Policy, (202) 328-5036
<b>Data Coverage:</b>	
Environmental/Compounds	Herbicides, insecticides, fungicides, fumigants, growth retardants, and defoliants
Environmental/Media	Cropland
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1986-present
<b>Collection Frequency</b>	The database is updated approximately two years

<b>Data Base Name (Acronym)</b>	Subsurface Microbiology Culture Collection (SMCC)
<b>Sponsoring Agency</b>	Department of Energy
<b>Contact</b>	Dr. D. Balkwill, Curator, Florida State University (904) 644-5719
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	
Other	
<b>Geographic Coverage</b>	
<b>Time Coverage</b>	
<b>Collection Frequency</b>	

<b>Data Base Name (Acronym)</b>	National Fisheries Survey (1982)
<b>Sponsoring Agency</b>	EPA/Office of Water and DOI/U.S. Fish and Wildlife Service
<b>Contact</b>	Assessment and Watershed Protection Division
<b>Data Coverage:</b>	
Environmental/Compounds	Assessment of the biological condition of water bodies
Environmental/Media	All flowing water excluding the Great Lakes, estuaries, coastal waters, and wetlands
Other	
<b>Geographic Coverage</b>	Contiguous 48 States
<b>Time Coverage</b>	1982
<b>Collection Frequency</b>	Data was collected once in 1982

<b>Data Base Name (Acronym)</b>	NIOSH/TIC
<b>Sponsoring Agency</b>	DHHS/National Institute of Occupational Safety and Health
<b>Contact</b>	Bill Bennett, Information Acquisition Data Systems, (513) 533-8317
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	
Other	NIOSH/TIC contains bibliographic citations and abstract of occupational safety and health materials
<b>Geographic Coverage</b>	National and international literature
<b>Time Coverage</b>	1860-present
<b>Collection Frequency</b>	The system increase by 500 records per month

<b>Data Base Name (Acronym)</b>	Ambient Ozone Concentrations
<b>Sponsoring Agency</b>	DOE/Brookhaven National Laboratory Division
<b>Contact</b>	Elizabeth A. Coveney, Brookhaven National Laboratory, (516) 282-2259
<b>Data Coverage:</b>	
Environmental/Compounds	Ozone levels
Environmental/Media	Air
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1978 to 1982
<b>Collection Frequency</b>	Seven-hour averages were calculated for 2, 3, 4, and 5 month periods

<b>Data Base Name (Acronym)</b>	319 Non-point source assessment
<b>Sponsoring Agency</b>	EPA, Office of Water
<b>Contact</b>	Dove Weitman, EPA/OW, 202/260-7100
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	
Other	
<b>Geographic Coverage</b>	
<b>Time Coverage</b>	
<b>Collection Frequency</b>	

<b>Data Base Name (Acronym)</b>	TMDL's
<b>Sponsoring Agency</b>	EPA Office of Water
<b>Contact</b>	Mimi Dannel, EPA/OW 202/260-1897
<b>Data Coverage:</b>	
Environmental/Compounds	Selected Impairment Criteria
Environmental/Media	Surface Water
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1992 to Present
<b>Collection Frequency</b>	Biennially

<b>Data Base Name (Acronym)</b>	304 (I) Short List Database (Short List)
<b>Sponsoring Agency</b>	EPA Office of Water
<b>Contact</b>	Rob Wood, EPA/OW, 202/260-9536
<b>Data Coverage:</b>	
Environmental/Compounds	126 Priority Pollutants under 307 (a)
Environmental/Media	Water
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1988-9
<b>Collection Frequency</b>	One time assessment

<b>Data Base Name (Acronym)</b>	Section 305 (b) reports
<b>Sponsoring Agency</b>	EPA, Office of Water
<b>Contact</b>	Barry Burgan, EPA/OW, 202/260-7060
<b>Data Coverage:</b>	
Environmental/Compounds	Agricultural runoff, POTW's runoff, non-point source discharge, metals and organics
Environmental/Media	Water
Other	
<b>Geographic Coverage</b>	Nation and Territories
<b>Time Coverage</b>	1984 to Present
<b>Collection Frequency</b>	Biennially

<b>Data Base Name (Acronym)</b>	Methane (METH)
<b>Sponsoring Agency</b>	EPA, Office of Air and Radiation
<b>Contact</b>	Holly Reed, EPA/OAR, 919/541-5616
<b>Data Coverage:</b>	
Environmental/Compounds	Methane
Environmental/Media	Air
Other	
<b>Geographic Coverage</b>	
<b>Time Coverage</b>	
<b>Collection Frequency</b>	

<b>Data Base Name (Acronym)</b>	Needs survey of existing and potential POTW's (NEEDS)
<b>Sponsoring Agency</b>	EPA, Office of Air and Radiation
<b>Contact</b>	Len Fitch 202/260-5827
<b>Data Coverage:</b>	
Environmental/Compounds	None
Environmental/Media	Air
Other	
<b>Geographic Coverage</b>	National and Territories
<b>Time Coverage</b>	1973 to Present
<b>Collection Frequency</b>	Biennially

<b>Data Base Name (Acronym)</b>	National Sediment Inventory (NSI)
<b>Sponsoring Agency</b>	EPA, Office of Water
<b>Contact</b>	Tom Armitage, EPA /OST, 202/260-5388
<b>Data Coverage:</b>	
Environmental/Compounds	Contaminants, Toxicity, Tissue Residue, Benthic organisms
Environmental/Media	Aquatic Sediment
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	First study 1994
<b>Collection Frequency</b>	Biennially

<b>Data Base Name (Acronym)</b>	Council On Environmental Quality, Annual Report (CEQ)
<b>Sponsoring Agency</b>	CEQ
<b>Contact</b>	Wendell Skills
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	Air, Water, Soil, Tissues
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1969 to Present
<b>Collection Frequency</b>	Annually

<b>Data Base Name (Acronym)</b>	National Health and Nutrition Examination Survey (NHANES)
<b>Sponsoring Agency</b>	National Center for Health Statistics
<b>Contact</b>	Jennifer Madans, NCHS, 301/436-5975
<b>Data Coverage:</b>	
Environmental/Compounds	None
Environmental/Media	None
Other	Blood and Tissues
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1972 to Present
<b>Collection Frequency</b>	Every Four Years



<b>Data Base Name (Acronym)</b>	National Environmental Data Referral System (NEDRES)
<b>Sponsoring Agency</b>	DOC/National Oceanic and Atmospheric Administration
<b>Contact</b>	Gerald Barton, NOAA, (202) 260-4548
<b>Data Coverage:</b>	
<b>Environmental/Compounds</b>	Climatic, meteorological, satellite remote sensing, pollution, fisheries, oceanographic
<b>Environmental/Media</b>	Air, water
<b>Other</b>	NEDRES identifies the existence, location, characteristics, and availability of environmental data
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	Various according to referred data base
<b>Collection Frequency</b>	Various according to referred data base

<b>Data Base Name (Acronym)</b>	NOAA Earth System Data Directory (NESDD)
<b>Sponsoring Agency</b>	DOI/National Oceanic and Atmospheric Administration
<b>Contact</b>	Gerald Barton, NOAA, (202) 260-4548
<b>Data Coverage:</b>	
<b>Environmental/Compounds</b>	Climatic, meteorological, satellite remote sensing, pollution, fisheries, oceanographic
<b>Environmental/Media</b>	Air, water
<b>Other</b>	NESDD is an interactive directory to NOAA data sets that provides the location of environmental data
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	Various according to referred data base
<b>Collection Frequency</b>	Various according to referred data base

<b>Data Base Name (Acronym)</b>	Hispanic Health and Nutrition Examination Survey (HHANES)
<b>Sponsoring Agency</b>	National Center for Health Statistics
<b>Contact</b>	Vicky Burt, NCHS, 301/436-7080
<b>Data Coverage:</b>	
<b>Environmental/Compounds</b>	None
<b>Environmental/Media</b>	None
<b>Other</b>	Blood and Tissue
<b>Geographic Coverage</b>	National (Cubans in Miami, Mexicans in California, and Puerto Ricans in NY, NJ and CT.
<b>Time Coverage</b>	1982
<b>Collection Frequency</b>	One time

<b>Data Base Name (Acronym)</b>	Indoor Air Data Collection System (IADCS 3.0)
<b>Sponsoring Agency</b>	EPA
<b>Contact</b>	Susan Womble, EPA/OAR, 202/233-9057
<b>Data Coverage:</b>	
Environmental/Compounds	CO, CO2, Formaldehyde, PM10, Humidity, Temperature
Environmental/Media	Air, Sound, Light
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	1993- Present
<b>Collection Frequency</b>	Ongoing

<b>Data Base Name (Acronym)</b>	Carbon Dioxide Information Analysis Center (CDIAC)
<b>Sponsoring Agency</b>	Department of Energy
<b>Contact</b>	
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	
Other	
<b>Geographic Coverage</b>	
<b>Time Coverage</b>	
<b>Collection Frequency</b>	

<b>Data Base Name (Acronym)</b>	Atmospheric Radiation Measurement (ARM) Program
<b>Sponsoring Agency</b>	DOE/
<b>Contact</b>	
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	
Other	
<b>Geographic Coverage</b>	
<b>Time Coverage</b>	
<b>Collection Frequency</b>	

<b>Data Base Name (Acronym)</b>	Atmospheric Studies in Complex Terrain (ASCOT)
<b>Sponsoring Agency</b>	DOE/Argonne National Laboratory
<b>Contact</b>	
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	
Other	
<b>Geographic Coverage</b>	
<b>Time Coverage</b>	
<b>Collection Frequency</b>	

<b>Data Base Name (Acronym)</b>	Characterization of Municipal Solid Waste in the US
<b>Sponsoring Agency</b>	EPA/Office of Solid Waste
<b>Contact</b>	Steve Levy, Municipal and Industrial Solid Waste Division, (202) 260-4745
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	Municipal waste
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	
<b>Collection Frequency</b>	Biannually

<b>Data Base Name (Acronym)</b>	Underground Storage Tank Database (STARS)
<b>Sponsoring Agency</b>	EPA/Office of Underground Storage Tanks
<b>Contact</b>	Peggy Flarity, Office of Underground Storage Tanks
<b>Data Coverage:</b>	
Environmental/Compounds	
Environmental/Media	
Other	
<b>Geographic Coverage</b>	National
<b>Time Coverage</b>	
<b>Collection Frequency</b>	

#### **4. INVENTORY OF INDICATORS SORTED BY GOAL TOPIC**

This chapter presents information on over 450 environmental and environmentally-related indicators. Within the framework of the 13 goal topics, known and possible indicators are identified. "Environmental indicators" refers to either direct or indirect measures of environmental quality that can be used to assess status and trends in the environment's ability to support human and ecological health.

An abundance of useful information was obtained from the EPA's Office of Water (OW). A specific hierarchical structure ranging from 1 (purely administrative) to 6 (purely environmental) has been assigned to each indicator. The hierarchical structure, depicted in Figure 4.1, was originally developed only for OW indicators (including Chesapeake Bay Program Indicators) but is used here for indicators from other offices and departments. In addition, both the EPA and non-EPA data sources from which the potential indicator can possibly be drawn is provided when known. Table 4-1 summarizes the indicators by goal topic and hierarchical level. It gives the number of indicators in this report relevant to each goal topic at each hierarchical level, separately for actual indicators currently reported and for potential indicators that have been proposed or are under development.

In this chapter, indicators are grouped by goal topic. The indicators within each goal topic are then sorted alphabetically. Abridged lists of the indicators are presented in Chapter 5, sorted by program or agency, and in Chapter 6, sorted by hierarchical level within goal topic. Indicators relevant to two or more goal topics are presented with each of the relevant goal topics. For many of the proposed indicators, the sources did not report potential datasets or databases corresponding to the indicator. An attempt was made to identify relevant datasets and databases for these indicators, however, relevant datasets or databases could not be identified for some potential indicators. Thus, for these indicators, source datasets and databases are "To be determined."

Contributions from offices and departments were found in several draft reports<sup>1</sup>. More specific information on the databases/datasets locations and availability can be found in Chapter 3.

---

<sup>1</sup>Sources of the indicators include *Setting Environmental Goals for the Nation* (Draft from EPA, 1993), *Environmental Indicators: Policies, Programs, and Success Stories Notebook* (EPA/OPPE/Environmental Results and Forecasting Branch), and *List of Candidate Indicators* from the National Environmental Goals and Indicators Conference (New Orleans, LA, February 2-4, 1994). *Compendium of Environmental Statistics and Information* (Draft from EPA/ESID, 1993), *Office of Water Environmental Goals* (Draft from Office of Water, 1993), *The National Air Quality and Emissions Trends Report* (EPA/OAQPS, 1993), *RCRA Environmental Indicators: FY 1992 Progress Report* (EPA/OSWER/OSW/ Communications, Analysis, and Budget Division, 1993), *Environmental Indicators: Measuring Our Progress* (EPA/Chesapeake Bay Program, 1993), *Emissions of Greenhouse Gases in the United States 1985-1990* (DOE/EIA-0573, 1993), *Polychlorinated Dibenzofurans and Polychlorinated Dibenzo-p-Dioxins in Great Lakes Fish: A Baseline and Interlake Comparison* (De Vault, et al, Environmental Toxicology and Chemistry, Vol. 8, pp. 1013-1022, 1989), *Contaminant Trends in Lake Trout from the Upper Great Lakes* (De Vault, et al, Archives of Environmental Contamination and Toxicology, Vol. 15, pp. 349-356, 1986), *Contaminants in Fish from Great Lakes harbors and Tributary Mouths* (De Vault, Archives of Environmental Contamination and Toxicology, Vol. 14, pp. 587-594, 1985), *Environmental Indicator Data Available for Seven Southeast States* (Lynn Brown, TVA, March 21, 1994), a Listing of data collected at the farm level by ERS for the assessment of environmental objectives (Ann Vandeman, ERS, March 15, 1994), and *Riparian-Wetland Performance Measures* (Donald Waite, DOI (BLM, 1994).

Figure 4.1: A Continuum of Information on Environmental Indicators

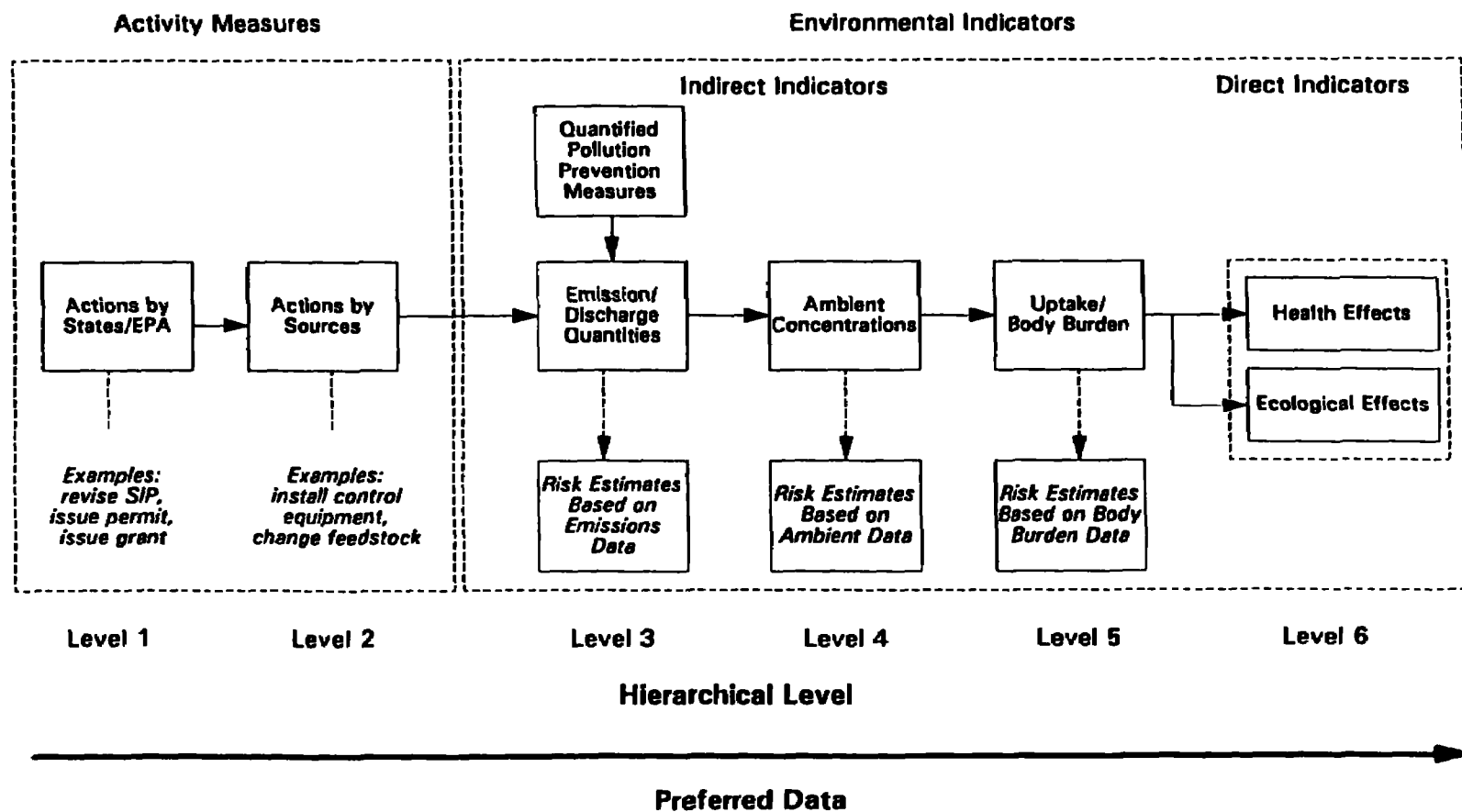


Table 4-1: Indicators by Goal Topic and Hierarchical Level \*

Goal Topic	Hierarchical Level						Total
	1 Actions by States/EPA	2 Actions by Sources	3 Emissions/Discharge Quantities	4 Ambient Concentrations	5 Uptake, Body Burden	6 Health Effects Ecological Effects	
Clean Surface Waters	0/0	3/2	7/15	7/8	5/4	2/0	24/29
Safe Drinking Water	0/1	2/2	6/11	2/5	2/2	1/0	13/21
Clean Air	0/0	0/1	8/4	13/5	0/0	1/1	22/11
Safe Indoor Environments	0/2	0/1	0/1	2/11	2/3	1/2	5/20
Stratospheric Ozone Layer Protection	0/0	0/0	0/2	0/3	1/0	1/0	2/5
Climate Change Risk Reduction	0/0	1/0	30/1	0/1	0/0	0/0	31/2
Ecological Protection	2/0	7/3	10/12	33/21	2/5	7/15	61/56
Safe Food	0/0	1/1	5/0	3/3	0/0	3/7	12/11
Cleanup of Contaminated Sites	0/3	0/2	0/5	0/4	0/0	0/0	0/14
Worker Health and Safety	0/2	1/1	0/0	1/2	4/2	1/1	7/8
Prevent of Oil Spills and Chemical Accidents	0/4	2/4	6/9	0/2	0/1	1/0	9/20
Prevention of Waste and Harmful Chemical Release	1/4	9/8	14/13	1/2	0/2	2/1	27/30
Improved Understanding of the Environment	1/7	4/1	0/1	0/1	0/1	0/0	5/11
<b>Total</b>	<b>4/23</b>	<b>30/26</b>	<b>86/74</b>	<b>61/68</b>	<b>16/20</b>	<b>21/27</b>	<b>218/238</b>

\* Note: The first number represents currently reported indicators, and the second number shows indicators that have been proposed or are under development.

**4.1 EPA Goal Topic: Clean Surface Waters**

**Amount of municipal solid waste disposed of or sent to landfills or incinerators (nationally and by state)**

Hierarchical Level: 3  
EPA Data Sources: To be determined  
Other Sources: none  
Sponsoring Agency: EPA/Office of Solid Waste and Emergency Response  
Keywords:  
Status: Proposed

**Amount of municipal solid waste recycled annually (national and by state)**

Hierarchical Level: 2  
EPA Data Sources: To be determined  
Other Sources: none  
Sponsoring Agency: EPA/Office of Solid Waste and Emergency Response  
Keywords:  
Status: Proposed

**Beach closures: miles closed and organism levels**

Hierarchical Level: 4  
EPA Data Sources: 305(b) (available but needs improvement) and Regional  
Other Sources: State health departments and NRDC (both have limited data available now)  
Sponsoring Agency: EPA/Office of Water  
Keywords:  
Status: Proposed

**Bernie Fowler's "Sneaker Index"**

Hierarchical Level: 4  
EPA Data Sources: CBPO database  
Other Sources: none  
Sponsoring Agency: EPA/Chesapeake Bay Program  
Keywords:  
Status: Currently reported

**Biomass of fish and other organisms in streams and lakes**

Hierarchical Level: 4  
EPA Data Sources: To be determined  
Other Sources: none  
Sponsoring Agency: EPA/Office of Air and Radiation  
Keywords:  
Status: Proposed



**Chesapeake Basin Forests**

Hierarchical Level: 5  
EPA Data Sources: CBPO databases  
Other Sources: USDA Forest Service database  
Sponsoring Agency: EPA/Chesapeake Bay Program  
Keywords:  
Status: Proposed

**Chesapeake Basin Land Use**

Hierarchical Level: 5  
EPA Data Sources: CBPO databases  
Other Sources: USDA Forest Service database  
Sponsoring Agency: EPA/Chesapeake Bay Program  
Keywords:  
Status: Proposed

**Chesapeake Bay Acres under integrated pest management**

Hierarchical Level: 2  
EPA Data Sources: Chesapeake Bay Program Office (CBPO) database  
Other Sources: none  
Sponsoring Agency: EPA/Chesapeake Bay Program  
Keywords:  
Status: Currently reported

**Discharges in significant noncompliance**

Hierarchical Level: 2  
EPA Data Sources: NPDES  
Other Sources: none  
Sponsoring Agency: EPA/Chesapeake Bay Program  
Keywords:  
Status: Currently reported

**Discharges to coastal waters**

Hierarchical Level: 3  
EPA Data Sources: none  
Other Sources: National Coastal Pollutant Discharge Inventory  
Sponsoring Agency: Department of Commerce  
Keywords:  
Status: Currently reported

**Disease outbreaks from swimming**

Hierarchical Level: 6  
EPA Data Sources: Regional  
Other Sources: CDC and State health departments (limited data available now)  
Sponsoring Agency: EPA/Office of Water  
Keywords:  
Status: Currently reported

**Dissolved oxygen in the Chesapeake Bay**

Hierarchical Level: 4  
EPA Data Sources: CBPO database  
Other Sources: none  
Sponsoring Agency: EPA/Chesapeake Bay Program  
Keywords:  
Status: Currently reported

**Dissolved oxygen in Tennessee Valley reservoirs**

Hierarchical Level: 4  
EPA Data Sources: none  
Other Sources: To be determined  
Sponsoring Agency: Tennessee Valley Authority  
Keywords:  
Status: Currently reported

**Groundwater quality monitoring**

Hierarchical Level: 4  
EPA Data Sources: To be determined  
Other Sources: WATSTORE  
Sponsoring Agency: EPA/Office of Prevention, Pesticides and Toxic Substances  
Keywords:  
Status: Proposed

**Ground water quality**

Hierarchical Level: 4  
EPA Data Sources: CWGWPP Biennial Report and OPTS - PGWDB (both available but need improvement) and NPSurvey, 305(b), STORET, and ERAMS (all have limited data available now)  
Other Sources: WIDB and USGS (both available but need improvement) and USGS - NAWQA (limited data available now)  
Sponsoring Agency: EPA/Office of Water  
Keywords:  
Status: Currently reported

**Index of biotic integrity from specific sites on the Tennessee River**

Hierarchical Level: 4  
EPA Data Sources: none  
Other Sources: Water Resource and Ecological Monitoring  
Sponsoring Agency: Tennessee Valley Authority  
Keywords:  
Status: Currently reported

**Industry reported releases and transfers of toxic substances**

Hierarchical Level: 3  
EPA Data Sources: TRI, CBPO databases  
Other Sources: none  
Sponsoring Agency: EPA/Chesapeake Bay Program  
Keywords:  
Status: Currently reported

**Kepone in finfish tissue**

Hierarchical Level: 6  
EPA Data Sources: Chesapeake Bay Program (CBPO) database  
Other Sources: none  
Sponsoring Agency: EPA/Chesapeake Bay Program  
Keywords:  
Status: Currently reported

**Nitrogen concentrations in the bay**

Hierarchical Level: 4  
EPA Data Sources: CBPO database  
Other Sources: none  
Sponsoring Agency: EPA/Chesapeake Bay Program  
Keywords:  
Status: Currently reported

**Nonpoint source nitrogen loadings**

Hierarchical Level: 3  
EPA Data Sources: CBPO database  
Other Sources: none  
Sponsoring Agency: EPA/Chesapeake Bay Program  
Keywords:  
Status: Currently reported

**Nonpoint source phosphorus loadings**

Hierarchical Level: 3  
EPA Data Sources: CBPO database  
Other Sources: none  
Sponsoring Agency: EPA/Chesapeake Bay Program  
Keywords:  
Status: Currently reported

**Number and percentage of sites with groundwater contamination from underground storage tanks**

Hierarchical Level: 3  
EPA Data Sources: STARS  
Other Sources: none  
Sponsoring Agency: EPA/Office of Solid Waste and Emergency Response  
Keywords:  
Status: Proposed

**Number of aquifers in which the withdrawal exceeds the recharge**

Hierarchical Level: 3  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: EPA/Office of Water  
Keywords:  
Status: Proposed

**Number of days a system is in compliance with drinking water standards as a percentage of total days the system is in operation**

Hierarchical Level: 3  
EPA Data Sources: To be determined  
Other Sources: none  
Sponsoring Agency: EPA/Office of Water  
Keywords:  
Status: Proposed

**Number of environmental pathways in which environmental progress is documented annually**

Hierarchical Level: 5-6  
EPA Data Sources: To be determined  
Other Sources: none  
Sponsoring Agency: EPA/Office of Solid Waste and Emergency Response  
Keywords:  
Status: Proposed

**Number of exceedances of critical low flow (safe yield to be established)**

Hierarchical Level: 3  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: EPA/Office of Water  
Keywords:  
Status: Proposed

**Number of households and wells affected by releases from underground storage tanks**

Hierarchical Level: 3  
EPA Data Sources: To be determined  
Other Sources: none  
Sponsoring Agency: EPA/Office of Solid Waste and Emergency Response  
Keywords:  
Status: Proposed

**Number of public use sites in the Tennessee Valley where water contact use is impaired**

Hierarchical Level: 5-6  
EPA Data Sources: none  
Other Sources: Water Resource and Ecological Monitoring  
Sponsoring Agency: Tennessee Valley Authority  
Keywords:  
Status: Currently reported

**Number of sites achieving permanent risk reduction**

Hierarchical Level: 2  
EPA Data Sources: To be determined  
Other Sources: none  
Sponsoring Agency: EPA/Office of Solid Waste and Emergency Response  
Keywords:  
Status: Proposed

**Number of Tennessee River miles with severe, significant and threatened impairments for drinking water supplies, fish and aquatic life, recreation, and assimilative capacity**

**Hierarchical Level:** 5-6  
**EPA Data Sources:** none  
**Other Sources:** Water Resource and Ecological Monitoring  
**Sponsoring Agency:** Tennessee Valley Authority  
**Keywords:**  
**Status:** Currently reported

**Number of times surface water bodies exceed safe yield**

**Hierarchical Level:** 3  
**EPA Data Sources:** To be determined  
**Other Sources:** To be determined  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Proposed

**Number of underground storage tank releases**

**Hierarchical Level:** 3  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Nutrient concentrations in the Great Lakes**

**Hierarchical Level:** 4  
**EPA Data Sources:** Great Lakes Program Office (GLPO) databases  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Great Lakes National Program  
**Keywords:**  
**Status:** Proposed

**Nutrient loadings to the Great Lakes**

**Hierarchical Level:** 3  
**EPA Data Sources:** GLPO databases  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Great Lakes National Program  
**Keywords:**  
**Status:** Proposed

**Oil and hazardous waste spills in waterways**

**Hierarchical Level:** 3  
**EPA Data Sources:** To be determined  
**Other Sources:** To be determined  
**Sponsoring Agency:** Department of Transportation  
**Keywords:**  
**Status:** Proposed

**Per capita ground water and surface water withdrawals by use, including loss**

**Hierarchical Level:** 3  
**EPA Data Sources:** To be determined  
**Other Sources:** National Water Summary, Water Use Program  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Proposed

**Percent of assessed river miles, lake acres, and estuary square miles fully supporting designated uses**

**Hierarchical Level:** 4  
**EPA Data Sources:** To be determined  
**Other Sources:** To be determined  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Proposed

**pH of streams and lakes**

**Hierarchical Level:** 4  
**EPA Data Sources:** To be determined  
**Other Sources:** To be determined  
**Sponsoring Agency:** EPA/Office of Air and Radiation  
**Keywords:**  
**Status:** Proposed

**Phosphorous concentrations in the bay**

**Hierarchical Level:** 4  
**EPA Data Sources:** CBPO database  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Chesapeake Bay Program  
**Keywords:**  
**Status:** Currently reported

**Point source nitrogen loadings**

**Hierarchical Level:** 3  
**EPA Data Sources:** CBPO database  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Chesapeake Bay Program  
**Keywords:**  
**Status:** Currently reported

**Point source phosphorus loadings**

**Hierarchical Level:** 3  
**EPA Data Sources:** CBPO database  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Chesapeake Bay Program  
**Keywords:**  
**Status:** Currently reported

**Population and municipal sewage flow**

Hierarchical Level: 3  
EPA Data Sources: CBPO database  
Other Sources: none  
Sponsoring Agency: EPA/Chesapeake Bay Program  
Keywords:  
Status: Currently reported

**Quantities of waste managed permanently**

Hierarchical Level: 3  
EPA Data Sources: BRS, RCRIS, CERCLIS  
Other Sources: none  
Sponsoring Agency: EPA/Office of Solid Waste and Emergency Response  
Keywords:  
Status: Proposed

**Recreational boat wastes**

Hierarchical Level: 2  
EPA Data Sources: CBPO database  
Other Sources: none  
Sponsoring Agency: EPA/Chesapeake Bay Program  
Keywords:  
Status: Currently reported

**Reported attainment of Clean Water Act goals for rivers and streams, lakes, and estuaries**

Hierarchical Level: 3-4  
EPA Data Sources: Section 305(b) reports, 319 assessments  
Other Sources: none  
Sponsoring Agency: EPA/Office of Water  
Keywords:  
Status: Proposed

**Reservoir use impairment index in the Tennessee Valley**

Hierarchical Level: 5-6  
EPA Data Sources: none  
Other Sources: Water Resource and Ecological Monitoring  
Sponsoring Agency: Tennessee Valley Authority  
Keywords:  
Status: Currently reported

**Stream water quality, by pollution indicator**

Hierarchical Level: 4  
EPA Data Sources: To be determined  
Other Sources: National Water Summary  
Sponsoring Agency: EPA/Office of Water  
Keywords:  
Status: Proposed

**Timing, methods, and quantities of chemical applications**

**Hierarchical Level:** 5  
**EPA Data Sources:** none  
**Other Sources:** Agricultural Chemical Usage  
**Sponsoring Agency:** Department of Agriculture  
**Keywords:**  
**Status:** Currently reported

**Total ground water and surface water withdrawals by use, including loss**

**Hierarchical Level:** 3  
**EPA Data Sources:** To be determined  
**Other Sources:** To be determined  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Proposed

**Total precipitation**

**Hierarchical Level:** 3  
**EPA Data Sources:** none  
**Other Sources:** NCDC-NOAA  
**Sponsoring Agency:** Department of Commerce  
**Keywords:**  
**Status:** Proposed

**Types of irrigation systems**

**Hierarchical Level:** 5  
**EPA Data Sources:** none  
**Other Sources:** To be determined  
**Sponsoring Agency:** Department of Agriculture  
**Keywords:**  
**Status:** Currently reported

**Volume and toxicity of waste streams targeted for waste minimization activities**

**Hierarchical Level:** 5  
**EPA Data Sources:** TRI  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Waters meet swimming and secondary contact designated uses**

**Hierarchical Level:** 4  
**EPA Data Sources:** 305(b) and STORET/WBS (both available but need improvement)  
**Other Sources:** NOAA - NS&T (available now but needs improvement); USFWS - NCBP (limited data available now)  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Proposed



#### 4.2 EPA Goal Topic: Safe Drinking Water

Amount of municipal solid waste disposed of or sent to landfills or incinerators (nationally and by state)

Hierarchical Level: 3  
EPA Data Sources: BRS, RCRIS  
Other Sources: none  
Sponsoring Agency: EPA/Office of Solid Waste and Emergency Response  
Keywords:  
Status: Proposed

Amount of municipal solid waste recycled annually (national and by state)

Hierarchical Level: 2  
EPA Data Sources: To be determined  
Other Sources: none  
Sponsoring Agency: EPA/Office of Solid Waste and Emergency Response  
Keywords:  
Status: Proposed

Blood lead levels in children

Hierarchical Level: 5  
EPA Data Sources: none  
Other Sources: CDC (limited data available now)  
Sponsoring Agency: EPA/OPPT  
Keywords:  
Status: Currently reported

Discharges in significant noncompliance

Hierarchical Level: 2  
EPA Data Sources: NPDES  
Other Sources: none  
Sponsoring Agency: EPA/Chesapeake Bay  
Keywords:  
Status: Currently reported

Drinking water (ground and surface waters) levels for individual contaminants

Hierarchical Level: 4  
EPA Data Sources: FRDS (limited data available now)  
Other Sources: WATSTORE  
Sponsoring Agency: EPA/Office of Water  
Keywords:  
Status: Proposed

Groundwater quality monitoring

Hierarchical Level: 4  
EPA Data Sources: To be determined  
Other Sources: NASQAN  
Sponsoring Agency: EPA/Office of Air and Radiation  
Keywords:  
Status: Proposed

**Industry reported releases and transfers of toxic substances**

Hierarchical Level: 3  
EPA Data Sources: TRI, CBPO databases  
Other Sources: none  
Sponsoring Agency: EPA/Chesapeake Bay  
Keywords:  
Status: Currently reported

**Infant mortality rates**

Hierarchical Level: 6  
EPA Data Sources: To be determined  
Other Sources: National Vital Statistics System, Linked Birth and Infant Death Data System  
Sponsoring Agency: Department of Health and Human Services  
Keywords:  
Status: Currently reported

**Nitrogen concentrations in the bay**

Hierarchical Level: 4  
EPA Data Sources: CBPO database  
Other Sources: none  
Sponsoring Agency: EPA/Chesapeake Bay  
Keywords:  
Status: Currently Reported

**Nonpoint source nitrogen loadings**

Hierarchical Level: 3  
EPA Data Sources: CBPO database  
Other Sources: none  
Sponsoring Agency: EPA/Chesapeake Bay  
Keywords:  
Status: Currently Reported

**Nonpoint source phosphorus loadings**

Hierarchical Level: 3  
EPA Data Sources: CBPO database  
Other Sources: none  
Sponsoring Agency: EPA/Chesapeake Bay  
Keywords:  
Status: Currently Reported

**Number and percentage of sites with groundwater contamination from underground storage tanks**

Hierarchical Level: 3  
EPA Data Sources: STARS  
Other Sources: none  
Sponsoring Agency: EPA/Office of Solid Waste and Emergency Response  
Keywords:  
Status: Proposed

**Number of aquifers in which the withdrawal exceeds the recharge**

Hierarchical Level: 3  
EPA Data Sources: To be determined  
Other Sources: Regional Aquatic Systems Analysis, National Water Conditions (USGS)  
Sponsoring Agency: EPA/Office of Water  
Keywords:  
Status: Proposed

**Number of community water systems in violation by contaminant group**

Hierarchical Level: 4  
EPA Data Sources: FRDS  
Other Sources: To be determined  
Sponsoring Agency: EPA/Office of Water  
Keywords:  
Status: Proposed

**Number of days a system is in compliance with drinking water standards as a percentage of total days in operation**

Hierarchical Level: 4  
EPA Data Sources: FRDS  
Other Sources: To be determined  
Sponsoring Agency: EPA/Office of Water  
Keywords:  
Status: Proposed

**Number of environmental pathways in which environmental progress is documented annually**

Hierarchical Level: 5-6  
EPA Data Sources: To be determined  
Other Sources: none  
Sponsoring Agency: EPA/Office of Solid Waste and Emergency Response  
Keywords:  
Status: Proposed

**Number of exceedances of critical low flow (safe yield to be established)**

Hierarchical Level: 3  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: EPA/Office of Water  
Keywords:  
Status: Proposed

**Number of households and wells affected by releases from underground storage tanks**

Hierarchical Level: 3  
EPA Data Sources: STARS, HWTW  
Other Sources: none  
Sponsoring Agency: EPA/Office of Solid Waste and Emergency Response  
Keywords:  
Status: Proposed

**Number of sites achieving permanent risk reduction**

Hierarchical Level: 2  
EPA Data Sources: To be determined  
Other Sources: none  
Sponsoring Agency: EPA/Office of Solid Waste and Emergency Response  
Keywords:  
Status: Proposed

**Number of states in which plans to define and track sentinel environmental diseases are established and monitored**

Hierarchical Level: 1  
EPA Data Sources: To be determined  
Other Sources: Centers for Environmental Health and Injury Control  
Sponsoring Agency: Department of Health and Human Services  
Keywords:  
Status: Proposed

**Number of Tennessee River miles with severe, significant and threatened impairments for drinking water supplies, fish and aquatic life, recreation, and assimilative capacity**

Hierarchical Level: 5-6  
EPA Data Sources: none  
Other Sources: Water Resource and Ecological Monitoring  
Sponsoring Agency: Tennessee Valley Authority  
Keywords:  
Status: Currently reported

**Number of times surface water bodies exceed safe yield**

Hierarchical Level: 3  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: EPA/Office of Water  
Keywords:  
Status: Proposed

**Number of underground storage tank releases**

Hierarchical Level: 3  
EPA Data Sources: STARS  
Other Sources: none  
Sponsoring Agency: EPA/Office of Solid Waste and Emergency Response  
Keywords:  
Status: Proposed

**Per capita ground water and surface water withdrawals by use, including loss**

Hierarchical Level: 3  
EPA Data Sources: To be determined  
Other Sources: Water Use Program  
Sponsoring Agency: EPA/Office of Water  
Keywords:  
Status: Proposed

**Phosphorous concentrations in the Chesapeake Bay**

Hierarchical Level: 4  
EPA Data Sources: CBPO database  
Other Sources: none  
Sponsoring Agency: EPA/Chesapeake Bay  
Keywords:  
Status: Currently Reported

**Point source nitrogen loadings in the Chesapeake Bay**

Hierarchical Level: 3  
EPA Data Sources: CBPO database  
Other Sources: none  
Sponsoring Agency: EPA/Chesapeake Bay  
Keywords:  
Status: Currently Reported

**Point source phosphorus loadings in the Chesapeake Bay**

Hierarchical Level: 3  
EPA Data Sources: CBPO database  
Other Sources: none  
Sponsoring Agency: EPA/Chesapeake Bay  
Keywords:  
Status: Currently Reported

**Population and municipal sewage flow**

Hierarchical Level: 3  
EPA Data Sources: CBPO database  
Other Sources: none  
Sponsoring Agency: EPA/Chesapeake Bay  
Keywords:  
Status: Currently Reported

**Population served by PWSS with wellhead protection**

Hierarchical Level: 2  
EPA Data Sources: Wellhead Protection Biennial Reports (limited data available now)  
Other Sources: State WHP programs (limited data available now)  
Sponsoring Agency: EPA/Office of Water  
Keywords:  
Status: Currently Reported

**Quantities of waste managed permanently**

Hierarchical Level: 3  
EPA Data Sources: BRS, RCRIS, CERCLIS  
Other Sources: none  
Sponsoring Agency: EPA/Office of Solid Waste and Emergency Response  
Keywords:  
Status: Proposed

**Total ground water and surface water withdrawals by use, including loss**

**Hierarchical Level:** 3  
**EPA Data Sources:** To be determined  
**Other Sources:** Water Use Programs  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Proposed

**Total precipitation**

**Hierarchical Level:** 3  
**EPA Data Sources:** To be determined  
**Other Sources:** NCDC-NOAA  
**Sponsoring Agency:** Department of Commerce  
**Keywords:**  
**Status:** Proposed

**Volume and toxicity of waste streams targeted for waste minimization activities**

**Hierarchical Level:** 5  
**EPA Data Sources:** TRI  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Waters meet drinking water supply designated use**

**Hierarchical Level:** 4  
**EPA Data Sources:** 305(b) and STORET/WBS (both available but need improvement)  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Proposed

### 4.3 EPA Goal Topic: Clean Air

#### Acid deposition data on the Tennessee Valley and Whitetop Mountain, VA

Hierarchical Level: 4  
EPA Data Sources: none  
Other Sources: Water Resource and Ecological Monitoring  
Sponsoring Agency: Tennessee Valley Authority  
Keywords:  
Status: Currently Reported

#### Ambient concentration of toxics at points of human exposure

Hierarchical Level: 4  
EPA Data Sources: AIRS  
Other Sources: none  
Sponsoring Agency: EPA/Office of Air and Radiation  
Keywords:  
Status: Proposed

#### Ambient levels of acidic aerosols

Hierarchical Level: 4  
EPA Data Sources: To be determined  
Other Sources: none  
Sponsoring Agency: EPA/Office of Air and Radiation  
Keywords:  
Status: Proposed

#### Carbon monoxide concentration trends

Hierarchical Level: 4  
EPA Data Sources: AIRS  
Other Sources: none  
Sponsoring Agency: EPA/Office of Air and Radiation  
Keywords:  
Status: Currently Reported

#### Carbon monoxide emission trends, by source

Hierarchical Level: 3  
EPA Data Sources: AIRS  
Other Sources: none  
Sponsoring Agency: EPA/Office of Air and Radiation  
Keywords:  
Status: Currently Reported

#### Concentrations of greenhouse gases and ozone-depleting gases

Hierarchical Level: 4  
EPA Data Sources: AIRS  
Other Sources: To be determined  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Proposed

**Emissions of CFCs**

**Hierarchical Level:** 3  
**EPA Data Sources:** To be determined  
**Other Sources:** To be determined  
**Sponsoring Agency:** Department of Energy  
**Keywords:**  
**Status:** Proposed

**Estimates of toxics emissions (based on the number of sources in compliance with MACT standards, sources with voluntary reductions, the Motor Vehicle Control Program, and the SARA 313 TRI database)**

**Hierarchical Level:** 3  
**EPA Data Sources:** TRI, AIRS  
**Other Sources:** To be determined  
**Sponsoring Agency:** EPA/Office of Air and Radiation  
**Keywords:**  
**Status:** Proposed

**Emissions of toxics from major stationary sources**

**Hierarchical Level:** 3  
**EPA Data Sources:** TRI, AIRS  
**Other Sources:** To be determined  
**Sponsoring Agency:** EPA/Office of Air and Radiation  
**Keywords:**  
**Status:** Proposed

**Hazardous air emissions, by source**

**Hierarchical Level:** 3  
**EPA Data Sources:** AIRS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Air and Radiation  
**Keywords:**  
**Status:** Currently reported

**Lead concentration trends**

**Hierarchical Level:** 4  
**EPA Data Sources:** AIRS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Air and Radiation  
**Keywords:**  
**Status:** Currently reported

**Lead emission trends, by source**

**Hierarchical Level:** 3  
**EPA Data Sources:** AIRS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Air and Radiation  
**Keywords:**  
**Status:** Currently reported



**Nitrogen dioxide concentration trends**

**Hierarchical Level:** 4  
**EPA Data Sources:** AIRS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Air and Radiation  
**Keywords:**  
**Status:** Currently reported

**Nitrogen dioxide emission trends, by source**

**Hierarchical Level:** 3  
**EPA Data Sources:** AIRS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Air and Radiation  
**Keywords:**  
**Status:** Currently reported

**Number of days each major city was in each Pollution Standard Index (PSI) category and Ozone PSI category**

**Hierarchical Level:** 4  
**EPA Data Sources:** AIRS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Air and Radiation  
**Keywords:**  
**Status:** Currently reported

**Number of incidences of and deaths from cancer**

**Hierarchical Level:** 6  
**EPA Data Sources:** To be determined  
**Other Sources:** National Vital Statistics System  
**Sponsoring Agency:** Department of Health and Human Services  
**Keywords:**  
**Status:** Currently reported

**Number of Metropolitan Statistical Areas (MSAs) in non-attainment of one or more air quality standards, by pollutant**

**Hierarchical Level:** 4  
**EPA Data Sources:** AIRS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Air and Radiation  
**Keywords:**  
**Status:** Currently reported

**Ozone concentration trends**

**Hierarchical Level:** 4  
**EPA Data Sources:** AIRS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Air and Radiation  
**Keywords:**  
**Status:** Currently reported

**Particulate matter concentration trends**

**Hierarchical Level:** 4  
**EPA Data Sources:** AIRS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Air and Radiation  
**Keywords:**  
**Status:** Currently reported

**Particulate matter emission trends, by source**

**Hierarchical Level:** 3  
**EPA Data Sources:** AIRS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Air and Radiation  
**Keywords:**  
**Status:** Currently reported

**Populations in non-attainment areas, by pollutant**

**Hierarchical Level:** 4  
**EPA Data Sources:** AIRS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Air and Radiation  
**Keywords:**  
**Status:** Currently reported

**Respiratory cases per year per 100,000 related to poor air quality**

**Hierarchical Level:** 6  
**EPA Data Sources:** To be determined  
**Other Sources:** To be determined  
**Sponsoring Agency:** Department of Health and Human Services  
**Keywords:**  
**Status:** Proposed

**Soil gases related to ambient O<sub>3</sub> formation**

**Hierarchical Level:** 3  
**EPA Data Sources:** none  
**Other Sources:** Water Resource and Ecological Monitoring  
**Sponsoring Agency:** Tennessee Valley Authority  
**Keywords:**  
**Status:** Currently reported

**State progress under State Implementation Plans for improving attainment**

**Hierarchical Level:** 2  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Air and Radiation  
**Keywords:**  
**Status:** Proposed

**Stratigraphic ozone trends**

Hierarchical Level: 4  
EPA Data Sources: none  
Other Sources: To be determined  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Proposed

**Sulfur dioxides concentration trends**

Hierarchical Level: 4  
EPA Data Sources: AIRS  
Other Sources: none  
Sponsoring Agency: EPA/Office of Air and Radiation  
Keywords:  
Status: Currently reported

**Sulfur dioxide and nitrogen oxide emissions (individual sources)**

Hierarchical Level: 3  
EPA Data Sources: To be determined  
Other Sources: none  
Sponsoring Agency: EPA/Office of Air and Radiation  
Keywords:  
Status: Proposed

**Sulfur oxides emissions trends, by source**

Hierarchical Level: 3  
EPA Data Sources: AIRS  
Other Sources: none  
Sponsoring Agency: EPA/Office of Air and Radiation  
Keywords:  
Status: Currently reported

**Total Clean Air Act toxic species air releases, by state**

Hierarchical Level: 4-5  
EPA Data Sources: AIRS  
Other Sources: none  
Sponsoring Agency: EPA/Office of Air and Radiation  
Keywords:  
Status: Currently reported

**Total emissions of Clean Air Act toxic species, by toxic species**

Hierarchical Level: 4-5  
EPA Data Sources: AIRS  
Other Sources: none  
Sponsoring Agency: EPA/Office of Air and Radiation  
Keywords:  
Status: Currently reported

**U.S. and global air temperature trends**

**Hierarchical Level:** 4  
**EPA Data Sources:** none  
**Other Sources:** To be determined  
**Sponsoring Agency:** Department of Energy  
**Keywords:**  
**Status:** Proposed

**Visibility impairment at monitoring sites**

**Hierarchical Level:** 4  
**EPA Data Sources:** AIRS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Air and Radiation  
**Keywords:**  
**Status:** Currently reported

**Volatile organic compounds emission trends, by source**

**Hierarchical Level:** 3  
**EPA Data Sources:** AIRS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Air and Radiation  
**Keywords:**  
**Status:** Currently reported

#### 4.4 EPA Goal Topic: Safe Indoor Environments

**Aggregate/cumulative reduction of exposure hours at schools having completed asbestos abatement projects**

Hierarchical Level: 5-6  
EPA Data Sources: To be determined  
Other Sources: none  
Sponsoring Agency: EPA/Office of Prevention, Pesticides and Toxic Substances  
Keywords:  
Status: Proposed

**Asthma morbidity as measured by asthma hospitalization**

Hierarchical Level: 5  
EPA Data Sources: none  
Other Sources: National Hospital Discharge Survey  
Sponsoring Agency: Department of Health and Human Services  
Keywords:  
Status: Currently reported

**Building stock characteristics**

Hierarchical Level: 4  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: To be determined  
Keywords:  
Status: Proposed

**Cases of sickness caused by indoor air quality**

Hierarchical Level: 6  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: Department of Health and Human Services  
Keywords:  
Status: Proposed

**"Critter Index"**

Hierarchical Level: 4  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: Department of Agriculture  
Keywords:  
Status: Proposed

**Emission density zoning**

Hierarchical Level: 3  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: To be determined  
Keywords:  
Status: Proposed

**Estimated Radon levels in the United States households based on the National Residential Radon Survey**

**Hierarchical Level:** 4  
**EPA Data Sources:** National Residential Radon Survey  
**Other Sources:** To be determined  
**Sponsoring Agency:** EPA/Office of Air and Radiation  
**Keywords:**  
**Status:** Proposed

**Health care cost and productivity loss or time (tied to "cases of sickness caused by indoor air quality, e.g., asthma, carbon monoxide exposure)**

**Hierarchical Level:** 6  
**EPA Data Sources:** none  
**Other Sources:** NIOSH, Annual Survey of Occupational Injury and Illness  
**Sponsoring Agency:** Department of Health and Human Services  
**Keywords:**  
**Status:** Proposed

**Indoor air quality in the Chattanooga and Nashville, TN, areas**

**Hierarchical Level:** 4  
**EPA Data Sources:** none  
**Other Sources:** Water Resource and Ecological Monitoring  
**Sponsoring Agency:** Tennessee Valley Authority  
**Keywords:**  
**Status:** Currently reported

**Indoor air standards and enforcement**

**Hierarchical Level:** 4  
**EPA Data Sources:** Indoor Air Data System  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Air and Radiation  
**Keywords:**  
**Status:** Proposed

**Indoor air trends analysis (based on actual measurements and review of building parameters)**

**Hierarchical Level:** 4  
**EPA Data Sources:** Indoor Air Data System  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Air and Radiation  
**Keywords:**  
**Status:** Proposed

**Indoor exposure to pesticides**

**Hierarchical Level:** 5  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Prevention, Pesticides and Toxic Substances  
**Keywords:**  
**Status:** Proposed

Number of exposures which result in workers having blood lead concentrations greater than 25 ug/dL of whole blood

Hierarchical Level: 4  
EPA Data Sources: none  
Other Sources: NIOSH  
Sponsoring Agency: Department of Health and Human Services  
Keywords:  
Status: Currently reported

Number of homes tested with radon levels above action level that are mitigated

Hierarchical Level: 4  
EPA Data Sources: National Residential Radon Survey  
Other Sources: none  
Sponsoring Agency: EPA/Office of Air and Radiation  
Keywords:  
Status: Proposed

Number of homes with radon-resistant building construction

Hierarchical Level: 4  
EPA Data Sources: National Residential Radon Survey  
Other Sources: none  
Sponsoring Agency: EPA/Office of Air and Radiation  
Keywords:  
Status: Proposed

Number of incidences of and deaths from cancer

Hierarchical Level: 6  
EPA Data Sources: To be determined  
Other Sources: National Vital Statistics System  
Sponsoring Agency: Department of Health and Human Services  
Keywords:  
Status: Currently reported

Number of occupational skin disorders or disease

Hierarchical Level: 5  
EPA Data Sources: none  
Other Sources: Annual Survey of Occupational Injuries and Illnesses  
Sponsoring Agency: Department of Health and Human Services  
Keywords:  
Status: Currently reported

Number of states in which at least 75 percent of local jurisdictions have adopted construction standards and techniques that minimize elevated indoor radon levels

Hierarchical Level: 1  
EPA Data Sources: To be determined  
Other Sources: Environmental Law Institute  
Sponsoring Agency: Department of Health and Human Services  
Keywords:  
Status: Proposed

Number of states with exposure standards adequate to prevent the major occupational lung diseases to which their worker populations are exposed

Hierarchical Level: 1  
EPA Data Sources: none  
Other Sources: Public Health Foundation  
Sponsoring Agency: Department of Health and Human Services  
Keywords:  
Status: Proposed

Percent of individuals that live in residences that meet current ASHRAE standards

Hierarchical Level: 4  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: EPA/Office of Air and Radiation  
Keywords:  
Status: Proposed

Percent of individuals that work in buildings that meet or exceed current ASHRAE standards

Hierarchical Level: 4  
EPA Data Sources: none  
Other Sources: OSHA databases  
Sponsoring Agency: Department of Labor  
Keywords:  
Status: Proposed

Percent of smoke free environments versus total environments

Hierarchical Level: 4  
EPA Data Sources: none  
Other Sources: OSHA databases  
Sponsoring Agency: Department of Labor  
Keywords:  
Status: Proposed

Person-hours of exposure to new chemicals

Hierarchical Level: 5  
EPA Data Sources: To be determined  
Other Sources: none  
Sponsoring Agency: EPA/Office of Prevention, Pesticides and Toxic Substances  
Keywords:  
Status: Proposed

Usage of off-gassing products and materials per capita

Hierarchical Level: 4  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Proposed



**Worker right to know**

<b>Hierarchical Level:</b>	<b>2</b>
<b>EPA Data Sources:</b>	<b>none</b>
<b>Other Sources:</b>	<b>OSHA databases</b>
<b>Sponsoring Agency:</b>	<b>Department of Labor</b>
<b>Keywords:</b>	
<b>Status:</b>	<b>Proposed</b>

**4.5 EPA Goal Topic: Stratospheric Ozone Layer Protection****Average ozone levels (median during ozone season)**

Hierarchical Level: 4  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Proposed

**Chesapeake Basin Forests**

Hierarchical Level: 5  
EPA Data Sources: CBPO database  
Other Sources: USDA Forest Service database  
Sponsoring Agency: EPA/Chesapeake Bay  
Keywords:  
Status: Currently reported

**Historical production of CFCs in the United States**

Hierarchical Level: 3  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Proposed

**Number of incidences of and deaths from cancer**

Hierarchical Level: 6  
EPA Data Sources: To be determined  
Other Sources: National Vital Statistics System  
Sponsoring Agency: Department of Health and Human Services  
Keywords:  
Status: Currently reported

**Production/consumption of ozone-depleting chemicals**

Hierarchical Level: 3  
EPA Data Sources: To be determined  
Other Sources: none  
Sponsoring Agency: EPA/Office of Air and Radiation  
Keywords:  
Status: Proposed

**Stratospheric concentrations of chlorine**

Hierarchical Level: 4  
EPA Data Sources: To be determined  
Other Sources: none  
Sponsoring Agency: EPA/Office of Air and Radiation  
Keywords:  
Status: Proposed

**UV-B levels at earth's surface**

<b>Hierarchical Level:</b>	<b>4</b>
<b>EPA Data Sources:</b>	<b>To be determined</b>
<b>Other Sources:</b>	<b>none</b>
<b>Sponsoring Agency:</b>	<b>EPA/Office of Air and Radiation</b>
<b>Keywords:</b>	
<b>Status:</b>	<b>Proposed</b>

**4.6 EPA Goal Topic: Climate Change Risk Reduction****Average global temperature**

Hierarchical Level: 4  
EPA Data Sources: To be determined  
Other Sources: Climate Change Program (USGS), NOAA  
Sponsoring Agency: EPA/Office of Air and Radiation  
Keywords:  
Status: Proposed

**Carbon dioxide emissions from energy and industry**

Hierarchical Level: 3  
EPA Data Sources: none  
Other Sources: EIA databases  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Currently reported

**Carbon dioxide emissions from fossil energy consumption by end-use sector**

Hierarchical Level: 3  
EPA Data Sources: none  
Other Sources: EIA databases  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Currently reported

**Carbon dioxide emissions from gas flaring**

Hierarchical Level: 3  
EPA Data Sources: none  
Other Sources: Natural Gas Account  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Currently reported

**Carbon dioxide emissions from industrial sources**

Hierarchical Level: 3  
EPA Data Sources: none  
Other Sources: Bureau of Mines databases  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Currently reported

**Carbon emissions from aluminum production**

Hierarchical Level: 3  
EPA Data Sources: none  
Other Sources: Bureau of Mines databases  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Currently reported

**Carbon sequestered by nonfuel use of energy**

Hierarchical Level: 3  
EPA Data Sources: none  
Other Sources: EIA databases  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Currently reported

**Chlorofluorocarbon and halon sales**

Hierarchical Level: 2  
EPA Data Sources: none  
Other Sources: Alternative Fluorocarbons Environmental Acceptability Study (DOE)  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Currently reported

**Concentrations of cations and anions in precipitation**

Hierarchical Level: 3  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Proposed

**Emissions of CO<sub>2</sub> per capita**

Hierarchical Level: 3  
EPA Data Sources: AIRS  
Other Sources: none  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Currently reported

**Emissions of CO<sub>2</sub> per unit of energy consumed**

Hierarchical Level: 3  
EPA Data Sources: AIRS  
Other Sources: none  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Currently reported

**Emissions of CO<sub>2</sub> per unit of GDP**

Hierarchical Level: 3  
EPA Data Sources: AIRS  
Other Sources: none  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Currently reported

**Emissions of common anthropogenic pollutants**

Hierarchical Level: 3  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Currently reported

**Energy-related emissions of CO<sub>2</sub>, by source**

Hierarchical Level: 3  
EPA Data Sources: none  
Other Sources: Annual Energy Review, State Energy Data Report  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Currently reported

**Fossil fuel consumption for nonfuel use**

Hierarchical Level: 3  
EPA Data Sources: none  
Other Sources: Annual Energy Review  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Currently reported

**Methane emissions from anthropogenic sources**

Hierarchical Level: 3  
EPA Data Sources: Anthropogenic Methane Emissions in the U.S.  
Other Sources: To be determined  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Currently reported

**Methane emissions from coal mining and post-mining activities**

Hierarchical Level: 3  
EPA Data Sources: none  
Other Sources: EIA databases  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Currently reported

**Methane emissions from enteric fermentation in domestic animals**

Hierarchical Level: 3  
EPA Data Sources: none  
Other Sources: Census of Agriculture  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Currently reported

**Methane emissions from landfills**

Hierarchical Level: 3  
EPA Data Sources: Characteristics of Municipal Solid Waste, Anthropogenic Methane Emissions in the U.S.  
Other Sources: To be determined  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Currently reported

**Methane emissions from natural gas transmission and distribution**

Hierarchical Level: 3  
EPA Data Sources: Anthropogenic Methane Emissions in the US  
Other Sources: Natural Gas Annual, Petroleum Supply Annual, Annual Energy Review  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Currently reported

**Methane emissions from oil and gas operations**

Hierarchical Level: 3  
EPA Data Sources: Anthropogenic Methane Emissions in the US  
Other Sources: Annual Energy Review, Petroleum Supply Annual  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Currently reported

**Methane emissions from oil refining and transportation**

Hierarchical Level: 3  
EPA Data Sources: none  
Other Sources: EIA databases  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Currently reported

**Methane emissions from the solid waste of domesticated animals**

Hierarchical Level: 3  
EPA Data Sources: none  
Other Sources: Census of Agriculture  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Currently reported

**Methane emissions from stationary combustion sources**

Hierarchical Level: 3  
EPA Data Sources: none  
Other Sources: Annual Energy Review, State Energy Data Report  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Currently reported

**Methane emissions from transportation**

**Hierarchical Level:** 3  
**EPA Data Sources:** none  
**Other Sources:** Federal Highway Statistics  
**Sponsoring Agency:** Department of Energy  
**Keywords:**  
**Status:** Currently reported

**Natural gas consumption and balancing item**

**Hierarchical Level:** 3  
**EPA Data Sources:** none  
**Other Sources:** Monthly Energy Review  
**Sponsoring Agency:** Department of Energy  
**Keywords:**  
**Status:** Currently reported

**Nitrous oxide emissions from adipic acid**

**Hierarchical Level:** 3  
**EPA Data Sources:** none  
**Other Sources:** Various chemical engineering journals  
**Sponsoring Agency:** Department of Energy  
**Keywords:**  
**Status:** Currently reported

**Nitrous oxide emissions from nitrogen fertilizer**

**Hierarchical Level:** 3  
**EPA Data Sources:** none  
**Other Sources:** Commercial Fertilizers (TVA and USDA)  
**Sponsoring Agency:** Department of Energy  
**Keywords:**  
**Status:** Currently reported

**Nitrous oxide emissions from stationary combustion sources**

**Hierarchical Level:** 3  
**EPA Data Sources:** none  
**Other Sources:** EIA databases  
**Sponsoring Agency:** Department of Energy  
**Keywords:**  
**Status:** Currently reported

**Nitrous oxide emissions from transportation**

**Hierarchical Level:** 3  
**EPA Data Sources:** none  
**Other Sources:** Federal Highway Statistics, EIA databases  
**Sponsoring Agency:** Department of Energy  
**Keywords:**  
**Status:** Currently reported



**Nonmethane volatile organic compound emissions**

Hierarchical Level: 3  
EPA Data Sources: AIRS  
Other Sources: none  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Currently reported

**Total emissions of Greenhouse Gases**

Hierarchical Level: 3  
EPA Data Sources: none  
Other Sources: Annual Energy Review, State Energy Data Report  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Currently reported

**Total nitrous oxide emissions**

Hierarchical Level: 3  
EPA Data Sources: AIRS  
Other Sources: none  
Sponsoring Agency: Department of Energy  
Keywords:  
Status: Currently reported

**4.7 EPA Goal Topic: Ecological Protection****Acres and percent of cropland exceeding erosion tolerance in the Tennessee Valley**

Hierarchical Level: 4  
EPA Data Sources: none  
Other Sources: Water Resource and Ecological Monitoring  
Sponsoring Agency: Tennessee Valley Authority  
Keywords:  
Status: Currently reported

**Acres of bay grasses**

Hierarchical Level: 6  
EPA Data Sources: CBPO database  
Other Sources: none  
Sponsoring Agency: EPA/Chesapeake Bay  
Keywords:  
Status: Currently reported

**Acres of commercial forest land in the Tennessee Valley**

Hierarchical Level: 4  
EPA Data Sources: none  
Other Sources: Water Resource and Ecological Monitoring  
Sponsoring Agency: Tennessee Valley Authority  
Keywords:  
Status: Currently reported

**Acres of land successfully returned to its natural state**

Hierarchical Level: 4  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: Department of Agriculture  
Keywords:  
Status: Proposed

**Acres of prime and nonprime farmlands removed from agriculture uses in the Tennessee Valley**

Hierarchical Level: 4  
EPA Data Sources: none  
Other Sources: Water Resource and Ecological Monitoring  
Sponsoring Agency: Tennessee Valley Authority  
Keywords:  
Status: Currently reported

**Acres under integrated pest management**

Hierarchical Level: 2  
EPA Data Sources: CBPO database  
Other Sources: none  
Sponsoring Agency: EPA/Chesapeake Bay  
Keywords:  
Status: Currently reported

**Amount and condition of terrestrials and aquatic types**

Hierarchical Level: 4  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: Department of the Interior  
Keywords:  
Status: Proposed

**Amounts/percent of solid waste disposed of by methods of disposal management, e.g., landfill, incineration, recycling, composting, waste to energy**

Hierarchical Level: 3  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: EPA/Office of Solid Waste and Emergency Response  
Keywords:  
Status: Proposed

**Amount of recyclables collected compared to the amount of recycled materials used in the production of new products**

Hierarchical Level: 3-4  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: EPA/Office of Solid Waste and Emergency Response  
Keywords:  
Status: Proposed

**Amount of underdeveloped (i.e., national, state) land as a percentage of total land**

Hierarchical Level: 4  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: Department of the Interior  
Keywords:  
Status: Proposed

**Annual soil loss**

Hierarchical Level: 4  
EPA Data Sources: none  
Other Sources: National Resource Inventory (SCS)  
Sponsoring Agency: Department of Agriculture  
Keywords:  
Status: Proposed

**Area and perimeter ratio (i.e., fragmentation)**

Hierarchical Level: 4  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: Department of the Interior  
Keywords:  
Status: Proposed

**Bald eagle population count**

Hierarchical Level: 6  
EPA Data Sources: CBPO database  
Other Sources: Endangered Species Database  
Sponsoring Agency: EPA/Chesapeake Bay  
Keywords:  
Status: Proposed

**Benthic macroinvertebrates**

Hierarchical Level: 6  
EPA Data Sources: EMAP and BIOS/STORET (both available now but need improvement)  
Other Sources: NOAA - ELMR, NOAA - NS&T, MMS, USGS - NAWQA and State Water Programs (all have limited data available now).  
Sponsoring Agency: EPA/Office of Water  
Keywords:  
Status: Currently reported

**Big and small game population**

Hierarchical Level: 4  
EPA Data Sources: none  
Other Sources: To be determined  
Sponsoring Agency: Department of Agriculture  
Keywords:  
Status: Proposed

**Biota tissue concentration for key contaminants**

Hierarchical Level: 5  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: Department of the Interior  
Keywords:  
Status: Proposed

**Change in impervious surface area**

Hierarchical Level: 4  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: Department of Agriculture  
Keywords:  
Status: Proposed

**Chesapeake basin forests**

Hierarchical Level: 5  
EPA Data Sources: CBPO database  
Other Sources: USDA Forest Service database  
Sponsoring Agency: EPA/Chesapeake Bay  
Keywords:  
Status: Proposed

**Chesapeake Basin land use**

Hierarchical Level: 5  
EPA Data Sources: CBPO database  
Other Sources: USDA Forest Service database  
Sponsoring Agency: EPA/Chesapeake Bay  
Keywords:  
Status: Proposed

**Chlordane in Great Lake lake trout**

Hierarchical Level: 4  
EPA Data Sources: GLPO databases  
Other Sources: none  
Sponsoring Agency: EPA/Great Lakes Program Office  
Keywords:  
Status: Currently reported

**Chlorinated aliphatic hydrocarbons in Great Lakes harbor and tributary fish samples**

Hierarchical Level: 4  
EPA Data Sources: GLPO databases  
Other Sources: none  
Sponsoring Agency: EPA/Great Lakes Program Office  
Keywords:  
Status: Currently reported

**Chlorinated aromatics in Great Lake harbor and tributary fish samples**

Hierarchical Level: 4  
EPA Data Sources: GLPO databases  
Other Sources: none  
Sponsoring Agency: EPA/Great Lakes Program Office  
Keywords:  
Status: Currently reported

**Commercial landings of selected fish and shellfish**

Hierarchical Level: 3  
EPA Data Sources: none  
Other Sources: Fisheries Statistics Program  
Sponsoring Agency: Department of Commerce  
Keywords:  
Status: Currently reported

**Contaminants in Great Lake fishes**

Hierarchical Level: 6  
EPA Data Sources: GLPO databases  
Other Sources: none  
Sponsoring Agency: EPA/Great Lakes Program Office  
Keywords:  
Status: Proposed

**Contaminants in herring gull eggs from Great Lakes**

**Hierarchical Level:** 6  
**EPA Data Sources:** GLPO databases  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Great Lakes Program Office  
**Keywords:**  
**Status:** Proposed

**Contaminant in mussels**

**Hierarchical Level:** 6  
**EPA Data Sources:** none  
**Other Sources:** Mussel Watch Program  
**Sponsoring Agency:** Department of Commerce  
**Keywords:**  
**Status:** Proposed

**Dacthal in Great Lake chinook**

**Hierarchical Level:** 4  
**EPA Data Sources:** GLPO databases  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Great Lakes Program Office  
**Keywords:**  
**Status:** Currently reported

**DDT in Great Lake lake trout**

**Hierarchical Level:** 4  
**EPA Data Sources:** GLPO databases  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Great Lakes Program Office  
**Keywords:**  
**Status:** Currently reported

**Dieldrin in Great Lake lake trout**

**Hierarchical Level:** 4  
**EPA Data Sources:** GLPO databases  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Great Lakes Program Office  
**Keywords:**  
**Status:** Currently reported

**Discharges in significant noncompliance**

**Hierarchical Level:** 2  
**EPA Data Sources:** NPDES  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Chesapeake Bay  
**Keywords:**  
**Status:** Currently reported

**Ecological community monitoring**

Hierarchical Level: 6  
EPA Data Sources: To be determined  
Other Sources: none  
Sponsoring Agency: EPA/Office of Prevention, Pesticides and Toxic Substances  
Keywords:  
Status: Proposed

**Ecoregion assessment, e.g., instream, biological, and riparian area habitat assessment**

Hierarchical Level: 4  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: Department of the Interior  
Keywords:  
Status: Proposed

**Endrine in Great Lake chinook**

Hierarchical Level: 4  
EPA Data Sources: GLPO databases  
Other Sources: none  
Sponsoring Agency: EPA/Great Lakes Program Office  
Keywords:  
Status: Currently reported

**Environmental releases of PMN substances**

Hierarchical Level: 3  
EPA Data Sources: To be determined  
Other Sources: none  
Sponsoring Agency: EPA/Office of Prevention, Pesticides and Toxic Substances  
Keywords:  
Status: Proposed

**Farm soil characteristics**

Hierarchical Level: 4  
EPA Data Sources: none  
Other Sources: National Resource Inventory (SCS)  
Sponsoring Agency: Department of Agriculture  
Keywords:  
Status: Currently reported

**Faunal composition**

Hierarchical Level: 6  
EPA Data Sources: EMAP (no data available now)  
Other Sources: USFWS - BEST and States (both have data available now)  
Sponsoring Agency: EPA/Office of Water  
Keywords:  
Status: Currently reported

**Field residue monitoring of environmental matrices**

**Hierarchical Level:** 6  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Prevention, Pesticides and Toxic Substances  
**Keywords:**  
**Status:** Proposed

**Fish (assemblage) or IBI-like index**

**Hierarchical Level:** 6  
**EPA Data Sources:** 305(b), EMAP and BIOS/STORET (all available now but need improvement)  
**Other Sources:** NOAA - ELMR, NOAA - NS&T, NOAA - FSP, USFWS - NCBP, USGS - NAWQA and State Water Programs (all have limited data available now) and USFWS - BEST (no data available now)  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Currently reported

**Floral composition**

**Hierarchical Level:** 6  
**EPA Data Sources:** EMAP (no data available now)  
**Other Sources:** USGS - NAWQA (limited data available now) and USFWS - BEST and States (both have data available now)  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Currently reported

**Growth/removal ratio for hardwoods and softwoods in the Tennessee Valley**

**Hierarchical Level:** 4  
**EPA Data Sources:** none  
**Other Sources:** Water Resource and Ecological Monitoring  
**Sponsoring Agency:** Tennessee Valley Authority  
**Keywords:**  
**Status:** Currently reported

**Habitat (physical structure)**

**Hierarchical Level:** 6  
**EPA Data Sources:** EMAP and BIOS/STORET (both available now but need improvement)  
**Other Sources:** USDA Forest Service, USFWS - BEST, USGS - NAWQA and State Water Programs (all have limited data available now)  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Currently reported



**Heptachlor epoxide in Great Lake chinook**

Hierarchical Level: 4  
EPA Data Sources: GLPO databases  
Other Sources: none  
Sponsoring Agency: EPA/Great Lakes Program Office  
Keywords:  
Status: Currently reported

**Hexachlorobenze in Great Lake chinook**

Hierarchical Level: 4  
EPA Data Sources: GLPO databases  
Other Sources: none  
Sponsoring Agency: EPA/Great Lakes Program Office  
Keywords:  
Status: Currently reported

**Indicator comparing the amount of PCBs retired from service with amount properly disposed**

Hierarchical Level: 3  
EPA Data Sources: To be determined  
Other Sources: none  
Sponsoring Agency: EPA/Office of Prevention, Pesticides and Toxic Substances  
Keywords:  
Status: Proposed

**Industry reported releases and transfers of toxic substances**

Hierarchical Level: 3  
EPA Data Sources: TRI, CBPO databases  
Other Sources: none  
Sponsoring Agency: EPA/Chesapeake Bay  
Keywords:  
Status: Currently reported

**Intact ecosystems functions, e.g. natural, fire, and flood regimes; nutrient cycling**

Hierarchical Level: 4  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: Department of the Interior  
Keywords:  
Status: Proposed

**Integrated pest management (IPM) practices and alternatives to chemical control, by crop**

Hierarchical Level: 5  
EPA Data Sources: none  
Other Sources: To be determined  
Sponsoring Agency: Department of Agriculture  
Keywords:  
Status: Currently reported

**Ketones and aldehydes in Great Lake tributary and harbor fish samples**

Hierarchical Level: 4  
EPA Data Sources: GLPO databases  
Other Sources: none  
Sponsoring Agency: EPA/Great Lakes Program Office  
Keywords:  
Status: Currently reported

**Land use/management changes over time, including wetlands and other aquatic systems**

Hierarchical Level: 4  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: Department of Agriculture  
Keywords:  
Status: Proposed

**Loss or gain of wetland acreage**

Hierarchical Level: 4  
EPA Data Sources: Regional  
Other Sources: USFWS - NWI and NOAA - NCWI (both have data available but need improvement) and USGS - NAWQA (limited data available now)  
Sponsoring Agency: EPA/Office of Water  
Keywords:  
Status: Proposed

**Methyl ether in Great Lake chinook**

Hierarchical Level: 4  
EPA Data Sources: GLPO databases  
Other Sources: none  
Sponsoring Agency: EPA/Great Lakes Program Office  
Keywords:  
Status: Currently Reported

**Monitoring of releases at disposal sites**

Hierarchical Level: 3  
EPA Data Sources: To be determined  
Other Sources: none  
Sponsoring Agency: EPA/Office of Air and Radiation  
Keywords:  
Status: Proposed

**Monocyclic aromatics in Great Lake fish samples**

Hierarchical Level: 4  
EPA Data Sources: GLPO databases  
Other Sources: none  
Sponsoring Agency: EPA/Great Lakes Program Office  
Keywords:  
Status: Currently reported

**Nitrogen concentrations in the Chesapeake Bay**

**Hierarchical Level:** 4  
**EPA Data Sources:** CBPO database  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Chesapeake Bay  
**Keywords:**  
**Status:** Currently reported

**Nonpoint source nitrogen loadings in the Chesapeake Bay**

**Hierarchical Level:** 3  
**EPA Data Sources:** CBPO database  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Chesapeake Bay  
**Keywords:**  
**Status:** Currently reported

**Nonpoint source phosphorus loadings in the Chesapeake Bay**

**Hierarchical Level:** 3  
**EPA Data Sources:** CBPO database  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Chesapeake Bay  
**Keywords:**  
**Status:** Currently reported

**Number of aquifers in which the withdrawal exceeds the recharge**

**Hierarchical Level:** 3  
**EPA Data Sources:** To be determined  
**Other Sources:** National Water Summary  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Proposed

**Number of cooperative actions and partnerships with state, other federal agencies, private companies, private individuals, and non-profit groups on riparian wetlands**

**Hierarchical Level:** 1  
**EPA Data Sources:** none  
**Other Sources:** State Bureau of Land Management offices  
**Sponsoring Agency:** DOI/Bureau of Land Management  
**Keywords:**  
**Status:** Currently reported

**Number of exceedances of critical low flow (safe yield to be established)**

**Hierarchical Level:** 3  
**EPA Data Sources:** To be determined  
**Other Sources:** To be determined  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Proposed

**Number of exceedances of surface water quality standards, criteria levels of biological, chemical, parameters, and standards**

**Hierarchical Level:** 4  
**EPA Data Sources:** To be determined  
**Other Sources:** National Water Summary  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Proposed

**Number of land acres and river miles acquired for riparian-wetland management**

**Hierarchical Level:** 4  
**EPA Data Sources:** none  
**Other Sources:** State Bureau of Land Management offices  
**Sponsoring Agency:** DOI/Bureau of Land Management  
**Keywords:**  
**Status:** Currently reported

**Number of permits, rights-of-way, protective withdrawals, etc., issued with riparian stipulations and/or mitigation action on managed riparian-wetland land and rivers**

**Hierarchical Level:** 2  
**EPA Data Sources:** none  
**Other Sources:** State Bureau of Land Management offices  
**Sponsoring Agency:** DOI/Bureau of Land Management  
**Keywords:**  
**Status:** Currently reported

**Number of research projects on riparian wetlands**

**Hierarchical Level:** 2  
**EPA Data Sources:** none  
**Other Sources:** State Bureau of Land Management offices  
**Sponsoring Agency:** DOI/Bureau of Land Management  
**Keywords:**  
**Status:** Currently reported

**Number of riparian land acres and river miles changed from non-functional to functioning at risk**

**Hierarchical Level:** 4  
**EPA Data Sources:** none  
**Other Sources:** State Bureau of Land Management offices  
**Sponsoring Agency:** DOI/Bureau of Land Management  
**Keywords:**  
**Status:** Currently reported

**Number of riparian land acres and river miles changed from functioning at risk to proper functioning condition**

**Hierarchical Level:** 4  
**EPA Data Sources:** none  
**Other Sources:** State Bureau of Land Management offices  
**Sponsoring Agency:** DOI/Bureau of Land Management  
**Keywords:**  
**Status:** Currently reported

**Number of riparian land acres and river miles remaining in proper functioning condition**

**Hierarchical Level:** 3  
**EPA Data Sources:** none  
**Other Sources:** State Bureau of Land Management offices  
**Sponsoring Agency:** DOI/Bureau of Land Management  
**Keywords:**  
**Status:** Currently reported

**Number of riparian land acres and river miles assessed for proper functioning condition**

**Hierarchical Level:** 3  
**EPA Data Sources:** none  
**Other Sources:** State Bureau of Land Management offices  
**Sponsoring Agency:** DOI/Bureau of Land Management  
**Keywords:**  
**Status:** Currently reported

**Number of riparian land acres of ecological site inventory**

**Hierarchical Level:** 3  
**EPA Data Sources:** none  
**Other Sources:** State Bureau of Land Management offices  
**Sponsoring Agency:** DOI/Bureau of Land Management  
**Keywords:**  
**Status:** Currently reported

**Number of riparian water rights acquired**

**Hierarchical Level:** 4  
**EPA Data Sources:** none  
**Other Sources:** State Bureau of Land Management offices  
**Sponsoring Agency:** DOI/Bureau of Land Management  
**Keywords:**  
**Status:** Currently reported

**Number of riparian water sources identified and quantitative assessment including instream flow assessments**

**Hierarchical Level:** 3  
**EPA Data Sources:** none  
**Other Sources:** State Bureau of Land Management offices  
**Sponsoring Agency:** DOI/Bureau of Land Management  
**Keywords:**  
**Status:** Currently reported

**Number of riparian-wetland management actions monitored**

**Hierarchical Level:** 1  
**EPA Data Sources:** none  
**Other Sources:** State Bureau of Land Management offices  
**Sponsoring Agency:** DOI/Bureau of Land Management  
**Keywords:**  
**Status:** Currently reported

**Number of riparian-wetland plans prepared/revised**

**Hierarchical Level:** 2  
**EPA Data Sources:** none  
**Other Sources:** State Bureau of Land Management offices  
**Sponsoring Agency:** DOI/Bureau of Land Management  
**Keywords:**  
**Status:** Currently reported

**Number of riparian-wetland projects developed**

**Hierarchical Level:** 2  
**EPA Data Sources:** none  
**Other Sources:** State Bureau of Land Management offices  
**Sponsoring Agency:** DOI/Bureau of Land Management  
**Keywords:**  
**Status:** Currently reported

**Number of riparian-wetland projects maintained**

**Hierarchical Level:** 2  
**EPA Data Sources:** none  
**Other Sources:** State Bureau of Land Management offices  
**Sponsoring Agency:** DOI/Bureau of Land Management  
**Keywords:**  
**Status:** Currently reported

**Number of significant new chemical use rules written**

**Hierarchical Level:** 2  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Prevention, Pesticides and Toxic Substances  
**Keywords:**  
**Status:** Proposed

**Number of Tennessee River miles with severe, significant and threatened impairments for drinking water supplies, fish and aquatic life, recreation, and assimilative capacity**

**Hierarchical Level:** 5-6  
**EPA Data Sources:** none  
**Other Sources:** Water Resource and Ecological Monitoring  
**Sponsoring Agency:** Tennessee Valley Authority  
**Keywords:**  
**Status:** Currently reported

**Number of times surface water bodies exceed safe yield**

Hierarchical Level: 3  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: EPA/Office of Water  
Keywords:  
Status: Proposed

**PCBs in Great Lake lake trout and rainbow smelt**

Hierarchical Level: 4  
EPA Data Sources: Great Lakes Program Office (GLPO) databases  
Other Sources: none  
Sponsoring Agency: EPA/Great Lakes Program Office  
Keywords:  
Status: Currently reported

**Per capita ground water and surface water withdrawals by use, including loss**

Hierarchical Level: 3  
EPA Data Sources: To be determined  
Other Sources: Water Use Program (USGS)  
Sponsoring Agency: EPA/Office of Water  
Keywords:  
Status: Proposed

**Percent of changed land uses**

Hierarchical Level: 4  
EPA Data Sources: To be determined  
Other Sources: Land Use/Land Cover Program (USGS), Strategic Assessment Program (NOAA), EMAP  
Sponsoring Agency: Department of the Interior  
Keywords:  
Status: Proposed

**Percentage of developed land occurring in previously developed land versus previously undeveloped land**

Hierarchical Level: 4  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: Department of the Interior  
Keywords:  
Status: Proposed

**Pesticide container reuse/recycle.**

Hierarchical Level: 2  
EPA Data Sources: To be determined  
Other Sources: none  
Sponsoring Agency: EPA/Office of Prevention, Pesticides and Toxic Substances  
Keywords:  
Status: Proposed

**Pesticide tolerance exceedances**

**Hierarchical Level:** 5-6  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Prevention, Pesticides and Toxic Substances  
**Keywords:**  
**Status:** Proposed

**Pesticide usage/human and ecological risk index**

**Hierarchical Level:** 6  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Prevention, Pesticides and Toxic Substances  
**Keywords:**  
**Status:** Proposed

**Phenols in Great Lake fish samples**

**Hierarchical Level:** 4  
**EPA Data Sources:** GLPO databases  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Great Lakes Program Office  
**Keywords:**  
**Status:** Currently reported

**Phosphorous concentrations in the Chesapeake Bay**

**Hierarchical Level:** 4  
**EPA Data Sources:** CBPO database  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Chesapeake Bay  
**Keywords:**  
**Status:** Currently reported

**Phthalates in Great Lake harbor and tributary fish samples**

**Hierarchical Level:** 4  
**EPA Data Sources:** GLPO databases  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Great Lakes Program Office  
**Keywords:**  
**Status:** Currently reported

**Plankton and periphyton assemblages**

**Hierarchical Level:** 6  
**EPA Data Sources:** none  
**Other Sources:** Research Institutions, State Water Programs and USGS - NAWQA (all have limited data available now)  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Currently reported



**Point source nitrogen loadings in the Chesapeake Bay**

Hierarchical Level: 3  
EPA Data Sources: CBPO database  
Other Sources: none  
Sponsoring Agency: EPA/Chesapeake Bay  
Keywords:  
Status: Currently reported

**Point source phosphorus loadings in the Chesapeake Bay**

Hierarchical Level: 3  
EPA Data Sources: CBPO database  
Other Sources: none  
Sponsoring Agency: EPA/Chesapeake Bay  
Keywords:  
Status: Currently reported

**Poisoning incidence reporting (human and ecological incidence)**

Hierarchical Level: 6  
EPA Data Sources: To be determined  
Other Sources: none  
Sponsoring Agency: EPA/Office of Prevention, Pesticides and Toxic Substances  
Keywords:  
Status: Proposed

**Polynuclear aromatic hydrocarbons (PAHs) in Great Lakes fish samples**

Hierarchical Level: 4  
EPA Data Sources: GLPO databases  
Other Sources: none  
Sponsoring Agency: EPA/Great Lakes Program Office  
Keywords:  
Status: Currently reported

**Population trends in migratory and resident songbirds**

Hierarchical Level: 4  
EPA Data Sources: none  
Other Sources: To be determined  
Sponsoring Agency: Department of the Interior  
Keywords:  
Status: Proposed

**Population trends of selected species including keystone species, listed, threatened, and endangered**

Hierarchical Level: 4  
EPA Data Sources: To be determined  
Other Sources: Endangered Species Database  
Sponsoring Agency: Department of the Interior  
Keywords:  
Status: Proposed

**Post-hoc analysis of casualties and estimation of casualties avoided to response**

**Hierarchical Level:** 6  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Air and Radiation  
**Keywords:**  
**Status:** Proposed

**Projected amount/years to capacity for landfills by waste type**

**Hierarchical Level:** 3  
**EPA Data Sources:** To be determined  
**Other Sources:** To be determined  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Proportion of non-native biota**

**Hierarchical Level:** 5  
**EPA Data Sources:** To be determined  
**Other Sources:** To be determined  
**Sponsoring Agency:** Department of the Interior  
**Keywords:**  
**Status:** Proposed

**Rangeland conditions**

**Hierarchical Level:** 4  
**EPA Data Sources:** none  
**Other Sources:** To be determined  
**Sponsoring Agency:** Department of Agriculture  
**Keywords:**  
**Status:** Proposed

**Rural land conservation needs**

**Hierarchical Level:** 2  
**EPA Data Sources:** none  
**Other Sources:** National Resource Inventory (SCS)  
**Sponsoring Agency:** Department of Agriculture  
**Keywords:**  
**Status:** Proposed

**Rural land erosion**

**Hierarchical Level:** 4  
**EPA Data Sources:** none  
**Other Sources:** National Resource Inventory (SCS)  
**Sponsoring Agency:** Department of Agriculture  
**Keywords:**  
**Status:** Currently reported

**Species of special emphasis (threatened, endangered, recovered)**

Hierarchical Level: 4  
EPA Data Sources: none  
Other Sources: Endangered Species Database  
Sponsoring Agency: Department of the Interior  
Keywords:  
Status: Proposed

**Stock assessments for U.S. fisheries, marine mammals and sea turtles**

Hierarchical Level: 6  
EPA Data Sources: none  
Other Sources: To be determined  
Sponsoring Agency: Department of Commerce  
Keywords:  
Status: Proposed

**Stream miles opened for migratory fish around the Chesapeake Bay**

Hierarchical Level: 4  
EPA Data Sources: CBPO database  
Other Sources: none  
Sponsoring Agency: EPA/Chesapeake Bay  
Keywords:  
Status: Currently reported

**Total ground water and surface water withdrawals by use, including loss**

Hierarchical Level: 3  
EPA Data Sources: To be determined  
Other Sources: Water Use Program (USGS)  
Sponsoring Agency: EPA/Office of Water  
Keywords:  
Status: Proposed

**Total precipitation**

Hierarchical Level: 3  
EPA Data Sources: none  
Other Sources: National Climatic Data Center (MAA)  
Sponsoring Agency: Department of Commerce  
Keywords:  
Status: Proposed

**Total unreclaimed noncoal mined acres in the Tennessee Valley**

Hierarchical Level: 4  
EPA Data Sources: none  
Other Sources: Water Resource and Ecological Monitoring  
Sponsoring Agency: Tennessee Valley Authority  
Keywords:  
Status: Currently reported

**Trends in Finfish in the Chesapeake Bay: Striped Bass**

**Hierarchical Level:** 6  
**EPA Data Sources:** CBPO database  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Chesapeake Bay  
**Keywords:**  
**Status:** Proposed

**Trends in Finfish in the Chesapeake Bay: White Perch**

**Hierarchical Level:** 6  
**EPA Data Sources:** CBPO database  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Chesapeake Bay  
**Keywords:**  
**Status:** Proposed

**Trends in Shellfish in the Chesapeake Bay: Blue Crab**

**Hierarchical Level:** 6  
**EPA Data Sources:** CBPO database  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Chesapeake Bay  
**Keywords:**  
**Status:** Proposed

**Trends in Shellfish in the Chesapeake Bay: Oysters**

**Hierarchical Level:** 6  
**EPA Data Sources:** CBPO database  
**Other Sources:**  
**Sponsoring Agency:** EPA/Chesapeake Bay  
**Keywords:**  
**Status:** Proposed

**Trends in Waterfowl in and around the Chesapeake Bay**

**Hierarchical Level:** 6  
**EPA Data Sources:** CBPO database  
**Other Sources:** USFWS database  
**Sponsoring Agency:** EPA/Chesapeake Bay  
**Keywords:**  
**Status:** Proposed

**Trends in wetlands**

**Hierarchical Level:** 4  
**EPA Data Sources:** none  
**Other Sources:** National Wetlands Inventory, National Wetlands Map (USGS)  
**Sponsoring Agency:** Department of the Interior  
**Keywords:**  
**Status:** Proposed

**Variability/diversity in populations, communities, ecosystems, genetic variability with populations**

**Hierarchical Level:** 4  
**EPA Data Sources:** To be determined  
**Other Sources:** To be determined  
**Sponsoring Agency:** Department of the Interior  
**Keywords:**  
**Status:** Proposed

**Volume of hardwood and softwood growing stock on commercial forest lands in the Tennessee Valley**

**Hierarchical Level:** 4  
**EPA Data Sources:** none  
**Other Sources:** Water Resource and Ecological Monitoring  
**Sponsoring Agency:** Tennessee Valley Authority  
**Keywords:**  
**Status:** Currently reported

**Waterfowl ponds**

**Hierarchical Level:** 4  
**EPA Data Sources:** none  
**Other Sources:** Waterfowl Breeding Population and Habitat Survey  
**Sponsoring Agency:** Department of the Interior  
**Keywords:**  
**Status:** Currently reported

**Waterfowl population estimates**

**Hierarchical Level:** 4  
**EPA Data Sources:** none  
**Other Sources:** Waterfowl Breeding Population and Habitat Survey  
**Sponsoring Agency:** Department of the Interior  
**Keywords:**  
**Status:** Currently reported

**Waters meet aquatic life designated uses**

**Hierarchical Level:** 4  
**EPA Data Sources:** 305(b) and STORET/WBS (both available now but need improvement)  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Proposed

**4.8 EPA Goal Topic: Safe Food****Commodities residue levels**

**Hierarchical Level:** 6  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Prevention, Pollution and Toxic Substances  
**Keywords:**  
**Status:** Proposed

**Comparative use of pesticides and estimated ecological risk on indicator crops**

**Hierarchical Level:** 6  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Prevention, Pollution and Toxic Substances  
**Keywords:**  
**Status:** Proposed

**Disease outbreaks from fish and shellfish consumption**

**Hierarchical Level:** 6  
**EPA Data Bases:** ODES/STORET (limited data available now)  
**Other Sources:** CDC (limited data available now)  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Currently reported

**Fish advisories**

**Hierarchical Level:** 4  
**EPA Data Sources:** 305(b) and STORET/WBS (both available but need improvement) and EMAP and OST - FAD (both have limited data available now)  
**Other Sources:** NOAA - NS&T (available now but needs improvement); USFWS - NCBP; and USGS - NAWQA (both have limited data available now)  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Currently reported

**Industry reported releases and transfers of toxic substances**

**Hierarchical Level:** 3  
**EPA Data Sources:** TRI, CBPO databases  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Chesapeake Bay Program  
**Keywords:**  
**Status:** Currently reported

**Infant mortality rates**

**Hierarchical Level:** 6  
**EPA Data Sources:** To be determined  
**Other Sources:** National Vital Statistics System, Linked Birth and Infant Death Data System  
**Sponsoring Agency:** Department of Health and Human Services  
**Keywords:**  
**Status:** Currently reported

**Integrated pest management (IPM) practices and alternatives to chemical control, by crop**

**Hierarchical Level:** 2-3  
**EPA Data Sources:** none  
**Other Sources:** To be determined  
**Sponsoring Agency:** Department of Agriculture  
**Keywords:**  
**Status:** Currently reported

**Kepone in finfish tissue in the Chesapeake Bay**

**Hierarchical Level:** 6  
**EPA Data Sources:** CBPO database  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Chesapeake Bay Program  
**Keywords:**  
**Status:** Currently reported

**Nitrogen concentrations in the Chesapeake Bay**

**Hierarchical Level:** 4  
**EPA Data Sources:** CBPO database  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Chesapeake Bay Program  
**Keywords:**  
**Status:** Currently reported

**Nonpoint source nitrogen loadings in the Chesapeake Bay**

**Hierarchical Level:** 3  
**EPA Data Sources:** CBPO database  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Chesapeake Bay Program  
**Keywords:**  
**Status:** Currently reported

**Nonpoint source phosphorus loadings in the Chesapeake Bay**

**Hierarchical Level:** 3  
**EPA Data Sources:** CBPO database  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Chesapeake Bay Program  
**Keywords:**  
**Status:** Currently reported

**Number of carcinogens removed from registered pesticides**

**Hierarchical Level:** 2  
**EPA Data Sources:** To be determined  
**Other Sources:** To be determined  
**Sponsoring Agency:** EPA/Office of Prevention, Pollution and Toxic Substances  
**Keywords:**  
**Status:** Proposed

**Pesticide intakes from food**

**Hierarchical Level:** 6  
**EPA Data Sources:** Anticipated Residues in Food  
**Other Sources:** To be determined  
**Sponsoring Agency:** Department of Agriculture  
**Keywords:**  
**Status:** Proposed

**Pesticide residues in food**

**Hierarchical Level:** 6  
**EPA Data Sources:** Anticipated Residues in Food  
**Other Sources:** To be determined  
**Sponsoring Agency:** Department of Agriculture  
**Keywords:**  
**Status:** Proposed

**Pesticide tolerance exceedances**

**Hierarchical Level:** 6  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Prevention, Pollution and Toxic Substances  
**Keywords:**  
**Status:** Proposed

**Pesticide usage/human and ecological risk index**

**Hierarchical Level:** 6  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Prevention, Pollution and Toxic Substances  
**Keywords:**  
**Status:** Proposed

**Phosphorous concentrations in the Chesapeake Bay**

**Hierarchical Level:** 4  
**EPA Data Sources:** CBPO database  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Chesapeake Bay Program  
**Keywords:**  
**Status:** Currently reported



**Point source nitrogen loadings in the Chesapeake Bay**

**Hierarchical Level:** 3  
**EPA Data Sources:** CBPO database  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Chesapeake Bay Program  
**Keywords:**  
**Status:** Currently reported

**Point source phosphorus loadings in the Chesapeake Bay**

**Hierarchical Level:** 3  
**EPA Data Sources:** CBPO database  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Chesapeake Bay Program  
**Keywords:**  
**Status:** Currently reported

**Poisoning incidence reporting (human and ecological incidence)**

**Hierarchical Level:** 6  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Prevention, Pollution and Toxic Substances  
**Keywords:**  
**Status:** Proposed

**Shellfish bed closures**

**Hierarchical Level:** 4  
**EPA Data Sources:** 305(b) and STORET/WBS (both available now but need improvement)  
**Other Sources:** NOAA - NSR and NOAA - NS&T (both available now but need improvement)  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Proposed

**Waters meet fish and shellfish consumption designated uses**

**hierarchical level:** 4  
**EPA Data Sources:** 305(b) and STORET/WBS (both available but need improvement)  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Proposed

**Waters with fish contaminant levels of concern to human health****Hierarchical Level:** 4**EPA Data Sources:** 305(b), STORET/WBS and ODES (all available now but need improvement); EMAP (limited data available now); and OST - NFTD (no data available now)**Other Sources:** NOAA - NS&T and USGS - NAWQA (available now but needs improvement); SFWS - NCBP (limited data available now)**Sponsoring Agency:** EPA/Office of Water**Keywords:****Status:** Proposed

#### 4.9 EPA Goal Topic: Cleanup of Contaminated Sites

##### Control of contaminant releases at high priority hazardous waste sites

Hierarchical Level: 3  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: EPA/Office of Solid Waste and Emergency Response  
Keywords:  
Status: Proposed

##### Extent of contaminated sites

Hierarchical Level: 4  
EPA Data Sources: 305(b), Superfund and BIOS/STORET (all have data available but need improvement) and CSSI (no data available now), RCRIS, CERCLIS  
Other Sources: NOAA - NS&T and USGS - NAWQA (both have limited data available now)  
Sponsoring Agency: EPA/Office of Water  
Keywords:  
Status: Proposed

##### Federal expenditures on the environment

Hierarchical Level: 1  
EPA Data Sources: none  
Other Sources: Survey of Pollution Abatement Costs and Expenditures  
Sponsoring Agency: Department of Commerce  
Keywords:  
Status: Proposed

##### Number of exceedances of surface water quality standards, criteria levels of biological, chemical, parameters, and standards

Hierarchical Level: 4  
EPA Data Sources: To be determined  
Other Sources: National Water Summary (USGS)  
Sponsoring Agency: EPA/Office of Water  
Keywords:  
Status: Proposed

##### Number of leaking underground storage tanks cleaned up

Hierarchical Level: 3  
EPA Data Sources: STARS  
Other Sources: To be determined  
Sponsoring Agency: EPA/Office of Solid Waste and Emergency Response  
Keywords:  
Status: Proposed

**Number of sites at which cleanup has been initiated and/or progress has been made toward media cleanup goals established in the ROD**

**Hierarchical Level:** 3  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Number of sites where the immediate actions to protect nearby populations have been taken**

**Hierarchical Level:** 3  
**EPA Data Sources:** CERCLIS  
**Other Sources:** Census data  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Number of Superfund completions**

**Hierarchical Level:** 3  
**EPA Data Sources:** CERCLIS  
**Other Sources:** Site Completion Reports  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Number of underground storage tank site cleanups for petroleum releases completed**

**Hierarchical Level:** 2  
**EPA Data Sources:** STARS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Pollution abatement expenditures, by media and industry**

**Hierarchical Level:** 1-2  
**EPA Data Sources:** none  
**Other Sources:** Survey of Pollution Abatement Costs and Expenditures  
**Sponsoring Agency:** Department of Commerce  
**Keywords:**  
**Status:** Proposed

**Private expenditures on the environment**

**Hierarchical Level:** 2  
**EPA Data Sources:** none  
**Other Sources:** Survey of Pollution Abatement Costs and Expenditures  
**Sponsoring Agency:** Department of Commerce  
**Keywords:**  
**Status:** Proposed

**Selected water quality parameters**

**Hierarchical Level:** 4  
**EPA Data Sources:** EMAP and BIOS/STORET (both have limited data available now)  
**Other Sources:** USGS - NASQAN Stations and USGS - NAWQA (both have limited data available now) and National Monitoring Systems Stations (no data available now)  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Proposed

**State environmental expenditures**

**Hierarchical Level:** 1  
**EPA Data Sources:** none  
**Other Sources:** Survey of Pollution Abatement Costs and Expenditures  
**Sponsoring Agency:** Department of Commerce  
**Keywords:**  
**Status:** Proposed

**Water quality standards attainment**

**Hierarchical Level:** 4  
**EPA Data Sources:** 305(b) (data available but needs improvement) and 303(d), 304(l), and BIOS/STORET (all have limited data available now)  
**Other Sources:** USGS - NAWQA (limited data available now)  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Proposed

**4.10 EPA Goal Topic: Worker Health and Safety**

**Aggregate/cumulative reduction of exposure hours at schools having completed asbestos abatement projects**

**Hierarchical Level:** 6  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Prevention, Pesticides and Toxic Substances  
**Keywords:**  
**Status:** Proposed

**Asthma morbidity as measured by asthma hospitalization**

**Hierarchical Level:** 5  
**EPA Data Sources:** none  
**Other Sources:** National Hospital Discharge Survey  
**Sponsoring Agency:** Department of Health and Human Services  
**Keywords:**  
**Status:** Currently reported

**Hours of fieldwork in fruit and vegetable crops, i.e., exposure to treated fields**

**Hierarchical Level:** 5-6  
**EPA Data Sources:** none  
**Other Sources:** To be determined  
**Sponsoring Agency:** Department of Agriculture  
**Keywords:**  
**Status:** Currently reported

**Hours of work and numbers of workers applying pesticides**

**Hierarchical Level:** 5-6  
**EPA Data Sources:** none  
**Other Sources:** To be determined  
**Sponsoring Agency:** Department of Agriculture  
**Keywords:**  
**Status:** Currently reported

**Number of acres treated with pesticides with pesticides containing toxics**

**Hierarchical Level:** 5  
**EPA Data Sources:** To be determined  
**Other Sources:** To be determined  
**Sponsoring Agency:** Department of Agriculture  
**Keywords:**  
**Status:** Proposed

**Number of exposures which result in workers having blood lead concentrations greater than 25 µg/dL of whole blood**

**Hierarchical Level:** 4  
**EPA Data Sources:** none  
**Other Sources:** NIOSH  
**Sponsoring Agency:** Department of Health and Human Services  
**Keywords:**  
**Status:** Currently reported

**Number of incidences of and deaths from cancer**

**Hierarchical Level:** 6  
**EPA Data Sources:** To be determined  
**Other Sources:** National Vital Statistics System  
**Sponsoring Agency:** Department of Health and Human Services  
**Keywords:**  
**Status:** Currently reported

**Number of occupational skin disorders or disease**

**Hierarchical Level:** 5  
**EPA Data Sources:** none  
**Other Sources:** Annual Survey of Occupational Injuries and Illnesses  
**Sponsoring Agency:** Department of Health and Human Services  
**Keywords:**  
**Status:** Currently reported

**Number of states in which at least 75 percent of local jurisdictions have adopted construction standards and techniques that minimize elevated indoor radon levels**

**Hierarchical Level:** 1  
**EPA Data Sources:** To be determined  
**Other Sources:** Environmental Law Institute  
**Sponsoring Agency:** Department of Health and Human Services  
**Keywords:**  
**Status:** Proposed

**Number of states with exposure standards adequate to prevent the major occupational lung diseases to which their worker populations are exposed**

**Hierarchical Level:** 1  
**EPA Data Sources:** none  
**Other Sources:** Public Health Foundation  
**Sponsoring Agency:** Department of Health and Human Services  
**Keywords:**  
**Status:** Proposed

**Percent of individuals that work in buildings that meet or exceed current ASHRAE standards**

**Hierarchical Level:** 4  
**EPA Data Sources:** none  
**Other Sources:** OSHA databases  
**Sponsoring Agency:** Department of Labor  
**Keywords:**  
**Status:** Proposed

**Percent of smoke free environments versus total environments**

**Hierarchical Level:** 4  
**EPA Data Sources:** none  
**Other Sources:** OSHA databases  
**Sponsoring Agency:** Department of Labor  
**Keywords:**  
**Status:** Proposed

**Person-hours of exposure to new chemicals**

**Hierarchical Level:** 5  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Prevention, Pesticides and Toxic Substances  
**Keywords:**  
**Status:** Proposed

**Types of protective equipment used by applicators on fruit and vegetable operations**

**Hierarchical Level:** 2-3  
**EPA Data Sources:** none  
**Other Sources:** To be determined  
**Sponsoring Agency:** Department of Agriculture  
**Keywords:**  
**Status:** Currently reported

**Worker right to know**

**Hierarchical Level:** 2  
**EPA Data Sources:** none  
**Other Sources:** OSHA databases  
**Sponsoring Agency:** Department of Labor  
**Keywords:**  
**Status:** Proposed



#### **4.11 EPA Goal Topic: Prevention of Oil Spills and Chemical Accidents**

##### **33/50 Program: Reduction Commitments as of February 1992**

**Hierarchical Level:** 2  
**EPA Data Sources:** TRI  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

##### **Accumulation of radioactive wastes**

**Hierarchical Level:** 3  
**EPA Data Sources:** none  
**Other Sources:** To be determined  
**Sponsoring Agency:** Department of Energy  
**Keywords:**  
**Status:** Proposed

##### **Amount of municipal solid waste disposed of or sent to landfills or incinerators (nationally or by state)**

**Hierarchical Level:** 3  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

##### **Amount of municipal solid waste recycled annually (nationally and by state)**

**Hierarchical Level:** 3  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

##### **Amount of solid-waste-related, water, air and soil contamination in pounds per person**

**Hierarchical Level:** 3  
**EPA Data Sources:** Characterization of Municipal Solid Waste in the U.S.  
**Other Sources:** none  
**Sponsoring Agency:** Department of Health and Human Services  
**Keywords:**  
**Status:** Currently reported

##### **Federal expenditures on the environment**

**Hierarchical Level:** 1  
**EPA Data Sources:** none  
**Other Sources:** Survey of Pollution Abatement Costs and Expenditures  
**Sponsoring Agency:** Department of Commerce  
**Keywords:**  
**Status:** Proposed

**Key wetweather conventional pollutants from nonpoint sources and stormwater**

**Hierarchical Level:** 3  
**EPA Data Sources:** EMAP and RCW Program (both have limited data available now) and 319 Program and NPDES Stormwater Permit Program (both have no data available now)  
**Other Sources:** USGS - NAWQA (limited data available now); NOAA - NCDPI (data available but needs improvement); and CZM Program (no data available now)  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Currently reported

**Key Wetweather conventionals from CSOs**

**Hierarchical Level:** 3  
**EPA Data Sources:** Needs Survey (data available but needs improvement) and PCS, TRI, and NPDES Permits (all have limited data available now)  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Currently reported

**Marine debris**

**Hierarchical Level:** 6  
**EPA Data Sources:** EMAP (limited data available now)  
**Other Sources:** Center for Marine Conservation (data available but needs improvement) and NOAA (limited data available now)  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Currently reported

**Number and percentage of sites with groundwater contamination from underground storage tanks**

**Hierarchical Level:** 4  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Number and percentage of underground storage tanks tested (tightness test)**

**Hierarchical Level:** 4  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Number of BMP's implemented at State and local level**

**Hierarchical Level:** 2  
**EPA Data Sources:** RCW Program (limited data available now) and 319 Program and NPDES Stormwater Permit Program (both have no data available now)  
**Other Sources:** USGS - NAWQA (limited data available now) and NOAA - NCPDI (data available but needs improvement)  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Currently reported

**Number of companies selling release detection devices and number of devices sold**

**Hierarchical Level:** 2  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Number of households and wells affected by releases from underground storage tanks**

**Hierarchical Level:** 5  
**EPA Data Sources:** HWIW, STARS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Number of petroleum releases under control**

**Hierarchical Level:** 3  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Number of releases reported to the Emergency Response Notification System (ERNS)**

**Hierarchical Level:** 3  
**EPA Data Sources:** ERNS  
**Other Sources:** To be determined  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Number of State and Local Governments requiring treatment of stormwater runoff from rural, suburban and urban land uses**

**Hierarchical Level:** 2  
**EPA Data Sources:** RCW Program (limited data available now) and 319 Program and NPDES Stormwater Permit Program (both have no data available now)  
**Other Sources:** USGS - NAWQA (limited data available now) and NOAA - NCPDI (data available but needs improvement)  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Currently reported

**Number of states in which plans to define and track sentinel environmental diseases are established and monitored**

**Hierarchical Level:** 1  
**EPA Data Sources:** To be determined  
**Other Sources:** Centers for Environmental Health and Injury Control  
**Sponsoring Agency:** Department of Health and Human Services  
**Keywords:**  
**Status:** Proposed

**Number of underground storage tank closures reported**

**Hierarchical Level:** 2  
**EPA Data Sources:** STARS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Number of underground storage tank reported confirmed releases**

**Hierarchical Level:** 3  
**EPA Data Sources:** STARS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Number of upgraded underground storage tanks**

**Hierarchical Level:** 3  
**EPA Data Sources:** STARS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Point source toxics**

**Hierarchical Level:** 3  
**EPA Data Sources:** NPDES Permits, TRI, PCS, and Needs Survey (all have data available but need improvement) and STORET (limited data available now)  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Currently reported

**Pollutant loading to ground water from underground injection wells**

**Hierarchical Level:** 3  
**EPA Data Sources:** TRI (data available but needs improvement) and STORET (limited data available now)  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Currently reported

**Pollution abatement expenditures, by media and industry**

**Hierarchical Level:** 1-2  
**EPA Data Sources:** none  
**Other Sources:** Survey of Pollution Abatement Costs and Expenditures  
**Sponsoring Agency:** Department of Commerce  
**Keywords:**  
**Status:** Proposed

**Private expenditures on the environment**

**Hierarchical Level:** 2  
**EPA Data Sources:** none  
**Other Sources:** Survey of Pollution Abatement Costs and Expenditures  
**Sponsoring Agency:** Department of Commerce  
**Keywords:**  
**Status:** Proposed

**Selected conventional pollutants: TSS, BOD, Fecal Coliform & Nutrients**

**Hierarchical Level:** 3  
**EPA Data Sources:** Needs Survey (data available but needs improvement) and PCS, EMAP, STORET, and NPDES permits (all have limited data available now)  
**Other Sources:** NOAA - NCPDI (data available but needs improvement) and USGS - NAWQA (limited data available now)  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Currently reported

**State environmental expenditures**

**Hierarchical Level:** 1  
**EPA Data Sources:** none  
**Other Sources:** Survey of Pollution Abatement Costs and Expenditures  
**Sponsoring Agency:** Department of Commerce  
**Keywords:**  
**Status:** Proposed

**Toxic chemical releases and transfers from Major Manufacturing Point Sources**

**Hierarchical Level:** 3  
**EPA Data Sources:** TRI, RCRIS, CERCLIS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Volume and toxicity of waste streams targeted for waste minimization activities**

**Hierarchical Level:** 3  
**EPA Data Sources:** TRI, RCRIS, CERCLIS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

#### 4.12 EPA Goal Topic: Prevention of Wastes and Harmful Chemical Releases

##### 33/50 Programs reported reductions

Hierarchical Level: 2  
EPA Data Sources: TRI  
Other Sources: none  
Sponsoring Agency: EPA/Office of Solid Waste and Emergency Response  
Keywords:  
Status: Proposed

##### Aggregate/cumulative reduction of exposure hours at schools having completed asbestos abatement projects

Hierarchical Level: 5  
EPA Data Sources: To be determined  
Other Sources: none  
Sponsoring Agency: EPA/Office of Pesticides and Toxic Substances  
Keywords:  
Status: Proposed

##### Amount of municipal solid waste disposed of or sent to landfills or incinerators (nationally or by state)

Hierarchical Level: 3  
EPA Data Sources: Characterization of Municipal Solid Waste  
Other Sources: none  
Sponsoring Agency: EPA/Office of Solid Waste and Emergency Response  
Keywords:  
Status: Proposed

##### Amount of municipal solid waste recycled annually (nationally and by state)

Hierarchical Level: 3  
EPA Data Sources: Characterization of Municipal Solid Waste  
Other Sources: none  
Sponsoring Agency: EPA/Office of Solid Waste and Emergency Response  
Keywords:  
Status: Proposed

##### Amount of solid-waste-related, water, air and soil contamination in pounds per person

Hierarchical Level: 3  
EPA Data Sources: Characterization of Municipal Solid Waste in the U.S.  
Other Sources: none  
Sponsoring Agency: Department of Health and Human Services  
Keywords:  
Status: Currently reported

**Capacities of various treatment types in the Tennessee Valley States**

Hierarchical Level: 4  
 EPA Data Sources: none  
 Other Sources: Water Resource and Ecological Monitoring  
 Sponsoring Agency: Tennessee Valley Authority  
 Keywords:  
 Status: Currently reported

**Discharges in significant noncompliance**

Hierarchical Level: 2  
 EPA Data Sources: NPDES  
 Other Sources: none  
 Sponsoring Agency: EPA/Chesapeake Bay Program  
 Keywords:  
 Status: Currently reported

**Environmental releases of PMN substances**

Hierarchical Level: 3  
 EPA Data Sources: To be determined  
 Other Sources: none  
 Sponsoring Agency: EPA/Office of Pesticides and Toxic Substances  
 Keywords:  
 Status: Proposed

**Federal expenditures on the environment**

Hierarchical Level: 1  
 EPA Data Sources: none  
 Other Sources: Survey of Pollution Abatement Costs and Expenditures  
 Sponsoring Agency: Department of Commerce  
 Keywords:  
 Status: Proposed

**Industry reported releases and transfers of toxic substances**

Hierarchical Level: 3  
 EPA Data Sources: TRI, CBPO databases  
 Other Sources: none  
 Sponsoring Agency: EPA/Chesapeake Bay Program  
 Keywords:  
 Status: Currently reported

**Key wetweather conventional pollutants from nonpoint sources and stormwater**

Hierarchical Level: 3  
 EPA Data Sources: EMAP and RCW Program (both have limited data available now) and 319 Program and NPDES Stormwater Permit Program (both have no data available now)  
 Other Sources: USGS - NAWQA (limited data available now); NOAA - NCDPI (data available but needs improvement); and CZM Program (no data available now)  
 Sponsoring Agency: EPA/Office of Water  
 Keywords:  
 Status: Currently reported



**Key wetweather conventionals from CSOs**

**Hierarchical Level:** 3  
**EPA Data Sources:** Needs Survey (data available but needs improvement) and PCS, TRI, and NPDES Permits (all have limited data available now)  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Currently reported

**Lead emissions in the U.S.**

**Hierarchical Level:** 3  
**EPA Data Sources:** To be determined  
**Other Sources:** To be determined  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Marine debris**

**Hierarchical Level:** 6  
**EPA Data Sources:** EMAP (limited data available now)  
**Other Sources:** Center for Marine Conservation (data available but needs improvement) and NOAA (limited data available now)  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Currently reported

**Monitoring of releases at disposal sites**

**Hierarchical Level:** 2  
**EPA Data Sources:** TRI  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Air and Radiation  
**Keywords:**  
**Status:** Proposed

**Municipal Solid Waste Management Trends**

**Hierarchical Level:** 3  
**EPA Data Sources:** RCRIS, BRS, Characterization of Municipal Solid Waste  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Currently reported

**National index based on emissions of indicator chemicals (TRI)**

**Hierarchical Level:** 3  
**EPA Data Sources:** TRI  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Pesticides and Toxic Substances  
**Keywords:**  
**Status:** Proposed

**Number and percentage of sites with groundwater contamination from underground storage tanks**

**Hierarchical Level:** 4  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Number and percentage of underground storage tanks tested (tightness test)**

**Hierarchical Level:** 4  
**EPA Data Sources:** STARS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Number of BMP's implemented at State and Local level**

**Hierarchical Level:** 2  
**EPA Data Sources:** RCW Program (limited data available now) and 319 Program and NPDES Stormwater Permit Program (both have no data available now)  
**Other Sources:** USGS - NAWQA (limited data available now) and NOAA - NCPDI (data available but needs improvement)  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Currently reported

**Number of Class I violations found at the last inspection by number of facilities and volume of waste**

**Hierarchical Level:** 1  
**EPA Data Sources:** RCRIS, BRS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Currently reported

**Number of companies selling release detection devices and number of devices sold**

**Hierarchical Level:** 2  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Number of environmental pathways in which environmental progress is documented annually**

**Hierarchical Level:** 2  
**EPA Data Sources:** TRI, RCRIS, CERCLIS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Number of hazardous waste generators reporting waste minimization activities (OSWER Generator Survey)**

**Hierarchical Level:** 2  
**EPA Data Sources:** TRI, RCRIS, CERCLIS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Number of households and wells affected by releases from underground storage tanks**

**Hierarchical Level:** 5  
**EPA Data Sources:** HWIW, STARS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Number of incidences of and deaths from cancer**

**Hierarchical Level:** 6  
**EPA Data Sources:** To be determined  
**Other Sources:** National Vital Statistics System  
**Sponsoring Agency:** Department of Health and Human Services  
**Keywords:**  
**Status:** Currently reported

**Number of sites achieving permanent risk reduction**

**Hierarchical Level:** 3  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Number of State and Local Governments requiring treatment of stormwater runoff from Rural, Suburban and Urban Land Uses**

**Hierarchical Level:** 2  
**EPA Data Sources:** RCW Program (limited data available now) and 319 Program and NPDES Stormwater Permit Program (both have no data available now)  
**Other Sources:** USGS - NAWQA (limited data available now) and NOAA - NCPDI (data available but needs improvement)  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Currently reported

**Number of states in which plans to define and track sentinel environmental diseases are established and monitored**

**Hierarchical Level:** 1  
**EPA Data Sources:** To be determined  
**Other Sources:** Centers for Environmental Health and Injury Control  
**Sponsoring Agency:** Department of Health and Human Services  
**Keywords:**  
**Status:** Proposed

**Number of Subtitle C Facilities conducting investigations and controlling releases, by priority ranking**

**Hierarchical Level:** 2  
**EPA Data Sources:** RCRIS, BRS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Currently reported

**Number of underground storage tank closures reported**

**Hierarchical Level:** 2  
**EPA Data Sources:** STARS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Number of underground storage tank reported confirmed releases**

**Hierarchical Level:** 3  
**EPA Data Sources:** STARS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Number of upgraded underground storage tanks**

**Hierarchical Level:** 2-3  
**EPA Data Sources:** STARS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Oil and hazardous waste spills in waterways**

**Hierarchical Level:** 3  
**EPA Data Sources:** none  
**Other Sources:** To be determined  
**Sponsoring Agency:** Department of Transportation  
**Keywords:**  
**Status:** Proposed

**Percent of hazardous waste generators that initiated or expanded source reduction or recycling activities in 1989**

**Hierarchical Level:** 2  
**EPA Data Sources:** RCRIS, BRS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Currently reported

**Point source toxics**

**Hierarchical Level:** 3  
**EPA Data Sources:** NPDES Permits, TRI, PCS, and Needs Survey (all have data available but need improvement) and STORET (limited data available now)  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Currently reported

**Pollutant loading to ground water from underground injection wells**

**Hierarchical Level:** 3  
**EPA Data Sources:** TRI (data available but needs improvement) and STORET (limited data available now)  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Currently reported

**Pollution abatement expenditures, by media and industry**

**Hierarchical Level:** 1  
**EPA Data Sources:** none  
**Other Sources:** Survey of Pollution Abatement Costs and Expenditures  
**Sponsoring Agency:** Department of Commerce  
**Keywords:**  
**Status:** Proposed

**Post-hoc analysis of casualties and estimation of casualties avoided due to response**

**Hierarchical Level:** 6  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Air and Radiation  
**Keywords:**  
**Status:** Proposed

**Private expenditures on the environment**

**Hierarchical Level:** 2  
**EPA Data Sources:** none  
**Other Sources:** Survey of Pollution Abatement Costs and Expenditures  
**Sponsoring Agency:** Department of Commerce  
**Keywords:**  
**Status:** Proposed

**Quantities of hazardous waste managed at Subtitle C Facilities by management practice**

**Hierarchical Level:** 2  
**EPA Data Sources:** RCRIS, BRS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Currently reported

**Quantities of hazardous wastewater and non-wastewater generated by SIC code**

**Hierarchical Level:** 3  
**EPA Data Sources:** RCRIS, BRS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Currently reported

**Quantities of primary hazardous waste generated by SIC code**

**Hierarchical Level:** 3  
**EPA Data Sources:** RCRIS, BRS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Currently reported

**Quantities of waste managed permanently**

**Hierarchical Level:** 3  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Quantity of hazardous waste generated (OSWER Generator Survey)**

**Hierarchical Level:** 3  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Ratio of hazardous waste generated to production quantity ratio (OSWER Generator Survey)**

**Hierarchical Level:** 3  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Recreational boat wastes**

**Hierarchical Level:** 2  
**EPA Data Sources:** CBPO database  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Chesapeake Bay  
**Keywords:**  
**Status:** Currently reported

**Selected conventional pollutants: TSS, BOD, Fecal Coliform & Nutrients**

**Hierarchical Level:** 3  
**EPA Data Sources:** Needs Survey (data available but needs improvement) and PCS, EMAP, STORET, and NPDES permits (all have limited data available now)  
**Other Sources:** NOAA - NCPDI (data available but needs improvement) and USGS - NAWQA (limited data available now)  
**Sponsoring Agency:** EPA/Office of Water  
**Keywords:**  
**Status:** Currently reported

**Special national index based on multimedia releases of 17 chemical targeted by Administrator (TRI)**

**Hierarchical Level:** 3  
**EPA Data Sources:** TRI  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Pesticides and Toxic Substances  
**Keywords:**  
**Status:** Proposed

**State environmental expenditures**

**Hierarchical Level:** 1  
**EPA Data Sources:** none  
**Other Sources:** Survey of Pollution Abatement Costs and Expenditures  
**Sponsoring Agency:** Department of Commerce  
**Keywords:**  
**Status:** Proposed

**Status of Subtitle C Facilities in the Corrective Action Program**

**Hierarchical Level:** 2  
**EPA Data Sources:** RCRIS, BRS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Currently reported

**Trends in per capita municipal solid waste generation**

**Hierarchical Level:** 3  
**EPA Data Sources:** RCRIS, BRS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Currently reported

**Trends in the recovery of municipal solid waste for recycling**

**Hierarchical Level:** 3  
**EPA Data Sources:** RCRIS, BRS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Currently reported

**Trends in number of household hazardous waste collection programs**

**Hierarchical Level:** 2  
**EPA Data Sources:** RCRIS, BRS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Currently reported

**Trends in total municipal solid waste generation**

**Hierarchical Level:** 3  
**EPA Data Sources:** RCRIS, BRS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Currently reported

**Volume and toxicity of waste streams targeted for waste minimization activities**

**Hierarchical Level:** 3  
**EPA Data Sources:** TRI, BRS  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Solid Waste and Emergency Response  
**Keywords:**  
**Status:** Proposed

**Volume of hazardous waste produced in the Tennessee River Drainage area**

**Hierarchical Level:** 3  
**EPA Data Sources:** none  
**Other Sources:** Water Resource and Ecological Monitoring  
**Sponsoring Agency:** Tennessee Valley Authority  
**Keywords:**  
**Status:** Currently reported



#### 4.13 EPA Goal Topic: Improved Understanding of the Environment

Amount of recyclables collected compared to the amount of recycled materials used in the production of new products

Hierarchical Level: 3  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: EPA/Office of Solid Waste and Emergency Response  
Keywords:  
Status: Proposed

Dollar value of federal environmental enforcement

Hierarchical Level: 1  
EPA Data Sources: none  
Other Sources: To be determined  
Sponsoring Agency: Department of Justice  
Keywords:  
Status: Proposed

Federal fines collected for environmental crimes

Hierarchical Level: 1  
EPA Data Sources: none  
Other Sources: To be determined  
Sponsoring Agency: Department of Justice  
Keywords:  
Status: Proposed

Federal indictments for environmental crimes

Hierarchical Level: 1  
EPA Data Sources: none  
Other Sources: To be determined  
Sponsoring Agency: Department of Justice  
Keywords:  
Status: Proposed

Number and percentage of underground storage tanks tested (tightness tests)

Hierarchical Level: 4  
EPA Data Sources: To be determined  
Other Sources: none  
Sponsoring Agency: EPA/Office of Solid Waste and Emergency Response  
Keywords:  
Status: Proposed

Number of companies selling release detection devices and number of devices sold

Hierarchical Level: 2  
EPA Data Sources: To be determined  
Other Sources: none  
Sponsoring Agency: EPA/Office of Solid Waste and Emergency Response  
Keywords:  
Status: Proposed

Number of cooperative actions and partnerships with state, other federal agencies, private companies, private individuals, and non-profit groups on riparian wetlands

Hierarchical Level: 1  
EPA Data Sources: none  
Other Sources: State Bureau of Land Management offices  
Sponsoring Agency: DOI/Bureau of Land Management  
Keywords:  
Status: Currently reported

Number of major EPA Data Sets accessible to the public

Hierarchical Level: 1  
EPA Data Sources: To be determined  
Other Sources: To be determined  
Sponsoring Agency: EPA  
Keywords:  
Status: Proposed

Number of public presentation, talks, and demonstrations on riparian wetlands

Hierarchical Level: 2  
EPA Data Sources: none  
Other Sources: State Bureau of Land Management offices  
Sponsoring Agency: DOI/Bureau of Land Management  
Keywords:  
Status: Currently reported

Number of research projects on riparian wetlands

Hierarchical Level: 2  
EPA Data Sources: none  
Other Sources: State Bureau of Land Management offices  
Sponsoring Agency: DOI/Bureau of Land Management  
Keywords:  
Status: Currently reported

Number of states in which at least 75 percent of local jurisdictions have adopted construction standards and techniques that minimize elevated indoor radon levels

Hierarchical Level: 1  
EPA Data Sources: To be determined  
Other Sources: Environmental Law Institute  
Sponsoring Agency: Department of Health and Human Services  
Keywords:  
Status: Proposed

Number of states in which plans to define and track sentinel environmental diseases are established and monitored

Hierarchical Level: 1  
EPA Data Sources: To be determined  
Other Sources: Centers for Environmental Health and Injury Control  
Sponsoring Agency: Department of Health and Human Services  
Keywords:  
Status: Proposed

**Number of states with exposure standards adequate to prevent the major occupational lung diseases to which their worker populations are exposed**

**Hierarchical Level:** 1  
**EPA Data Sources:** none  
**Other Sources:** Public Health Foundation  
**Sponsoring Agency:** Department of Health and Human Services  
**Keywords:**  
**Status:** Proposed

**Number of workshops, training sessions, and seminars on riparian wetlands**

**Hierarchical Level:** 2  
**EPA Data Sources:** none  
**Other Sources:** State Bureau of Land Management offices  
**Sponsoring Agency:** DOI/Bureau of Land Management  
**Keywords:**  
**Status:** Currently reported

**Pesticide use in lawn care and structural use**

**Hierarchical Level:** 5-6  
**EPA Data Sources:** To be determined  
**Other Sources:** none  
**Sponsoring Agency:** EPA/Office of Prevention, Pesticides and Toxic Substances  
**Keywords:**  
**Status:** Proposed

**Volunteer monitors**

**Hierarchical Level:** 2  
**EPA Data Sources:** To be determined  
**Other Sources:** To be determined  
**Sponsoring Agency:** EPA/Chesapeake Bay  
**Keywords:**  
**Status:** Currently reported

## **5 LIST OF INDICATORS SORTED BY AGENCY**

This chapter lists the indicators detailed in Chapter 4 by relevant agency or program. Within each agency or program, the indicators are listed by goal topic, then alphabetically. As in Chapter 4, indicators relevant to two or more goal topics are presented with each relevant goal topic.

## **5.1 EPA/Chesapeake Bay Program Indicators**

### **Clean Surface Water**

- Bernie Fowler's Sneaker Index
- Chesapeake Bay Acres under integrated pest management
- Discharges in significant noncompliance
- Dissolved oxygen in the Chesapeake Bay
- Industry reported releases and transfers of toxic substances
- Kepone in finfish tissue
- Nitrogen concentrations in the bay
- Nonpoint source nitrogen loadings
- Nonpoint source phosphorus loadings
- Phosphorous concentrations in the bay
- Point source nitrogen loadings
- Point source phosphorus loadings
- Population and municipal sewage flow
- Recreational boat wastes

### **Ecological Protection**

- Acres of bay grasses
- Acres under integrated pest management
- Bald eagle population count
- Chesapeake Basin forests
- Chesapeake Basin land use
- Discharges in significant noncompliance
- Industry reported releases and transfers of toxic substances
- Nitrogen concentrations in the Chesapeake Bay
- Nonpoint source nitrogen loadings in the Chesapeake Bay
- Nonpoint source phosphorus loadings in the Chesapeake Bay
- Phosphorous concentrations in the Chesapeake Bay
- Point source nitrogen loadings in the Chesapeake Bay
- Point source phosphorus loadings in the Chesapeake Bay
- Stream miles opened for migratory fish around the Chesapeake Bay
- Trends in Finfish in the Chesapeake Bay: Striped Bass
- Trends in Finfish in the Chesapeake Bay: White Perch
- Trends in Shellfish in the Chesapeake Bay: Blue Crab
- Trends in Shellfish in the Chesapeake Bay: Oysters
- Trends in Waterfowl in and around the Chesapeake Bay

### **Improved Understanding of the Environment**

- Volunteer monitors

### **Prevention of Wastes and Harmful Chemical Releases**

- Discharges in significant noncompliance
- Industry reported releases and transfers of toxic substances
- Recreational boat wastes

### **Stratospheric Ozone Layer Protection**

- Chesapeake Basin Forests

**Safe Drinking Water**

- Discharges in significant noncompliance
- Industry reported releases and transfers of toxic substances
- Nitrogen concentrations in the bay
- Nonpoint source nitrogen loadings
- Nonpoint source phosphorus loadings
- Phosphorous concentrations in the Chesapeake Bay
- Point source nitrogen loadings in the Chesapeake Bay
- Point source phosphorus loadings in the Chesapeake Bay
- Population and municipal sewage flow

**Safe Food**

- Industry reported releases and transfers of toxic substances
- Kepon in finfish tissue in the Chesapeake Bay
- Nitrogen concentrations in the Chesapeake Bay
- Nonpoint source nitrogen loadings in the Chesapeake Bay
- Nonpoint source phosphorus loadings in the Chesapeake Bay
- Phosphorous concentrations in the Chesapeake Bay
- Point source nitrogen loadings in the Chesapeake Bay
- Point source phosphorus loadings in the Chesapeake Bay

## 5.2 EPA/Great Lakes National Program Office Indicators

### Clean Surface Water

- Nutrient concentrations in the Great Lakes
- Nutrient loadings to the Great Lakes

### Ecological Protection

- Chlordane in Great Lake lake trout
- Chlorinated aliphatic hydrocarbons in Great Lakes harbor and tributary fish samples
- Chlorinated aromatics in Great Lakes harbor and tributary fish samples
- Dacthal in Great Lake chinook
- DDT in Great Lake lake trout
- Dieldrin in Great Lake lake trout
- Endrine in Great Lake chinook
- Heptachlor epoxide in Great Lakes chinook
- Hexachlorobenze in Great Lakes chinook
- Ketones and aldehydes in Great Lakes tributary and harbor fish samples
- Methyl ether in Great Lakes chinook
- Monocyclic aromatics in Great Lakes fish samples
- PCBs in Great Lakes lake trout and rainbow smelt
- Phenols in Great Lakes fish samples
- Phthalates in Great Lakes harbor and tributary fish samples
- Polynuclear aromatic hydrocarbons (PAHs) in Great Lakes fish samples
- Contaminants in Great Lakes fishes
- Contaminants in herring gull eggs from Great Lakes

### **5.3 EPA/Office of Water Indicators**

#### **Clean Surface Water**

- Beach closures: miles closed and organism levels
- Disease outbreaks from swimming
- Ground water quality
- Number of aquifers in which the withdrawal exceeds the recharge
- Number of days a system is in compliance with drinking water standards as a percentage of total days the system is in operation
- Number of exceedances of critical low flow (safe yield to be established)
- Number of times surface water bodies exceed safe yield
- Per capita ground water and surface water withdrawals by use, including loss
- Percent of assessed river miles, lake acres, and estuary square miles fully supporting designated uses
- Reported attainment of Clean Water Act goals for rivers and streams, lakes, and estuaries
- Stream water quality, by pollution indicator
- Total ground water and surface water withdrawals by use, including loss
- Waters meet swimming and secondary contact designated uses

#### **Cleanup of Contaminated Sites**

- Extent of contaminated sites
- Number of exceedances of surface water quality standards, criteria levels of biological, chemical, parameters, and standards
- Selected water quality parameters
- Water quality standards attainment

#### **Ecological Protection**

- Benthic macroinvertebrates
- Faunal composition
- Fish (assemblage) or IBI-like index
- Floral composition
- Habitat (physical structure)
- Loss or gain of wetland acreage
- Number of aquifers in which the withdrawal exceeds the recharge
- Number of exceedances of critical low flow (safe yield to be established)
- Number of exceedances of surface water quality standards, criteria levels of biological, chemical, parameters, and standards
- Number of times surface water bodies exceed safe yield
- Per capita ground water and surface water withdrawals by use, including loss
- Plankton and periphyton assemblages
- Total ground water and surface water withdrawals by use, including loss
- Waters meet aquatic life designated uses



**Prevention of Oil Spills and Chemical Accidents**

- Key Wetweather conventional pollutants from nonpoint sources and stormwater
- Key Wetweather conventionals from CSOs
- Marine debris
- Number of BMP's implemented at State and local level
- Number of State and Local Governments requiring treatment of stormwater runoff from rural, suburban and urban land uses
- Point source toxics
- Pollutant loading to ground water from underground injection wells
- Selected conventional pollutants: TSS, BOD, Fecal Coliform & Nutrients

**Prevention of Wastes and Harmful Chemical Releases**

- Key wetweather conventional pollutants from nonpoint sources and stormwater
- Key wetweather conventionals from CSOs
- Marine debris
- Number of BMP's implemented at State and Local level
- Number of State and Local Governments requiring treatment of stormwater runoff from Rural, Suburban and Urban Land Uses
- Point source toxics
- Pollutant loading to ground water from underground injection wells
- Selected conventional pollutants: TSS, BOD, Fecal Coliform & Nutrients

**Safe Drinking Water**

- Drinking water (ground and surface waters) levels for individual contaminants
- Number of aquifers in which the withdrawal exceeds the recharge
- Number of community water systems in violation by contaminant group
- Number of days a system is in compliance with drinking water standards as a percentage of total days in operation
- Number of exceedances of critical low flow (safe yield to be established)
- Number of times surface water bodies exceed safe yield
- Per capita ground water and surface water withdrawals by use, including loss
- Population served by PWSS with wellhead protection
- Total ground water and surface water withdrawals by use, including loss
- Waters meet drinking water supply designated use

**Safe Food**

- Disease outbreaks from fish and shellfish consumption
- Fish advisories
- Shellfish bed closures
- Waters meet fish and shellfish consumption designated uses
- Waters with fish contaminant levels of concern to human health

## **5.4 EPA/Office of Air and Radiation Indicators**

### **Clean Air**

- Ambient concentration of toxics at points of human exposure
- Ambient levels of acidic aerosols
- Carbon monoxide concentration trends
- Carbon monoxide emission trends, by source
- Emissions of toxics from major stationary sources
- Estimates of toxics emissions (based on the number of sources in compliance with
- Hazardous air emissions, by source
- Lead concentration trends
- Lead emission trends, by source
- MACT standards, sources with voluntary reductions, the Motor Vehicle Control Program, and the SARA 313 TRI database)
- Nitrogen dioxide concentration trends
- Nitrogen dioxide emission trends, by source
- Number of days each major city was in each Pollution Standard Index (PSI) category and Ozone PSI category
- Number of Metropolitan Statistical Areas (MSAs) in non-attainment of one or more air quality standards, by pollutant
- Ozone concentration trends
- Particulate matter concentration trends
- Particulate matter emission trends, by source
- Populations in non-attainment areas, by pollutant
- State progress under State Implementation Plans for improving attainment
- Sulfur dioxide and nitrogen oxide emissions (individual sources)
- Sulfur dioxides concentration trends
- Sulfur oxides emissions trends, by source
- Total Clean Air Act toxic species air releases, by state
- Total emissions of Clean Air Act toxic species, by toxic species
- Visibility impairment at monitoring sites
- Volatile organic compounds emission trends, by source

### **Clean Surface Water**

- Biomass of fish and other organisms in streams and lakes
- pH of streams and lakes

### **Climate Change Risk Reduction**

- Average global temperature

### **Ecological Protection**

- Monitoring of releases at disposal sites
- Post-hoc analysis of casualties and estimation of casualties avoided to response

### **Prevention of Wastes and Harmful Chemical Releases**

- Monitoring of releases at disposal sites
- Post-hoc analysis of casualties and estimation of casualties avoided due to response

### **Stratospheric Ozone Layer Protection**

- Production/consumption of ozone-depleting chemicals
- Stratospheric concentrations of chlorine
- UV-B levels at earth's surface

**Safe Drinking Water**

Groundwater quality monitoring

**Safe Indoor Environments**

Estimated Radon levels in the United States households based on the National Residential Radon Survey

Indoor air standards and enforcement

Indoor air trends analysis (based on actual measurements and review of building parameters)

Number of homes tested with radon levels above action level that are mitigated

Number of homes with radon-resistant building construction

Percent of individuals that live in residences that meet current ASHRAE standards

## 5.5 EPA/Office of Solid Waste and Emergency Response Indicators

### Clean Surface Water

- Amount of municipal solid waste disposed of or sent to landfills or incinerators (nationally and by state)
- Amount of municipal solid waste recycled annually (national and by state)
- Number and percentage of sites with groundwater contamination from underground storage tanks
- Number of environmental pathways in which environmental progress is documented annually
- Number of households and wells affected by releases from underground storage tanks
- Number of sites achieving permanent risk reduction
- Number of underground storage tank releases
- Quantities of waste managed permanently
- Volume and toxicity of waste streams targeted for waste minimization activities

### Cleanup of Contaminated Sites

- Control of contaminant releases at high priority hazardous waste sites
- Number of leaking underground storage tanks cleaned up
- Number of sites at which cleanup has been initiated and/or progress has been made toward media cleanup goals established in the ROD
- Number of sites where the immediate actions to protect nearby populations have been taken
- Number of Superfund completions
- Number of underground storage tank site cleanups for petroleum releases completed

### Ecological Protection

- Amount of recyclables collected compared to the amount of recycled materials used in the production of new products
- Amounts/percent of solid waste disposed of by methods of disposal management, e.g., landfill, incineration, recycling, composting, waste to energy
- Projected amount/years to capacity for landfills by waste type

### Improved Understanding of the Environment

- Amount of recyclables collected compared to the amount of recycled materials used in the production of new products
- Number and percentage of underground storage tanks tested (tightness tests)
- Number of companies selling release detection devices and number of devices sold

### Prevention of Oil Spills and Chemical Accidents

- 33/50 Program: Reduction Commitments as of February 1992
- Amount of municipal solid waste disposed of or sent to landfills or incinerators (nationally or by state)
- Amount of municipal solid waste recycled annually (nationally and by state)
- Number and percentage of sites with groundwater contamination from underground storage tanks
- Number and percentage of underground storage tanks tested (tightness test)
- Number of companies selling release detection devices and number of devices sold
- Number of households and wells affected by releases from underground storage tanks
- Number of petroleum releases under control
- Number of releases reported to the Emergency Response Notification System (ERNS)
- Number of underground storage tank closures reported
- Number of underground storage tank reported confirmed releases

Number of upgraded underground storage tanks  
Toxic chemical releases and transfers from Major Manufacturing Point Sources  
Volume and toxicity of waste streams targeted for waste minimization activities

**Prevention of Wastes and Harmful Chemical Releases**

33/50 Programs reported reductions  
Amount of municipal solid waste disposed of or sent to landfills or incinerators (nationally or by state)  
Amount of municipal solid waste recycled annually (nationally and by state)  
Lead emissions in the U.S.  
Municipal Solid Waste Management Trends  
Number and percentage of sites with groundwater contamination from underground storage tanks  
Number and percentage of underground storage tanks tested (tightness test)  
Number of Class I violations found at the last inspection by number of facilities and volume of waste  
Number of companies selling release detection devices and number of devices sold  
Number of environmental pathways in which environmental progress is documented annually  
Number of hazardous waste generators reporting waste minimization activities (OSWER Generator Survey)  
Number of households and wells affected by releases from underground storage tanks  
Number of sites achieving permanent risk reduction  
Number of Subtitle C Facilities conducting investigations and controlling releases, by priority ranking  
Number of underground storage tank closures reported  
Number of underground storage tank reported confirmed releases  
Number of upgraded underground storage tanks  
Percent of hazardous waste generators that initiated or expanded source reduction or recycling activities in 1989  
Quantities of hazardous waste managed at Subtitle C Facilities by management practice  
Quantities of hazardous wastewater and non-wastewater generated by SIC code  
Quantities of waste managed permanently  
Quantity of hazardous waste generated (OSWER Generator Survey)  
Quantities of primary hazardous waste generated by SIC code  
Ratio of hazardous waste generated to production quantity ratio (OSWER Generator Survey)  
Status of Subtitle C Facilities in the Corrective Action Program  
Trends in number of household hazardous waste collection programs  
Trends in per capita municipal solid waste generation  
Trends in the recovery of municipal solid waste for recycling  
Trends in total municipal solid waste generation  
Volume and toxicity of waste streams targeted for waste minimization activities

**Safe Drinking Water**

Amount of municipal solid waste disposed of or sent to landfills or incinerators (nationally and by state)

Amount of municipal solid waste recycled annually (national and by state)

Number and percentage of sites with groundwater contamination from underground storage tanks

Number of environmental pathways in which environmental progress is documented annually

Number of households and wells affected by releases from underground storage tanks

Number of sites achieving permanent risk reduction

Number of underground storage tank releases

Quantities of waste managed permanently

Volume and toxicity of waste streams targeted for waste minimization activities

## **5.6 EPA/Office of Prevention, Pesticides and Toxic Substances Indicators**

### **Clean Surface Water**

Groundwater quality monitoring

### **Ecological Protection**

Ecological community monitoring

Environmental releases of PMN substances

Field residue monitoring of environmental matrices

Indicator comparing the amount of PCBs retired from service with amount properly disposed

Number of significant new chemical use rules written

Pesticide container reuse/recycle.

Pesticide tolerance exceedances

Pesticide usage/human and ecological risk index

Poisoning incidence reporting (human and ecological incidence)

### **Improved Understanding of the Environment**

Pesticide use in lawn care and structural use

### **Prevention of Wastes and Harmful Chemical Releases**

Aggregate/cumulative reduction of exposure hours at schools having completed asbestos abatement projects

Environmental releases of PMN substances

National index based on emissions of indicator chemicals (TRI)

Special national index based on multimedia releases of 17 chemical targeted by Administrator (TRI)

### **Safe Drinking Water**

Blood lead levels in children

### **Safe Food**

Commodities residue levels

Comparative use of pesticides and estimated ecological risk on indicator crops

Number of carcinogens removed from registered pesticides

Pesticide tolerance exceedances

Pesticide usage/human and ecological risk index

Poisoning incidence reporting (human and ecological incidence)

### **Safe Indoor Environments**

Aggregate/cumulative reduction of exposure hours at schools having completed asbestos abatement projects

Indoor exposure to pesticides

Person-hours of exposure to new chemicals

### **Worker Health and Safety**

Aggregate/cumulative reduction of exposure hours at schools having completed asbestos abatement projects

Person-hours of exposure to new chemicals

**5.7 General EPA Indicators**

**Improved Understanding of the Environment**

**Number of major EPA Data Sets accessible to the public**

**Safe Indoor Environments**

**Building stock characteristics**

**Emission density zoning**



## **5.8 Department of Agriculture Indicators**

### **Clean Surface Water**

- Timing, methods, and quantities of chemical applications
- Types of irrigation systems

### **Ecological Protection**

- Acres of land successfully returned to its natural state
- Annual soil loss
- Big and small game population
- Change in impervious surface area
- Farm soil characteristics
- Integrated pest management (IPM) practices and alternatives to chemical control, by crop
- Land use/management changes over time, including wetlands and other aquatic systems
- Rangeland conditions
- Rural land conservation needs
- Rural land erosion

### **Safe Food**

- Integrated pest management (IPM) practices and alternatives to chemical control, by crop
- Pesticide intakes from food
- Pesticide residues in food

### **Safe Indoor Environments**

- Critter Index

### **Worker Health and Safety**

- Hours of fieldwork in fruit and vegetable crops, i.e., exposure to treated fields
- Hours of work and numbers of workers applying pesticides
- Number of acres treated with pesticides with pesticides containing toxics
- Types of protective equipment used by applicators on fruit and vegetable operations

**5.9 Department of Commerce Indicators****Clean Surface Water**

Discharges to coastal waters  
Total precipitation

**Cleanup of Contaminated Sites**

Federal expenditures on the environment  
Pollution abatement expenditures, by media and industry  
Private expenditures on the environment  
State environmental expenditures

**Ecological Protection**

Commercial landings of selected fish and shellfish  
Contaminant in mussels  
Stock assessments for U.S. fisheries, marine mammals and sea turtles  
Total precipitation

**Prevention of Oil Spills and Chemical Accidents**

Federal expenditures on the environment  
Pollution abatement expenditures, by media and industry  
Private expenditures on the environment  
State environmental expenditures

**Prevention of Wastes and Harmful Chemical Releases**

Federal expenditures on the environment  
Pollution abatement expenditures, by media and industry  
Private expenditures on the environment  
State environmental expenditures

**Safe Drinking Water**

Total precipitation

## **5.10 Department of Energy Indicators**

### **Clean Air**

- Concentrations of greenhouse gases and ozone-depleting gases
- Emissions of CFCs
- Stratigraphic ozone trends
- U.S. and global air temperature trends

### **Climate Change Risk Reduction**

- Carbon dioxide emissions from energy and industry
- Carbon dioxide emissions from fossil energy consumption by end-use sector
- Carbon dioxide emissions from gas flaring
- Carbon dioxide emissions from industrial sources
- Carbon emissions from aluminum production
- Carbon sequestered by nonfuel use of energy
- Chlorofluorocarbon and halon sales
- Concentrations of cations and anions in precipitation
- Emissions of CO<sub>2</sub> per capita
- Emissions of CO<sub>2</sub> per unit of energy consumed
- Emissions of CO<sub>2</sub> per unit of GDP
- Emissions of common anthropogenic pollutants
- Energy-related emissions of CO<sub>2</sub>, by source
- Fossil fuel consumption for nonfuel use
- Methane emissions from anthropogenic sources
- Methane emissions from coal mining and post-mining activities
- Methane emissions from enteric fermentation in domestic animals
- Methane emissions from landfills
- Methane emissions from natural gas transmission and distribution
- Methane emissions from oil and gas operations
- Methane emissions from oil refining and transportation
- Methane emissions from stationary combustion sources
- Methane emissions from the solid waste of domesticated animals
- Methane emissions from transportation
- Natural gas consumption and balancing item
- Nitrous oxide emissions from adipic acid
- Nitrous oxide emissions from nitrogen fertilizer
- Nitrous oxide emissions from stationary combustion sources
- Nitrous oxide emissions from transportation
- Nonmethane volatile organic compound emissions
- Total emissions of Greenhouse Gases
- Total nitrous oxide emissions

### **Stratospheric Ozone Layer Protection**

- Average ozone levels (median during ozone season)
- Historical production of CFCs in the United States

### **Prevention of Oil Spills and Chemical Accidents**

- Accumulation of radioactive wastes

### **Safe Indoor Environments**

- Usage of off-gassing products and materials per capita

**5.11 Department of Health and Human Services Indicators****Clean Air**

Number of incidences of and deaths from cancer  
Respiratory cases per year per 100,000 related to poor air quality

**Improved Understanding of the Environment**

Number of states in which at least 75 percent of local jurisdictions have adopted construction standards and techniques that minimize elevated indoor radon levels  
Number of states in which plans to define and track sentinel environmental diseases are established and monitored  
Number of states with exposure standards adequate to prevent the major occupational lung diseases to which their worker populations are exposed

**Prevention of Oil Spills and Chemical Accidents**

Amount of solid-waste-related, water, air and soil contamination in pounds per person  
Number of states in which plans to define and track sentinel environmental diseases are established and monitored

**Prevention of Wastes and Harmful Chemical Releases**

Amount of solid-waste-related, water, air and soil contamination in pounds per person  
Number of incidences of and deaths from cancer  
Number of states in which plans to define and track sentinel environmental diseases are established and monitored

**Stratospheric Ozone Layer Protection**

Number of incidences of and deaths from cancer

**Safe Drinking Water**

Infant mortality rates  
Number of states in which plans to define and track sentinel environmental diseases are established and monitored

**Safe Food**

Infant mortality rates

**Safe Indoor Environments**

Asthma morbidity as measured by asthma hospitalization  
Cases of sickness caused by indoor air quality  
Health care cost and productivity loss or time (tied to cases of sickness caused by indoor air quality, e.g., asthma, carbon monoxide exposure)  
Number of exposures which result in workers having blood lead concentrations greater than 25 ug/dL of whole blood  
Number of incidence of and deaths from cancer  
Number of occupational skin disorders or disease  
Number of states in which at least 75 percent of local jurisdictions have adopted construction standards and techniques that minimize elevated indoor radon levels  
Number of states with exposure standards adequate to prevent the major occupational lung diseases to which their worker populations are exposed

**Worker Health and Safety**

Asthma morbidity as measured by asthma hospitalization

Number of exposures which result in workers having blood lead concentrations greater than 25 ug/dL of whole blood

Number of incidences of and deaths from cancer

Number of occupational skin disorders or disease

Number of states in which at least 75 percent of local jurisdictions have adopted construction standards and techniques that minimize elevated indoor radon levels

Number of states with exposure standards adequate to prevent the major occupational lung diseases to which their worker populations are exposed

## **5.12 Department of Justice Indicators**

### **Improved Understanding of the Environment**

**Dollar value of federal environmental enforcement**

**Federal fines collected for environmental crimes**

**Federal indictments for environmental crimes**

### **5.13 Department of Labor Indicators**

#### **Safe Indoor Environments**

Percent of individuals that work in buildings that meet or exceed current ASHRAE standards

Percent of smoke free environments versus total environments

Worker right to know

#### **Worker Health and Safety**

Percent of individuals that work in buildings that meet or exceed current ASHRAE standards

Percent of smoke free environments versus total environments

Worker right to know

## **5.14 Department of the Interior Indicators**

### **Ecological Protection**

- Amount and condition of terrestrials and aquatic types
- Amount of underdeveloped (i.e., national, state) land as a percentage of total land
- Area and perimeter ratio (i.e., fragmentation)
- Biota tissue concentration for key contaminants
- Ecoregion assessment, e.g., instream, biological, and riparian area habitat assessment
- Intact ecosystems functions, e.g. natural, fire, and flood regimes; nutrient cycling
- Number of cooperative actions and partnerships with state, other federal agencies, private companies, private individuals, and non-profit groups on riparian wetlands
- Number of land acres and river miles acquired for riparian-wetland management
- Number of permits, rights-of-way, protective withdrawals, etc., issued with riparian stipulations and/or mitigation action on managed riparian-wetland land and rivers
- Number of research projects on riparian wetlands
- Number of riparian land acres and river miles assessed for proper functioning condition
- Number of riparian land acres and river miles changed from functioning at risk to proper functioning condition
- Number of riparian land acres and river miles changed from non-functional to functioning at risk
- Number of riparian land acres and river miles remaining in proper functioning condition
- Number of riparian land acres of ecological site inventory
- Number of riparian water rights acquired
- Number of riparian water sources identified and quantitative assessment including instream flow assessments
- Number of riparian-wetland management actions monitored
- Number of riparian-wetland plans prepared/revised
- Number of riparian-wetland projects developed
- Number of riparian-wetland projects maintained
- Percent of changed land uses
- Percentage of developed land occurring in previously developed land versus previously undeveloped land
- Population trends in migratory and resident songbirds
- Population trends of selected species including keystone species, listed, threatened, and endangered
- Proportion of non-native biota
- Species of special emphasis (threatened, endangered, recovered)
- Trends in wetlands
- Variability/diversity in populations, communities, ecosystems, genetic variability with populations
- Waterfowl ponds
- Waterfowl population estimates

### **Improved Understanding of the Environment**

- Number of cooperative actions and partnerships with state, other federal agencies, private companies, private individuals, and non-profit groups on riparian wetlands
- Number of public presentation, talks, and demonstrations on riparian wetlands
- Number of research projects on riparian wetlands
- Number of workshops, training sessions, and seminars on riparian wetlands



**5.15 Department of Transportation**

**Clean Surface Water**

**Oil and hazardous waste spills in waterways**

**Prevention of Wastes and Harmful Chemical Releases**

**Oil and hazardous waste spills in waterways**

## **5.16 Tennessee Valley Authority Indicators**

### **Clean Air**

- Acid deposition data on the Tennessee Valley and Whitetop Mountain, VA
- Soil gases related to ambient O<sub>3</sub> formation

### **Clean Surface Water**

- Dissolved oxygen in Tennessee Valley reservoirs
- Index of biotic integrity from specific sites on the Tennessee River
- Number of public use sites in the Tennessee Valley where water contact use is impaired
- Number of Tennessee River miles with severe, significant and threatened impairments for drinking water supplies, fish and aquatic life, recreation, and assimilative capacity
- Reservoir use impairment index in the Tennessee Valley

### **Ecological Protection**

- Acres and percent of cropland exceeding erosion tolerance in the Tennessee Valley
- Acres of commercial forest land in the Tennessee Valley
- Acres of prime and nonprime farmlands removed from agriculture uses in the Tennessee Valley
- Growth/removal ratio for hardwoods and softwoods in the Tennessee Valley
- Number of Tennessee River miles with severe, significant and threatened impairments for drinking water supplies, fish and aquatic life, recreation, and assimilative capacity
- Total unreclaimed noncoal mined acres in the Tennessee Valley
- Volume of hardwood and softwood growing stock on commercial forest lands in the Tennessee Valley

### **Prevention of Wastes and Harmful Chemical Releases**

- Capacities of various treatment types in the Tennessee Valley States
- Volume of hazardous waste produced in the Tennessee River Drainage area

### **Safe Drinking Water**

- Number of Tennessee River miles with severe, significant and threatened impairments for drinking water supplies, fish and aquatic life, recreation, and assimilative capacity

### **Safe Indoor Environments**

- Indoor air quality in the Chattanooga and Nashville, TN, areas

## **6 LIST OF INDICATORS, SORTED BY HIERARCHICAL LEVEL WITHIN GOAL TOPIC**

This chapter lists the indicators detailed in Chapter 4 sorted by goal topic. Within each goal topic, the indicators are listed by hierarchical level, a measure of how closely the indicator relates to direct measurements of human or ecological health. As in Chapter 4, indicators relevant to two or more goal topics are presented with each relevant goal topic.

## **6.1 EPA Goal Topic: Clean Surface Waters**

### **Hierarchical Level 2**

- Amount of municipal solid waste recycled annually (national and by state)
- Chesapeake Bay Acres under integrated pest management
- Discharges in significant noncompliance
- Number of sites achieving permanent risk reduction
- Recreational boat wastes

### **Hierarchical Level 3**

- Amount of municipal solid waste disposed of or sent to landfills or incinerators (nationally and by state)
- Discharges to coastal waters
- Industry reported releases and transfers of toxic substances
- Nonpoint source nitrogen loadings
- Nonpoint source phosphorus loadings
- Number and percentage of sites with groundwater contamination from underground storage tanks
- Number of aquifers in which the withdrawal exceeds the recharge
- Number of days a system is in compliance with drinking water standards as a percentage of total days the system is in operation
- Number of exceedances of critical low flow (safe yield to be established)
- Number of households and wells affected by releases from underground storage tanks
- Number of times surface water bodies exceed safe yield
- Number of underground storage tank releases
- Nutrient loadings to the Great Lakes
- Oil and hazardous waste spills in waterways
- Per capita ground water and surface water withdrawals by use, including loss
- Point source nitrogen loadings
- Point source phosphorus loadings
- Population and municipal sewage flow
- Quantities of waste managed permanently
- Reported attainment of Clean Water Act goals for rivers and streams, lakes, and estuaries
- Total ground water and surface water withdrawals by use, including loss
- Total precipitation

### **Hierarchical Level 4**

- Beach closures: miles closed and organism levels
- Bernie Fowler's Sneaker Index
- Biomass of fish and other organisms in streams and lakes
- Dissolved oxygen in Tennessee Valley reservoirs
- Dissolved oxygen in the Chesapeake Bay
- Ground water quality
- Groundwater quality monitoring
- Index of biotic integrity from specific sites on the Tennessee River
- Nitrogen concentrations in the bay
- Nutrient concentrations in the Great Lakes

Percent of assessed river miles, lake acres, and estuary square miles fully supporting designated uses

pH of streams and lakes

Phosphorous concentrations in the bay

Stream water quality, by pollution indicator

Waters meet swimming and secondary contact designated uses

**Hierarchical Level 5**

Chesapeake Basin Forests

Chesapeake Basin Land Use

Number of environmental pathways in which environmental progress is documented annually

Number of public use sites in the Tennessee Valley where water contact use is impaired

Number of Tennessee River miles with severe, significant and threatened impairments for drinking water supplies, fish and aquatic life, recreation, and assimilative capacity

Reservoir use impairment index in the Tennessee Valley

Timing, methods, and quantities of chemical applications

Types of irrigation systems

Volume and toxicity of waste streams targeted for waste minimization activities

**Hierarchical Level 6**

Disease outbreaks from swimming

Kepone in finfish tissue

## **6.2 EPA Goal Topic: Safe Drinking Water**

### **Hierarchical Level 1**

Number of states in which plans to define and track sentinel environmental diseases are established and monitored

### **Hierarchical Level 2**

Amount of municipal solid waste recycled annually (national and by state)

Discharges in significant noncompliance

Number of sites achieving permanent risk reduction

Population served by PWSS with wellhead protection

### **Hierarchical Level 3**

Amount of municipal solid waste disposed of or sent to landfills or incinerators (nationally and by state)

Industry reported releases and transfers of toxic substances

Nonpoint source nitrogen loadings

Nonpoint source phosphorus loadings

Number and percentage of sites with groundwater contamination from underground storage tanks

Number of aquifers in which the withdrawal exceeds the recharge

Number of exceedances of critical low flow (safe yield to be established)

Number of households and wells affected by releases from underground storage tanks

Number of times surface water bodies exceed safe yield

Number of underground storage tank releases

Per capita ground water and surface water withdrawals by use, including loss

Point source nitrogen loadings in the Chesapeake Bay

Point source phosphorus loadings in the Chesapeake Bay

Population and municipal sewage flow

Quantities of waste managed permanently

Total ground water and surface water withdrawals by use, including loss

Total precipitation

### **Hierarchical Level 4**

Drinking water (ground and surface waters) levels for individual contaminants

Groundwater quality monitoring

Nitrogen concentrations in the bay

Number of community water systems in violation by contaminant group

Number of days a system is in compliance with drinking water standards as a percentage of total days in operation

Phosphorous concentrations in the Chesapeake Bay

Waters meet drinking water supply designated use

### **Hierarchical Level 5**

Blood lead levels in children

Number of environmental pathways in which environmental progress is documented annually

Number of Tennessee River miles with severe, significant and threatened impairments for drinking water supplies, fish and aquatic life, recreation, and assimilative capacity

Volume and toxicity of waste streams targeted for waste minimization activities

**Hierarchical Level 6**  
**Infant mortality rates**

## **6.3 EPA Goal Topic: Clean Air**

### **Hierarchical Level 2**

State progress under State Implementation Plans for improving attainment

### **Hierarchical Level 3**

Carbon monoxide emission trends, by source

Emissions of CFCs

Emissions of toxics from major stationary sources

Estimates of toxics emissions (based on the number of sources in compliance with MACT standards, sources with voluntary reductions, the Motor Vehicle Control Program, and the SARA 313 TRI database)

Hazardous air emissions, by source

Lead emission trends, by source

Nitrogen dioxide emission trends, by source

Particulate matter emission trends, by source

Soil gases related to ambient O<sub>3</sub> formation

Sulfur dioxide and nitrogen oxide emissions (individual sources)

Sulfur oxides emissions trends, by source

Volatile organic compounds emission trends, by source

### **Hierarchical Level 4**

Acid deposition data on the Tennessee Valley and Whitetop Mountain, VA

Ambient concentration of toxics at points of human exposure

Ambient levels of acidic aerosols

Carbon monoxide concentration trends

Concentrations of greenhouse gases and ozone-depleting gases

Lead concentration trends

Nitrogen dioxide concentration trends

Number of days each major city was in each Pollution Standard Index (PSI) category and Ozone PSI category

Number of Metropolitan Statistical Areas (MSAs) in non-attainment of one or more air quality standards, by pollutant

Ozone concentration trends

Particulate matter concentration trends

Populations in non-attainment areas, by pollutant

Stratigraphic ozone trends

Sulfur dioxides concentration trends

Total Clean Air Act toxic species air releases, by state

Total emissions of Clean Air Act toxic species, by toxic species

U.S. and global air temperature trends

Visibility impairment at monitoring sites

### **Hierarchical Level 6**

Number of incidences of and deaths from cancer

Respiratory cases per year per 100,000 related to poor air quality



## **6.4 EPA Goal Topic: Safe Indoor Environments**

### **Hierarchical Level 1**

Number of states in which at least 75 percent of local jurisdictions have adopted construction standards and techniques that minimize elevated indoor radon levels  
Number of states with exposure standards adequate to prevent the major occupational lung diseases to which their worker populations are exposed

### **Hierarchical Level 2**

Worker right to know

### **Hierarchical Level 3**

Emission density zoning

### **Hierarchical Level 4**

Building stock characteristics  
Critic Index  
Estimated Radon levels in the United States households based on the National Residential Radon Survey  
Indoor air quality in the Chattanooga and Nashville, TN, areas  
Indoor air standards and enforcement  
Indoor air trends analysis (based on actual measurements and review of building parameters)  
Number of exposures which result in workers having blood lead concentrations greater than 25 ug/dL of whole blood  
Number of homes tested with radon levels above action level that are mitigated  
Number of homes with radon-resistant building construction  
Percent of individuals that live in residences that meet current ASHRAE standards  
Percent of individuals that work in buildings that meet or exceed current ASHRAE standards  
Percent of smoke free environments versus total environments  
Usage of off-gassing products and materials per capita

### **Hierarchical Level 5**

Aggregate/cumulative reduction of exposure hours at schools having completed asbestos abatement projects  
Asthma morbidity as measured by asthma hospitalization  
Indoor exposure to pesticides  
Number of occupational skin disorders or disease  
Person-hours of exposure to new chemicals

### **Hierarchical Level 6**

Cases of sickness caused by indoor air quality  
Health care cost and productivity loss or time (tied to cases of sickness caused by indoor air quality, e.g., asthma, carbon monoxide exposure)  
Number of incidences of and deaths from cancer

**6.5 EPA Goal Topic: Stratospheric Ozone Layer Protection**

**Hierarchical Level 3**

Historical production of CFCs in the United States  
Production/consumption of ozone-depleting chemicals

**Hierarchical Level 4**

Average ozone levels (median during ozone season)  
Stratospheric concentrations of chlorine  
UV-B levels at earth's surface

**Hierarchical Level 5**

Chesapeake Basin Forests

**Hierarchical Level 6**

Number of incidences of and deaths from cancer

**6.6 EPA Goal Topic: Climate Change Risk Reduction****Hierarchical Level 2**

Chlorofluorocarbon and halon sales

**Hierarchical Level 3**

Carbon dioxide emissions from energy and industry  
Carbon dioxide emissions from fossil energy consumption by end-use sector  
Carbon dioxide emissions from gas flaring  
Carbon dioxide emissions from industrial sources  
Carbon emissions from aluminum production  
Carbon sequestered by nonfuel use of energy  
Concentrations of cations and anions in precipitation  
Emissions of CO<sub>2</sub> per capita  
Emissions of CO<sub>2</sub> per unit of energy consumed  
Emissions of CO<sub>2</sub> per unit of GDP  
Emissions of common anthropogenic pollutants  
Energy-related emissions of CO<sub>2</sub>, by source  
Fossil fuel consumption for nonfuel use  
Methane emissions from anthropogenic sources  
Methane emissions from coal mining and post-mining activities  
Methane emissions from enteric fermentation in domestic animals  
Methane emissions from landfills  
Methane emissions from natural gas transmission and distribution  
Methane emissions from oil and gas operations  
Methane emissions from oil refining and transportation  
Methane emissions from stationary combustion sources  
Methane emissions from the solid waste of domesticated animals  
Methane emissions from transportation  
Natural gas consumption and balancing item  
Nitrous oxide emissions from adipic acid  
Nitrous oxide emissions from nitrogen fertilizer  
Nitrous oxide emissions from stationary combustion sources  
Nitrous oxide emissions from transportation  
Nonmethane volatile organic compound emissions  
Total emissions of Greenhouse Gases  
Total nitrous oxide emissions

**Hierarchical Level 4**

Average global temperature

## **6.7 EPA Goal Topic: Ecological Protection**

### **Hierarchical Level 1**

Number of cooperative actions and partnerships with state, other federal agencies, private companies, private individuals, and non-profit groups on riparian wetlands  
Number of riparian-wetland management actions monitored

### **Hierarchical Level 2**

Acres under integrated pest management  
Discharges in significant noncompliance  
Number of permits, rights-of-way, protective withdrawals, etc., issued with riparian stipulations and/or mitigation action on managed riparian-wetland land and rivers  
Number of research projects on riparian wetlands  
Number of riparian-wetland plans prepared/revised  
Number of riparian-wetland projects developed  
Number of riparian-wetland projects maintained  
Number of significant new chemical use rules written  
Pesticide container reuse/recycle.  
Rural land conservation needs

### **Hierarchical Level 3**

Amount of recyclables collected compared to the amount of recycled materials used in the production of new products  
Amounts/percent of solid waste disposed of by methods of disposal management, e.g., landfill, incineration, recycling, composting, waste to energy  
Commercial landings of selected fish and shellfish  
Environmental releases of PMN substances  
Indicator comparing the amount of PCBs retired from service with amount properly disposed  
Industry reported releases and transfers of toxic substances  
Monitoring of releases at disposal sites  
Nonpoint source nitrogen loadings in the Chesapeake Bay  
Nonpoint source phosphorus loadings in the Chesapeake Bay  
Number of aquifers in which the withdrawal exceeds the recharge  
Number of exceedances of critical low flow (safe yield to be established)  
Number of riparian land acres and river miles assessed for proper functioning condition  
Number of riparian land acres and river miles remaining in proper functioning condition  
Number of riparian land acres of ecological site inventory  
Number of riparian water sources identified and quantitative assessment including instream flow assessments  
Number of times surface water bodies exceed safe yield  
Per capita ground water and surface water withdrawals by use, including loss  
Point source nitrogen loadings in the Chesapeake Bay  
Point source phosphorus loadings in the Chesapeake Bay  
Projected amount/years to capacity for landfills by waste type  
Total ground water and surface water withdrawals by use, including loss  
Total precipitation

**Hierarchical Level 4**

Acres and percent of cropland exceeding erosion tolerance in the Tennessee Valley  
Acres of commercial forest land in the Tennessee Valley  
Acres of land successfully returned to its natural state  
Acres of prime and nonprime farmlands removed from agriculture uses in the Tennessee Valley  
Amount and condition of terrestrials and aquatic types  
Amount of underdeveloped (i.e., national, state) land as a percentage of total land  
Annual soil loss  
Area and perimeter ratio (i.e., fragmentation)  
Big and small game population  
Change in impervious surface area  
Chlordane in Great Lake lake trout  
Chlorinated aliphatic hydrocarbons in Great Lakes harbor and tributary fish samples  
Chlorinated aromatics in Great Lakes harbor and tributary fish samples  
Dacthal in Great Lake chinook  
DDT in Great Lake lake trout  
Dieldrin in Great Lake lake trout  
Ecoregion assessment, e.g., instream, biological, and riparian area habitat assessment  
Endrine in Great Lake chinook  
Farm soil characteristics  
Growth/removal ratio for hardwoods and softwoods in the Tennessee Valley  
Heptachlor epoxide in Great Lakes chinook  
Hexachlorobenzene in Great Lakes chinook  
Intact ecosystems functions, e.g. natural, fire, and flood regimes; nutrient cycling  
Ketones and aldehydes in Great Lakes tributary and harbor fish samples  
Land use/management changes over time, including wetlands and other aquatic systems  
Loss or gain of wetland acreage  
Methyl ether in Great Lakes chinook  
Monocyclic aromatics in Great Lakes fish samples  
Nitrogen concentrations in the Chesapeake Bay  
Number of exceedances of surface water quality standards, criteria levels of biological, chemical, parameters, and standards  
Number of land acres and river miles acquired for riparian-wetland management  
Number of riparian land acres and river miles changed from functioning at risk to proper functioning condition  
Number of riparian land acres and river miles changed from non-functional to functioning at risk  
Number of riparian water rights acquired  
PCBs in Great Lakes lake trout and rainbow smelt  
Percent of changed land uses  
Percentage of developed land occurring in previously developed land versus previously undeveloped land  
Phenols in Great Lakes fish samples  
Phosphorous concentrations in the Chesapeake Bay  
Phthalates in Great Lakes harbor and tributary fish samples  
Polynuclear aromatic hydrocarbons (PAHs) in Great Lakes fish samples  
Population trends in migratory and resident songbirds  
Population trends of selected species including keystone species, listed, threatened, and endangered

- Rangeland conditions
- Rural land erosion
- Species of special emphasis (threatened, endangered, recovered)
- Stream miles opened for migratory fish around the Chesapeake Bay
- Total unreclaimed noncoal mined acres in the Tennessee Valley
- Trends in wetlands
- Variability/diversity in populations, communities, ecosystems, genetic variability with populations
- Volume of hardwood and softwood growing stock on commercial forest lands in the Tennessee Valley
- Waterfowl ponds
- Waterfowl population estimates
- Waters meet aquatic life designated uses

#### **Hierarchical Level 5**

- Biota tissue concentration for key contaminants
- Chesapeake basin forests
- Chesapeake Basin land use
- Integrated pest management (IPM) practices and alternatives to chemical control, by crop
- Number of Tennessee River miles with severe, significant and threatened impairments for drinking water supplies, fish and aquatic life, recreation, and assimilative capacity
- Pesticide tolerance exceedances
- Proportion of non-native biota

#### **Hierarchical Level 6**

- Acres of bay grasses
- Bald eagle population count
- Benthic macroinvertebrates
- Contaminant in mussels
- Contaminants in Great Lakes fishes
- Contaminants in herring gull eggs from Great Lakes
- Ecological community monitoring
- Faunal composition
- Field residue monitoring of environmental matrices
- Fish (assemblage) or IBI-like index
- Floral composition
- Habitat (physical structure)
- Pesticide usage/human and ecological risk index
- Plankton and periphyton assemblages
- Poisoning incidence reporting (human and ecological incidence)
- Post-hoc analysis of casualties and estimation of casualties avoided to response
- Stock assessments for U.S. fisheries, marine mammals and sea turtles
- Trends in Finfish in the Chesapeake Bay: Striped Bass
- Trends in Finfish in the Chesapeake Bay: White Perch
- Trends in Shellfish in the Chesapeake Bay: Blue Crab
- Trends in Shellfish in the Chesapeake Bay: Oysters
- Trends in Waterfowl in and around the Chesapeake Bay

**6.8 EPA Goal Topic: Safe Food****Hierarchical Level 2**

Integrated pest management (IPM) practices and alternatives to chemical control, by crop  
Number of carcinogens removed from registered pesticides

**Hierarchical Level 3**

Industry reported releases and transfers of toxic substances  
Nonpoint source nitrogen loadings in the Chesapeake Bay  
Nonpoint source phosphorus loadings in the Chesapeake Bay  
Point source nitrogen loadings in the Chesapeake Bay  
Point source phosphorus loadings in the Chesapeake Bay

**Hierarchical Level 4**

Fish advisories  
Nitrogen concentrations in the Chesapeake Bay  
Phosphorous concentrations in the Chesapeake Bay  
Shellfish bed closures  
Waters meet fish and shellfish consumption designated uses  
Waters with fish contaminant levels of concern to human health

**Hierarchical Level 6**

Commodities residue levels  
Comparative use of pesticides and estimated ecological risk on indicator crops  
Disease outbreaks from fish and shellfish consumption  
Infant mortality rates  
Kepone in finfish tissue in the Chesapeake Bay  
Pesticide intakes from food  
Pesticide residues in food  
Pesticide tolerance exceedances  
Pesticide usage/human and ecological risk index  
Poisoning incidence reporting (human and ecological incidence)

**6.9 EPA Goal Topic: Cleanup of Contaminated Sites**

**Hierarchical Level 1**

- Federal expenditures on the environment
- Pollution abatement expenditures, by media and industry
- State environmental expenditures

**Hierarchical Level 2**

- Number of underground storage tank site cleanups for petroleum releases completed
- Private expenditures on the environment

**Hierarchical Level 3**

- Control of contaminant releases at high priority hazardous waste sites
- Number of leaking underground storage tanks cleaned up
- Number of sites at which cleanup has been initiated and/or progress has been made toward media cleanup goals established in the ROD
- Number of sites where the immediate actions to protect nearby populations have been taken
- Number of Superfund completions

**Hierarchical Level 4**

- Extent of contaminated sites
- Number of exceedances of surface water quality standards, criteria levels of biological, chemical, parameters, and standards
- Selected water quality parameters
- Water quality standards attainment



**6.10 EPA Goal Topic: Worker Health and Safety****Hierarchical Level 1**

Number of states in which at least 75 percent of local jurisdictions have adopted construction standards and techniques that minimize elevated indoor radon levels  
Number of states with exposure standards adequate to prevent the major occupational lung diseases to which their worker populations are exposed

**Hierarchical Level 2**

Types of protective equipment used by applicators on fruit and vegetable operations  
Worker right to know

**Hierarchical Level 4**

Number of exposures which result in workers having blood lead concentrations greater than 25 ug/dL of whole blood  
Percent of individuals that work in buildings that meet or exceed current ASHRAE standards  
Percent of smoke free environments versus total environments

**Hierarchical Level 5**

Asthma morbidity as measured by asthma hospitalization  
Hours of fieldwork in fruit and vegetable crops, i.e., exposure to treated fields  
Hours of work and numbers of workers applying pesticides  
Number of acres treated with pesticides with pesticides containing toxics  
Number of occupational skin disorders or disease  
Person-hours of exposure to new chemicals

**Hierarchical Level 6**

Aggregate/cumulative reduction of exposure hours at schools having completed asbestos abatement projects  
Number of incidences of and deaths from cancer

## **6.11 EPA Goal Topic: Prevention of Oil Spills and Chemical Accidents**

### **Hierarchical Level 1**

- Federal expenditures on the environment
- Number of states in which plans to define and track sentinel environmental diseases are established and monitored
- Pollution abatement expenditures, by media and industry
- State environmental expenditures

### **Hierarchical Level 2**

- 33/50 Program: Reduction Commitments as of February 1992
- Number of BMP's implemented at State and local level
- Number of companies selling release detection devices and number of devices sold
- Number of State and Local Governments requiring treatment of stormwater runoff from rural, suburban and urban land uses
- Number of underground storage tank closures reported
- Private expenditures on the environment

### **Hierarchical Level 3**

- Accumulation of radioactive wastes
- Amount of municipal solid waste disposed of or sent to landfills or incinerators (nationally or by state)
- Amount of municipal solid waste recycled annually (nationally and by state)
- Amount of solid-waste-related, water, air and soil contamination in pounds per person
- Key wetweather conventional pollutants from nonpoint sources and stormwater
- Key wetweather conventionals from CSOs
- Number of petroleum releases under control
- Number of releases reported to the Emergency Response Notification System (ERNS)
- Number of underground storage tank reported confirmed releases
- Number of upgraded underground storage tanks
- Point source toxics
- Pollutant loading to ground water from underground injection wells
- Selected conventional pollutants: TSS, BOD, Fecal Coliform & Nutrients
- Toxic chemical releases and transfers from Major Manufacturing Point Sources
- Volume and toxicity of waste streams targeted for waste minimization activities

### **Hierarchical Level 4**

- Number and percentage of sites with groundwater contamination from underground storage tanks
- Number and percentage of underground storage tanks tested (tightness test)

### **Hierarchical Level 5**

- Number of households and wells affected by releases from underground storage tanks

### **Hierarchical Level 6**

- Marine debris

**6.12 EPA Goal Topic: Prevention of Wastes and Harmful Chemical Releases****Hierarchical Level 1**

- Federal expenditures on the environment
- Number of Class I violations found at the last inspection by number of facilities and volume of waste
- Number of states in which plans to define and track sentinel environmental diseases are established and monitored
- Pollution abatement expenditures, by media and industry
- State environmental expenditures

**Hierarchical Level 2**

- 33/50 Programs reported reductions
- Discharges in significant noncompliance
- Monitoring of releases at disposal sites
- Number of BMP's implemented at State and Local level
- Number of companies selling release detection devices and number of devices sold
- Number of environmental pathways in which environmental progress is documented annually
- Number of hazardous waste generators reporting waste minimization activities (OSWER Generator Survey)
- Number of State and Local Governments requiring treatment of stormwater runoff from Rural, Suburban and Urban Land Uses
- Number of Subtitle C Facilities conducting investigations and controlling releases, by priority ranking
- Number of underground storage tank closures reported
- Number of upgraded underground storage tanks
- Percent of hazardous waste generators that initiated or expanded source reduction or recycling activities in 1989
- Private expenditures on the environment
- Quantities of hazardous waste managed at Subtitle C Facilities by management practice
- Recreational boat wastes
- Status of Subtitle C Facilities in the Corrective Action Program
- Trends in number of household hazardous waste collection programs

**Hierarchical Level 3**

- Amount of municipal solid waste disposed of or sent to landfills or incinerators (nationally or by state)
- Amount of municipal solid waste recycled annually (nationally and by state)
- Amount of solid-waste-related, water, air and soil contamination in pounds per person
- Environmental releases of PMN substances
- Industry reported releases and transfers of toxic substances
- Key wetweather conventional pollutants from nonpoint sources and stormwater
- Key wetweather conventionals from CSOs
- Lead emissions in the U.S.
- Municipal Solid Waste Management Trends
- National index based on emissions of indicator chemicals (TRI)
- Number of sites achieving permanent risk reduction
- Number of underground storage tank reported confirmed releases
- Oil and hazardous waste spills in waterways
- Point source toxics
- Pollutant loading to ground water from underground injection wells

Quantities of hazardous wastewater and non-wastewater generated by SIC code  
Quantities of primary hazardous waste generated by SIC code  
Quantities of waste managed permanently  
Quantity of hazardous waste generated (OSWER Generator Survey)  
Ratio of hazardous waste generated to production quantity ratio (OSWER Generator Survey)  
Selected conventional pollutants: TSS, BOD, Fecal Coliform & Nutrients  
Special national index based on multimedia releases of 17 chemical targeted by Administrator (TRI)  
Trends in per capita municipal solid waste generation  
Trends in the recovery of municipal solid waste for recycling  
Trends in total municipal solid waste generation  
Volume and toxicity of waste streams targeted for waste minimization activities  
Volume of hazardous waste produced in the Tennessee River Drainage area

**Hierarchical Level 4**

Capacities of various treatment types in the Tennessee Valley States  
Number and percentage of sites with groundwater contamination from underground storage tanks  
Number and percentage of underground storage tanks tested (tightness test)

**Hierarchical Level 5**

Aggregate/cumulative reduction of exposure hours at schools having completed asbestos abatement projects  
Number of households and wells affected by releases from underground storage tanks

**Hierarchical Level 6**

Marine debris  
Number of incidences of and deaths from cancer  
Post-hoc analysis of casualties and estimation of casualties avoided due to response

**6.13 EPA Goal Topic: Improved Understanding of the Environment****Hierarchical Level 1**

- Dollar value of federal environmental enforcement
- Federal fines collected for environmental crimes
- Federal indictments for environmental crimes
- Number of cooperative actions and partnerships with state, other federal agencies, private companies, private individuals, and non-profit groups on riparian wetlands
- Number of major EPA Data Sets accessible to the public
- Number of states in which at least 75 percent of local jurisdictions have adopted construction standards and techniques that minimize elevated indoor radon levels
- Number of states in which plans to define and track sentinel environmental diseases are established and monitored
- Number of states with exposure standards adequate to prevent the major occupational lung diseases to which their worker populations are exposed

**Hierarchical Level 2**

- Number of companies selling release detection devices and number of devices sold
- Number of public presentation, talks, and demonstrations on riparian wetlands
- Number of research projects on riparian wetlands
- Number of workshops, training sessions, and seminars on riparian wetlands
- Volunteer monitors

**Hierarchical Level 3**

- Amount of recyclables collected compared to the amount of recycled materials used in the production of new products

**Hierarchical Level 4**

- Number and percentage of underground storage tanks tested (tightness tests)

**Hierarchical Level 5**

- Pesticide use in lawn care and structural use

**7 DATA REPORT SUMMARIES FROM SELECTED DEPARTMENTS AND AGENCIES**

Several prior studies have been identified as having potentially valuable information for the determining indicators relevant to the National Goals Project. The reports from fourteen data collection efforts are summarized later in this chapter. The summaries identify data collection methodologies, sampling design, chemicals, and compounds (indicators) for which data was collected.

<b>Agency</b>	<b>Report</b>
EPA/OW/GLPO	Great Lakes Fish Monitoring Program
EPA/OAR	The National Air Quality and Emissions Trends Report (1992)
EPA/OSWER	The 1989 National Biennial RCRA Hazardous Waste Report
USDA/NASS and ERS	Agricultural Chemical Usage: Field Crops Summary (1991/1992) Agricultural Chemical Usage: Vegetables Summary (1990/1992) Agricultural Chemical Usage: Fruits and Nuts Summary (1991)
USDA/Forest Service	Forest Health Monitoring, New England Summary Report (1990) Forest Health Monitoring in the South, Summary Report (1991) Forest Health Monitoring, New England/Mid-Atlantic Summary Report (1991)
DOE/EIA	Emissions of Greenhouse Gases in the United States 1985-1990
DHHS/CDC	National Health and Nutrition Examination Survey
DOT/FHWA	1992 Federal Expenditures for the Conservation of Protected Species Under the Endangered Species Act Framework for Measuring Progress Toward Meeting Federal Highway Environmental Goals: A Survey of State DOT Environmental Programs The Status of the Nation's Highways, Bridges, and Transit: Conditions and Performance

**For each report, the facts and figures covered by the report are briefly described followed by more in depth summaries of data collection, sample design, and chemicals, compounds and other statistical information for which the data were collected.**

### **The Great Lakes Fish Monitoring Program**

DeVault, D.S. 1985. Contaminants in Fish from Great Lakes Harbors and Tributary Mouths. *Environ. Contam. Toxicol.* 14:587

DeVault, D.S. et al. 1986. Contamination Trends from the Upper Great Lakes. *Arch. Environ. Contam. Toxicol.* 15:349

DeVault, D.S. 1989. Polychlorinated Dibenzofurans and Polychlorinated Dibenzo-p-dioxins in Great Lakes Fish: A Baseline and Interlake Comparison. *Environ. Contam. Toxic. and Chem.*

The Great Lakes Fish Monitoring Program (GLFMP) is a cooperative program between the U.S. Environmental Protection Agency (EPA), the U.S. Fish and Wildlife Service (USF&WS), the Food and Drug Administration (FDA) and the eight Great Lakes States, designed to provide a coordinated approach to contaminant monitoring.

Composite fish samples collected from Great Lakes Harbors and Tributaries were analyzed by gas chromatography and gas chromatography-mass spectrometry for a wide range of pesticides and priority pollutants. Severe PCB contamination was observed in many Great Lakes tributaries. Attached is a detailed list of compounds scanned by GC/MS.

Fish from each of the Great Lakes and Lake St. Clair were analyzed for 10 congeners of polychlorinated dibenzofurans (PCDFs) and 8 congeners of polychlorinated dibenzo-p-dioxins (PCDD's). PCDFs and PCDD's were identified above detection limits in samples from each lake. While the upper lakes were somewhat similar in absolute concentration, and composition of PCDFs and PCDD's, principle components analysis identified statistically significant inter- and intralake differences in the composition of total PCFD and PCDD. These differences suggest a variety of pollutant sources.

For lake trout and rainbow smelt, measured variables include age, length, weight, PCB, DDT and metabolites, chlordane, dieldrin, toxaphene, and mirex. Annual data on DDT and PCB's are available back to 1970. Dioxins, furans, and other special studies are done periodically. For fillets of coho (even years) and chinook (odd years) salmon, the above variables are measured as well as hexachlorobenzene, dacthal, endrine, lindane, heptachlor epoxide, and pentachlorophenyl methyl ether. Attached is an example of PCB and DDT trend data in the Great Lakes. Trend data are available for each lake.



Table 2. Compounds scanned by GC/MS

Bis(2-chloroethyl)ether	2-Chlorophenol	Triflan/Trifluralin <sup>a</sup>
1,3-Dichlorobenzene	2,4-Dimethylphenol <sup>a</sup>	2,4-D-Isopropyl ester <sup>a</sup>
1,4-Dichlorobenzene	3-Nitrophenol	Alpha BHC (α-BHC)
1,2-Dichlorobenzene	2,4-Dichlorophenol	Beta-BHC (β-BHC)
Nitrobenzene	p-t-butylphenol	Gamma-BHC (γ-BHC)
Hexachloroethane	p-Chloro-m-cresol	Heptachlor
N-Nitrosodipropylamine	2,4,6-Trichlorophenol	Aldrin <sup>a</sup>
Isophorone	4,6-Dinitro-ortho cresol	Dieldrin <sup>a</sup>
Bis(2-chloroethoxy)methane	Pentachlorophenol	DCPA (Dacthal) <sup>a</sup>
1,2,4-Trichlorobenzene	Hexachlorobutadiene	Isodrin <sup>a</sup>
Naphthalene	Acenaphthene	Heptachlor epoxide <sup>a</sup>
2-Chloronaphthalene	2,4-Dinitrotoluene	Oxychlorane <sup>a</sup>
Dimethylphthalate	2,6-Dinitrotoluene	Gamma chlordane <sup>a</sup>
Acenaphthylene	Diethylphthalate	o,p DDE <sup>a</sup>
Fluorene	1,3-Diphenylhydrazine	p,p DDE <sup>a</sup>
N-nitrosodiphenylamine	Hexachlorobenzene	o,p DDD <sup>a</sup>
4-Bromophenylphenyl ether	Di-n-octylphthalate	Eadrin <sup>a</sup>
Phenanthrene/Anthracene <sup>a</sup>	Dibromodiphenyl	Chlorobenzilate <sup>a</sup>
Di-n-butylphthalate	Pvrene	Endosulfan-II <sup>a</sup>
Fluoranthene	Chrysene/benz[a]anthracene	o,p-DDT p,p-DDD <sup>a</sup>
Butylbenzylphthalate	Benzo(b)fluoranthene <sup>a</sup>	p,p DDT <sup>a</sup>
Bis(2-ethylhexyl)phthalate	Indeno(1,2,3-c,d)pyrene <sup>a</sup>	Benzo(g,h,i)perylene
Benzo(a)pyrene <sup>a</sup>	Phenol	Kepon(Chlordecone) <sup>a</sup>
Perylene <sup>a</sup>	Tetradifon <sup>a</sup>	
Methoxychlor <sup>a</sup>		

<sup>a</sup> Computer match only. Standards were not run. All others matched and quantified with authentic standards

been banned, such as the PCBs, and DDT, or severely restricted, such as chlordane and heptachlor.

PCBs were the most predominant contaminant, occurring in all samples at concentrations ranging from 0.175 mg/kg to 98.44 mg/kg. The highest PCB concentrations occurred in fish from the Sheboygan River with concentrations ranging from 38.60 mg/kg to 98.44 mg/kg. Elevated PCB concentrations also occurred in samples from the Fox, Ashtabula, Kinnickinnic, and Milwaukee Rivers. All samples exceeded the International Joint Commission's (IJC) objective of 0.1 mg/kg total PCB for whole fish (IJC 1978). The contribution of the individual Aroclor<sup>®</sup> mixtures to the total PCBs varied from site to site but was consistent between samples at each site. With the exception of carp from the Kinnickinnic River, samples with total PCB concentrations ranging from 1.72 mg/kg to 98.44 mg/kg were dominated by Aroclor<sup>®</sup> 1248. Samples with lower total PCB concentrations were dominated by the more highly chlorinated, more persistent (Mieure *et al.* 1975; Sloan *et al.* 1983) Aroclor<sup>®</sup> 1254 and 1260.

DDT and metabolites occurred in all samples with total DDT ranging from 0.023 mg/kg in bullheads from the Ashtabula River to 1.93 mg/kg in Northern pike from the Sheboygan River. Total DDT was below the International Joint Commission (IJC) objective of 1.0 mg/kg in all but four samples

from the Sheboygan, Menominee, and Kinnickinnic Rivers. The ratio of DDE to the parent compounds varied from sample to sample; however, DDE was predominant in all but sample #1511 (Wolf River). One interesting result was the high proportion of o,p-DDT and o,p-DDE to the corresponding p,p isomers. The predominance of the o,p-isomer has also been observed in sediment samples from several Great Lakes locations. Several hypotheses including differential degradation rates and the possible environmental impact of o,p-DDT- and o,p-DDE-contaminated kelthane are under investigation.

Hexachlorobenzene was detected at low (0.003 mg/kg to 0.13 mg/kg) concentrations at all sites except the Ashtabula River where high (0.71 mg/kg to 3.47 mg/kg) concentrations occurred. Methoxychlor was detected in samples from the Sheboygan River, Fox River, and Chequamegon Bay at low (0.01 mg/kg to 0.17 mg/kg) concentrations. The pesticides aldrin/dieldrin, endosulfan, chlordane, heptachlor, and BHC occurred at low levels in most samples.

The herbicide dacthal was detected in 73% of the samples. Concentrations were low ranging from 0.002 mg/kg to 0.12 mg/kg. The herbicide trifluralin was detected in one sample from the Black River (0.007 mg/kg).

## Contaminants in Trout in Upper Great Lakes

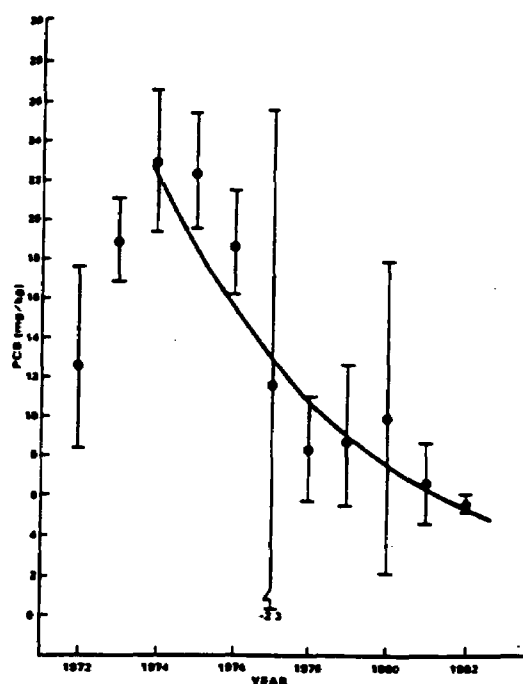


Fig. 2. Polychlorobiphenyl (PCB) concentrations in Lake Michigan trout. Mean and 95% confidence interval

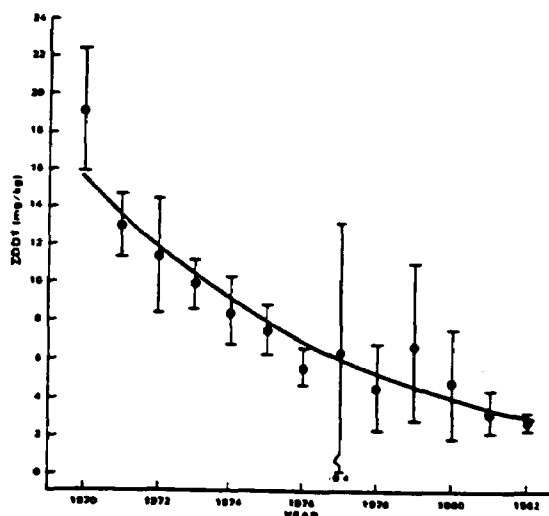


Fig. 3. Total DDT concentrations in Lake Michigan lake trout. Mean and 95% confidence interval

( $P < 0.05$ ) trends were observed for any of the monitored compounds. Annual mean total DDT and PCB concentrations exceeded the IJC (1978) objectives (1.0 mg/kg and 0.1 mg/kg, respectively) in each year of the study.

## Lake Superior

Contaminant concentrations in Lake Superior lake trout are given in Table 5. The relatively low levels of PCB, dieldrin, and oxychlordane did not exhibit trends nor statistically significant ( $P < 0.05$ ) differences over the study period.

Total DDT concentrations in Lake Superior lake trout (Figure 6) declined significantly ( $P < 0.05$ ,  $r^2 = 78.9$ ) from 1977 to 1982, following the equation:

$$C_t = -0.162(y) + 13.7 \quad (4)$$

where  $C_t$  = mean total DDT concentration (mg/kg) in year  $t$  and  $y$  = year (1980s).

The annual mean PCB concentration exceeded the IJC (1978) objective in each year of the study. The IJC (1978) total DDT objective was exceeded by the mean concentrations in 1977 through 1979, but not from 1980 to 1982.

## Discussion

Of the data sets for the three upper lake monitoring sites reported here, only that for Lake Michigan was sufficient to allow rigorous statistical evaluation of trends with time. This is principally because USFWS had collected data for six years before the current US EPA/US FWS cooperative program was begun in 1977. As a result of these extra years of data, it was possible to demonstrate that mean PCB and mean total DDT concentrations in lake trout off Saugatuck declined in a manner that approximated first order loss kinetics. Rodgers and Swain (1983) reported that the decline of PCB concentrations in bloaters (*Coregonus hoyi*) from Lake Michigan (off Saugatuck) from 1972 to 1980 also approximated first order loss kinetics with a rate constant of  $-0.12/\text{yr}$ . They used the trend data for bloaters to hindcast loads and then used their loading estimates to forecast concentrations in other fish species. They estimated that PCB concentrations in Lake Michigan trout would reach 2 mg/kg in 1987. By solving equation (1) for  $t$ , we calculate that PCB concentrations will drop to 2 mg/kg in 1988. This estimate is in excellent agreement with the projections of Rodgers and Swain (1983), particularly when the difference in approach and the uncertainties of such projections are considered. These projections presuppose that PCB loading into Lake Michigan will continue to decrease at a rate at least equal to that before 1982. As atmospheric deposition now contributes well over 50% of the total load (Murphy and Rzesutko 1977), this decrease may not be affected.

A similar projection of total DDT concentration

### **The National Air Quality and Emissions Trends Report (EPA 454/R-93-031)**

The analysis in this report focuses on comparisons with the primary standards in effect in 1992 to examine changes in air pollution time and to summarize current air pollution status. The six pollutants with National Ambient Air Quality Standards (NAAQS) are CO, Pb, NO<sub>2</sub>, O<sub>3</sub>, SO<sub>2</sub>, PM-10. The report tracks two kinds of trends: air concentration, based on actual direct measurements of pollutant concentrations in the air at selected sites throughout the country, and emissions, which are estimates of the total tonnage of these pollutants released into the air annually based upon the best available engineering calculations.

The Trends Report summarizes the changes and trends, sources, effects and miscellaneous details of each of the NAAQS pollutants across the country. The trends are reported graphically over time and in tabular form by various sources for the time frame 1983-1992. The report also has a discussion about additional pollutants listed in the National Emission Standards for Hazardous Air Pollutants (NESHAP) under the Clean Air Act Amendments (CAAA) of 1990. In particular, a brief description of the CAAA air toxic provisions, a status report on air toxic regulations required by the CAAA, a discussion of available data sources for emissions and concentrations of air toxics, and a summary of current estimated emissions in the United States are provided.

The Trends Report documents the air quality status of Metropolitan Statistical Areas (MSAs) and various international cities and megacities. These include descriptions of counties across the United States not meeting at least one of the NAAQS, peak statistics for selected NAAQS and non-NAAQS pollutants by selected MSA, and general air quality trends for international cities and megacities.

Attached are examples of trends, sources of pollutants and air quality status listings found in the Trends Report.

The author of this report is the Office of Air and Radiation/Office of Air Quality Planning and Standards/Technical Report Division and the supporting database is AIRS (sponsored by the Office of Air and Radiation).

---

**Section 1.2 Major Findings – CO**

---

**1.2 Major Findings**

---

***Carbon Monoxide (CO)***

---

**Air Concentrations**

- 1983-92: 34 percent decrease (8-hour second high at 308 sites)  
94 percent decrease (8-hour exceedances at 308 sites)
- 1991-92: 7 percent decrease (8-hour second high at 390 sites)

**Emissions**

- 1983-92: 25 percent decrease
- 1991-92: 4 percent decrease

**Overview**

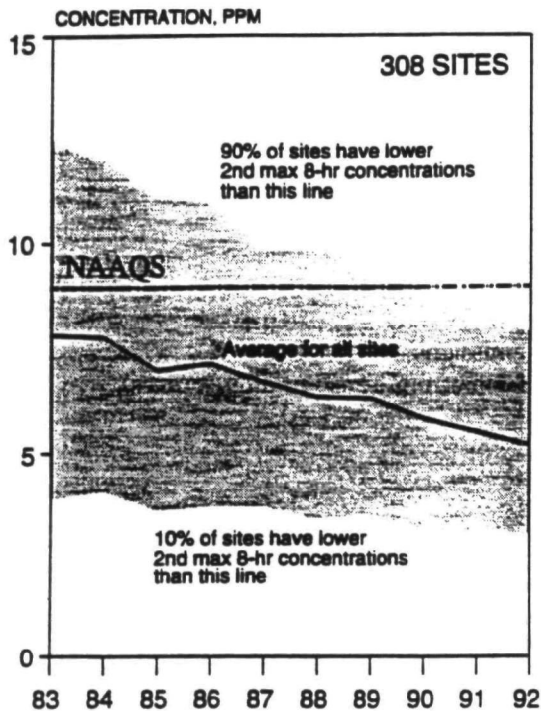
**Trends.** Improvements continued with the 1983-92 ten year period showing 34 percent improvement in air quality levels and a 25 percent reduction in total emissions. The air quality improvement agrees more closely with the estimated 30 percent reduction in highway vehicle emissions. This progress occurred despite continued growth in miles of travel in the U.S. Transportation sources account for approximately 80 percent of the nation's CO emissions. The 30 percent decrease in highway vehicle emissions during the 1983-92 period occurred despite a 37 percent increase in vehicle miles of travel. Estimated nationwide CO emissions decreased 4 percent between 1991 and 1992.

**Status.** In November 1991, EPA designated 42 areas as nonattainment for CO. Based upon the magnitude of the CO concentrations, 41 of these areas were classified as moderate and 1 (Los Angeles) was classified as serious. In

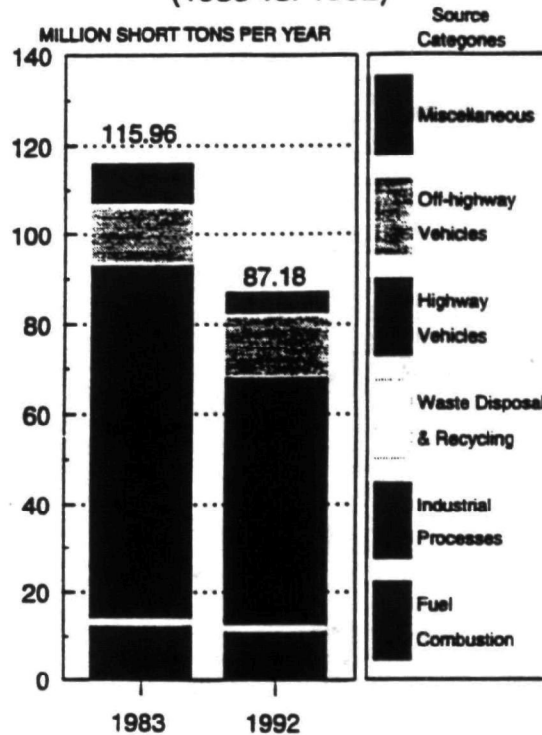
September 1993, Syracuse, NY became the first of these 42 nonattainment areas to be redesignated as an attainment area.

**Some Details.** The first major clean fuel program under the 1990 Clean Air Act Amendments is the oxygenated fuel program implemented by state and local agencies following EPA guidelines. Increasing the oxygen content of gasoline reduces CO emissions by improving fuel combustion, which is typically less efficient at cold temperatures. On November 1, 1992, new oxygenated fuel programs began in 28 metropolitan areas. These programs generally run from November through February and preliminary results suggest greater CO air quality improvements, with peak CO levels declining 13 percent in areas with the new oxy-fuel program as compared to a 3 percent decline in non-program areas.

### CO TREND, 1983-1992 (ANNUAL 2ND MAX 8-HR AVG)



### CO EMISSIONS TREND (1983 vs. 1992)



### CO Effects

Carbon monoxide enters the bloodstream and reduces the delivery of oxygen to the body's organs and tissues. The health threat from carbon monoxide is most serious for those who suffer from cardiovascular disease, particularly those with angina or peripheral vascular disease. Healthy individuals also are affected but only at higher levels. Exposure to elevated carbon monoxide levels is associated with impairment of visual perception, work capacity, manual dexterity, learning ability and performance of complex tasks.

## Section 3.1 Trends in Carbon Monoxide

While there is general agreement between changes in air quality and emissions over this 10-year period, it is worth noting that the emission changes reflect estimated national totals, while ambient CO monitors are frequently located to identify local problems. The mix of vehicles and the change in vehicle miles of travel in the area around a specific CO monitoring site may differ from the national averages.

Table 3-1. National Carbon Monoxide Emission Estimates, 1983-1992

(million short tons/year)										
SOURCE CATEGORY	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Fuel Combustion - Electric Utilities	0.30	0.32	0.32	0.29	0.30	0.31	0.32	0.31	0.31	0.31
Fuel Combustion - Industrial	0.70	0.73	0.69	0.68	0.68	0.71	0.71	0.72	0.72	0.71
Fuel Combustion - Other	6.72	6.76	7.01	6.57	6.34	6.17	5.94	5.73	5.58	5.15
Chemical and Allied Product Manufacturing	1.84	2.08	1.48	1.81	1.76	1.87	1.88	1.89	1.91	1.87
Metals Processing	1.56	1.73	1.87	2.08	1.98	2.10	2.13	2.08	1.99	1.98
Petroleum and Related Industries	0.48	0.38	0.43	0.45	0.46	0.44	0.44	0.44	0.44	0.40
Other Industrial Processes	0.86	0.91	0.69	0.72	0.71	0.71	0.72	0.72	0.71	0.72
Solvent Utilization	0	0	0	0	0	0	0	0	0	0
Storage and Transport	0	0	0.05	0.09	0.09	0.10	0.10	0.10	0.10	0.10
Waste Disposal and Recycling	2.03	2.03	1.94	1.92	1.85	1.81	1.75	1.69	1.64	1.69
Highway Vehicles	78.67	75.40	73.52	70.47	65.60	65.22	60.13	59.80	58.83	55.29
Off-Highway	14.25	15.62	15.80	15.66	15.33	15.30	15.00	14.64	14.24	14.68
Natural Sources	0	0	0	0	0	0	0	0	0	0
Miscellaneous	8.55	7.01	4.11	4.16	4.20	4.33	4.29	4.27	4.20	4.27
Total	115.96	112.97	107.90	104.89	99.30	99.07	93.39	92.38	90.68	87.18
NOTE: The sums of sub-categories may not equal total due to rounding.										

## Section 3.1 Trends in Carbon Monoxide

## Clean Air Act Oxygenated Fuel Program

The first major clean fuel program operating under the 1990 Amendments to the Clean Air Act, the oxygenated fuel program is implemented by state and local air pollution control agencies using guidelines developed by the Environmental Protection Agency. The Clean Air Act requires the fuel in all areas not meeting the National Ambient Air Quality Standard (NAAQS) for carbon monoxide (CO) during the winter months when CO levels are higher. Though the winter season varies, the oxygenated fuel program generally operates from November through February. On November 1, 1992, new oxygenated fuel programs began in 20 metropolitan areas outside of California, and 8 areas within California. The non-California programs require oxygenated fuels to have an oxygen content of 2.7 percent oxygen by weight. The program implemented in California specifies an oxygen content of 1.8 to 2.2 percent oxygen by weight. Eight metropolitan areas located in the western states started oxygenated fuels programs prior to 1992.

Increasing the oxygen content of gasoline reduces CO emissions by improving fuel combustion, which is less efficient at cold temperatures. CO emissions are particularly high during the first few minutes after an engine is started, when it needs extra fuel to warm up.

Although the initial data indicate that CO levels have declined in areas implementing the oxygenated fuel program, there have been some complaints from motorists that pumping the new fuel at self-service pumps has caused dizziness or headaches. EPA is working with the Centers for Disease Control, the state of Alaska and industry to undertake additional research on the effects of the fuel. EPA expects the research to be completed prior to the start of the 1993-94 oxygenated gasoline season.

Comparisons have been made between the peak CO concentrations recorded during the fourth quarter (October through December) of 1991 and 1992 in cities with and without the oxygenated fuels (oxy-fuels) program. Due to the differences in the California program, those cities were not included in the analysis. Figure 3-7 presents boxplots of the differences in the fourth quarter second highest 8-hour concentrations between 1991 and 1992 at all non-California monitoring sites. As these boxplots indicate, larger decreases in peak CO concentrations, on the average, were recorded in those new areas which started the oxygenated fuels program, than in areas that did not implement the fuels program. The median percent changes in the quarterly second highest 8-hour concentrations were a 13 percent decrease in the new areas, a 5 percent decrease in existing oxy-fuels cities, and 3 percent decrease in non-program cities. The differences in both the existing program cities and the non-program cities likely reflect the variation due to changes in meteorological

conditions, since these areas did not experience a change in program status.

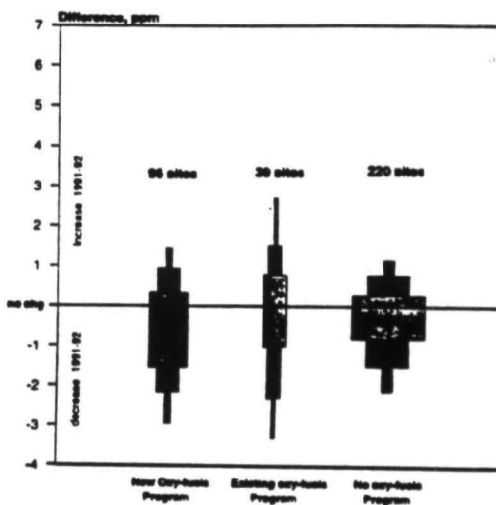


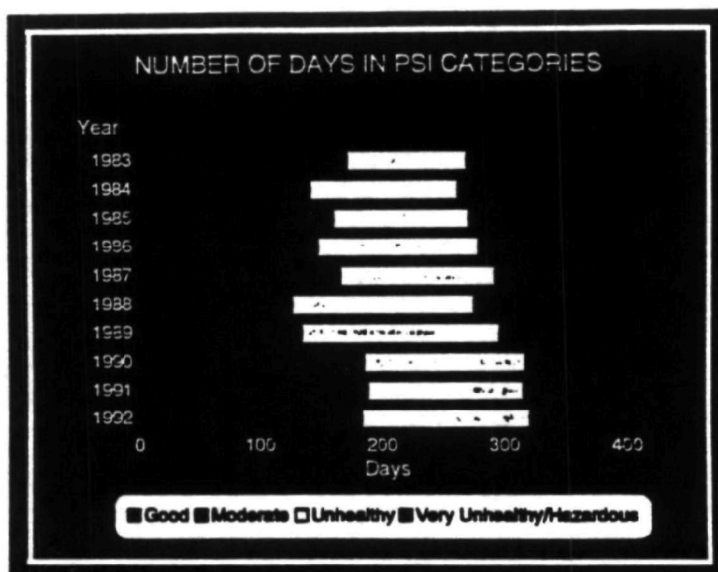
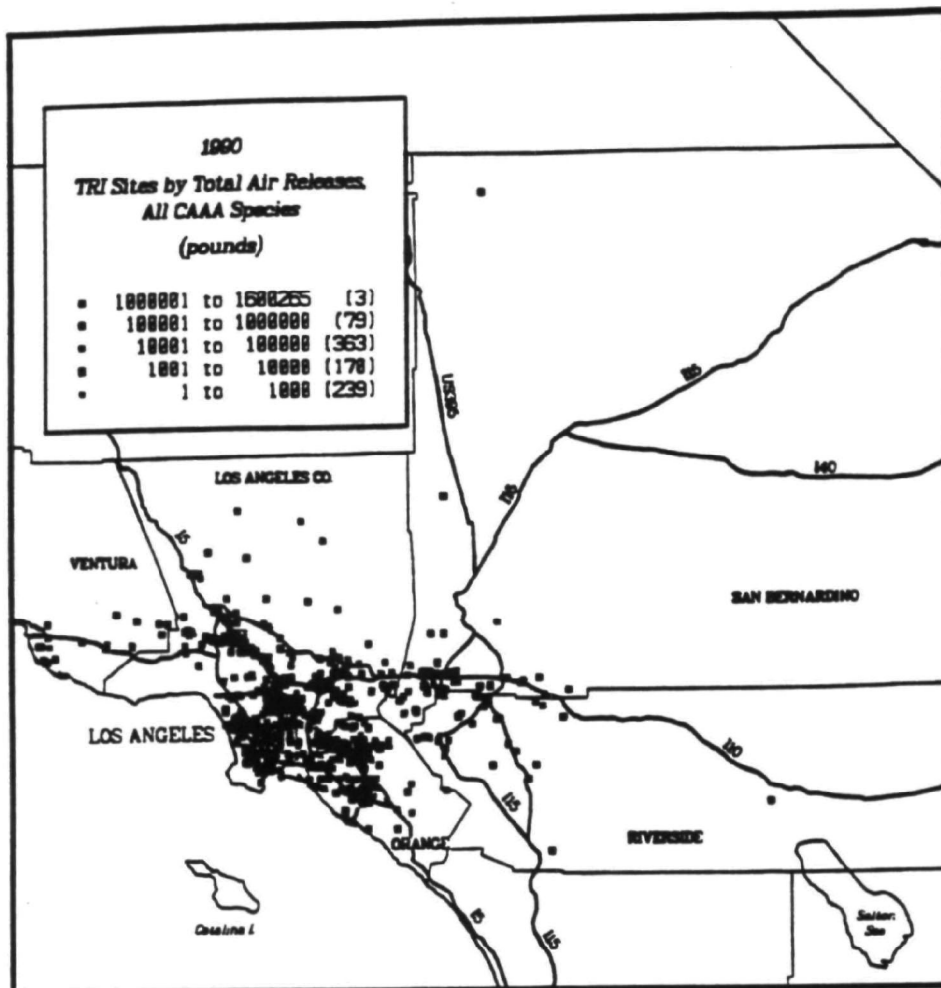
Figure 3-7. Boxplot comparison of differences between 4th quarter second highest 8-hour concentration, 1991-1992.

Table 5-2. Simplified Nonattainment Areas List<sup>a</sup>. (cont.).

	STATE	AREA NAME <sup>b</sup>	POLLUTANT <sup>c</sup>					POPULATION <sup>d</sup> (1000s)
			O <sub>3</sub>	CO	SO <sub>2</sub>	PM-10	Pb	NO <sub>x</sub>
64	IN	Vigo Co.	.	.	1	.	.	106
65	IN	Wayne Co.	.	.	1	.	.	72
66	KY	Edmonson Co.	1	.	.	.	.	10
67	KY	Lexington-Fayette	1	.	.	.	.	249
68	KY-IN	Louisville	1	.	.	.	.	834
69	KY	Muhlenberg Co.	.	.	1	.	.	31
70	KY	Owensboro	1	.	.	.	.	68
71	KY	Paducah	1	.	.	.	.	28
72	LA	Baton Rouge	1	.	.	.	.	562
73	LA	Lake Charles	1	.	.	.	.	168
74	MA-NH	Boston-Lawrence-Worcester	1	1	.	.	.	5500
75	MA	Springfield (W. Mass)	1	.	.	.	.	812
76	MD	Baltimore	1	1	.	.	.	2348
77	MD	Kent and Queen Anne Cos	1	.	.	.	.	52
78	ME	Hancock and Waldo Cos.	1	.	.	.	.	80
79	ME	Knox and Lincoln Cos.	1	.	.	.	.	67
80	ME	Lewiston-Auburn	1	.	.	.	.	221
81	ME	Millinocket	.	.	1	.	.	8
82	ME	Portland	1	.	.	.	.	441
83	ME	Presque Isle	.	.	.	1	.	11
84	MI	Detroit-Ann Arbor	1	.	.	1	.	4591
85	MI	Grand Rapids	1	.	.	.	.	688
86	MI	Muskegon	1	.	.	.	.	159
87	MN	Duluth	.	1	.	.	.	85
88	MN	Minneapolis-St. Paul	.	1	1	1	1 (g)	2310
89	MN	Olmsted Co.	.	.	1	1	.	71
90	ND	Dent	.	.	.	.	1	1
91	ND	Liberty-Arcadia	.	.	.	.	1	6
92	MO-IL	St. Louis	1	.	.	1 (h)	1 (i)	2390
93	MT	Butte	.	.	.	1	.	34
94	MT	Columbia Falls	.	.	.	1	.	3
95	MT	Kalispell	.	.	.	1	.	12
96	MT	Lame Deer	.	.	.	1	.	1
97	MT	Lewis & Clark	.	.	1	.	1 (j)	2
98	MT	Libby	.	.	.	1	.	3
99	MT	Missoula	.	1	.	1	.	43
100	MT	Polson	.	.	.	1	.	3
101	MT	Reagan	.	.	.	1	.	2
102	MT	Yellowstone	.	.	1	.	.	5
103	NC	Charlotte-Gastonia	1	.	.	.	.	686
104	NC	Winston-Salem	.	1	.	.	.	266
105	NC	Raleigh-Durham	1	1	.	.	.	613
106	NE	Douglas	.	.	.	.	1	<1
107	NH	Manchester	1	.	.	.	.	222
108	NH	Portsmouth-Dover-Rochester	1	.	.	.	.	183
109	NJ	Atlantic City	1	.	.	.	.	319
110	NM	Albuquerque	.	1	.	.	.	481
111	NM	Anthony	.	.	.	1	.	2
112	NM	Grant Co.	.	.	1	.	.	28
113	NV	Central Steptoe Valley	.	.	1	.	.	9
114	NV	Las Vegas	.	1	.	1	.	741
115	NV	Reno	1	1	.	1	.	255
116	NY	Albany-Schenectady-Troy	1	.	.	.	.	874
117	NY	Buffalo-Niagara Falls	1	.	.	.	.	1189
118	NY	Essex Co. (White Mtn.)	1	.	.	.	.	<1
119	NY	Jefferson Co.	1	.	.	.	.	111
120	NY-NJ-CT	New York-N. New Jersey-Long Island	1	1	.	.	.	17947
121	NY	Poughkeepsie	1	.	.	.	.	259
122	OH	Canton	1	.	.	.	.	368
123	OH-KY	Cincinnati-Hamilton	1	.	.	.	.	1705
124	OH	Cleveland-Akron-Lorain	1	1	3	1	.	2859
125	OH	Columbus	1	.	.	.	.	1157
126	OH	Coshocton Co.	.	.	1	.	.	35
127	OH	Dayton-Springfield	1	.	.	.	.	951
128	OH	Gallia Co.	.	.	1	.	.	31
129	OH	Jefferson Co.	.	.	1	1	.	80
130	OH	Morgan Co.	.	.	1	.	.	14
131	OH	Toledo	1	.	1	.	.	575
132	OH	Washington Co.	.	.	1	.	.	62
133	OH-PA	Youngstown-Warren-Sharon	1	.	.	.	.	614
134	OR	Grants Pass	.	1	.	1	.	17
135	OR	Klamath Falls	.	1	.	1	.	18



# LOS ANGELES



- Decrease of 12.5% in toxic air emissions betw 1990 and 1991.
- State VMT per capita increased 16% to 10,59 between 1983 and 1990.
- State vehicle registrations per capita increase 4% to 0.94 between 1983 and 1990.
- VMT in the South Coast Air Basin is projected increase 18.7% between 1987 and 1994.

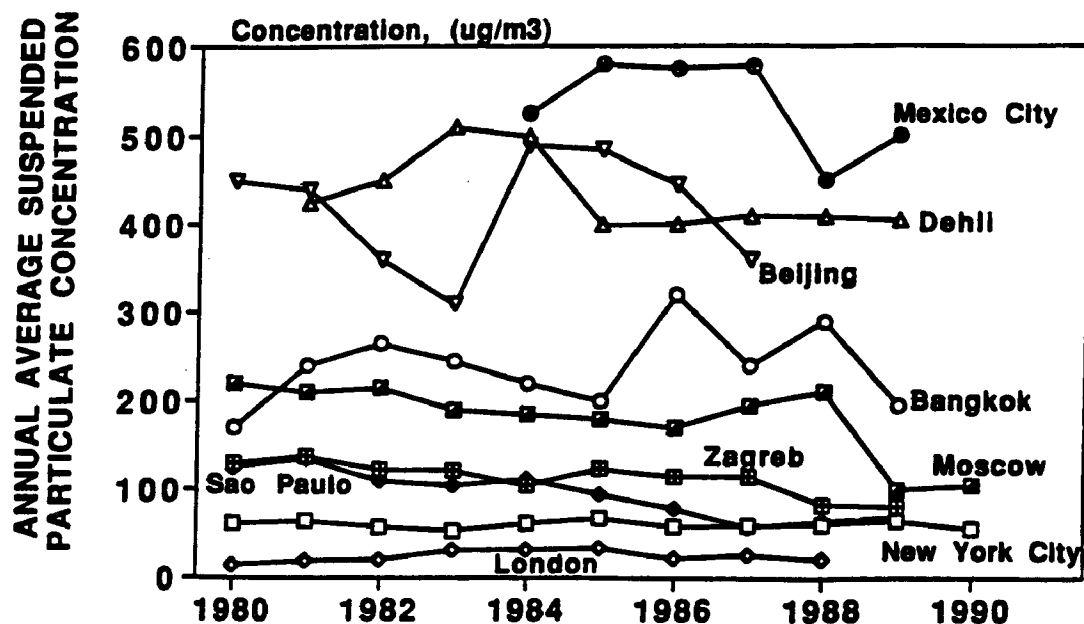


Figure 7-5. Trend in annual average total suspended particulate concentrations in selected cities in the world. Source: UNEP/WHO, 1992a; UNEP/WHO, 1992b.

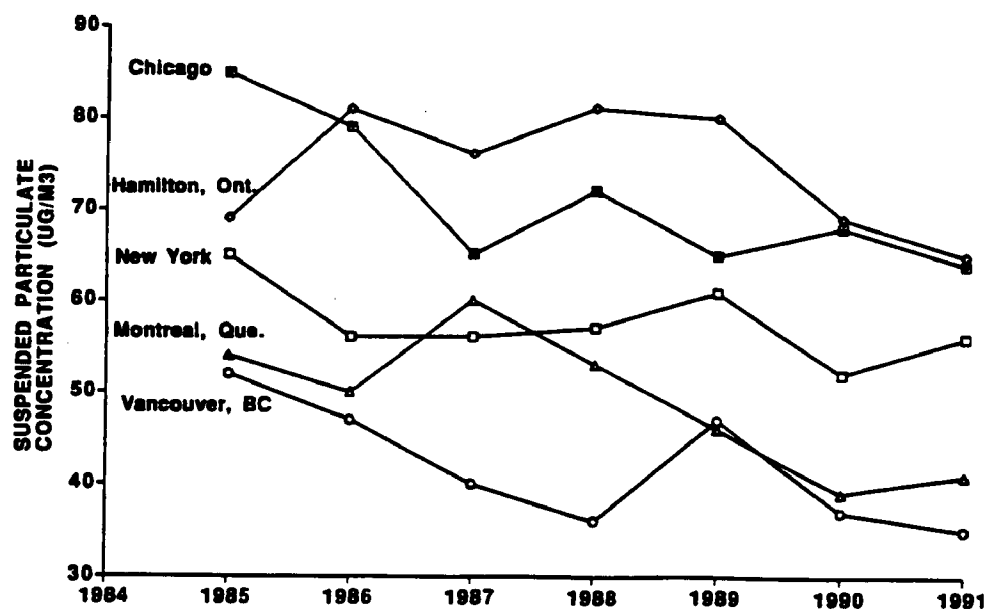


Figure 7-6. Trend in annual geometric mean total suspended particulate concentrations in selected U.S. and Canadian cities, 1985-1991. Source: T. Dann, Environment Canada; AIRS database.

## **The 1989 National Biennial RCRA Hazardous Waste Report (EPA 530-S-92-027)**

The Biennial Report is a census of RCRA regulated communities containing information about RCRA hazardous waste that is shipped off site or managed at the site of generation. The data in the report include information on the number of hazardous waste generators regulated under RCRA and the types and quantities of RCRA waste they generate; the number of treatment, storage and disposal (TSD) facilities; and the information on waste minimization practices.

The report lists information on the generation, management and transport of RCRA hazardous waste including the number of hazardous waste generators and quantity of hazardous waste generated for each state, the quantity of RCRA hazardous waste each state exports and imports, the name and location of and the amount of hazardous waste generated by the 50 largest RCRA hazardous waste generators, RCRA hazardous waste management facilities, RCRA TSD facilities and RCRA hazardous waste management methods.

For each RCRA hazardous waste management method, including aqueous treatment, underground injection, landfills, incineration, stabilization and energy recovery, the number of facilities handling RCRA hazardous waste and the quantities handled off- and on-site are reported. These numbers are also reported for each state that exercises these management methods.

The Biennial Report also lists the number of TSD facilities and quantities generated and minimized for sites that reported waste minimization activity for each state and for each SIC code. Also reported are the percentage of sites that created or expanded waste minimization programs. For the waste minimization methods, the activities undertaken to achieve source reduction, the percent of new waste recycling activities begun in the reporting years, and the factors delaying or preventing implementation of source reduction opportunities and recycling plans are also reported.

For each state, the Biennial Report provides the number of RCRA large quantity generators operating in the state, total quantity of regulated waste generated, the number of TSD facilities using specific waste management methods, the ranking of the RCRA hazardous waste generated in the state, states of origin and target states for importing and exporting RCRA hazardous waste and the 40 largest RCRA generators and TSD facilities and the quantity the facilities generated or handled.

The author of this report is Office of Solid Waste and Emergency response and the supporting database is the BRS databases.

Exhibit 2-37. States Managing RCRA Hazardous Waste by Incineration, 1989

STATE	HAZARDOUS WASTE			TSO FACILITIES	
	RANK	QUANTITY (tons)	PERCENT	NUMBER	PERCENT
ALABAMA	19	4,122	0.3	6	2.7
ARIZONA	30	298	<0.05	5	2.3
ARKANSAS	9	35,578	2.8	8	3.6
CALIFORNIA	5	57,845	4.5	15	6.8
COLORADO	31	111	<0.05	1	0.5
CONNECTICUT	18	5,254	0.4	6	2.7
DELAWARE	26	888	0.1	1	0.5
GEORGIA	15	11,779	0.9	3	1.4
HAWAII	38	1	<0.05	1	0.5
IDaho	37	2	<0.05	1	0.5
ILLINOIS	12	28,888	2.2	13	5.9
INDIANA	10	35,358	2.8	9	4.1
IOWA	22	3,014	0.2	3	1.4
KANSAS	21	3,100	0.2	4	1.8
KENTUCKY	24	1,258	0.1	1	0.5
LOUISIANA	3	113,887	8.9	12	5.4
MARYLAND	17	6,281	0.5	3	1.4
MICHIGAN	13	28,182	2.2	6	2.7
MINNESOTA	20	3,886	0.3	7	3.2
MISSISSIPPI	33	78	<0.05	2	0.9
MISSOURI	4	89,003	5.4	10	4.5
NEVADA	32	100	<0.05	1	0.5
NEW HAMPSHIRE	39	0	0.0	1	0.5
NEW JERSEY	23	359	<0.05	6	2.7
NEW MEXICO	35	10	<0.05	1	0.5
NEW YORK	6	43,916	3.4	10	4.5
NORTH DAKOTA	27	441	<0.05	1	0.5
OHIO	2	176,810	13.8	20	9.0
OKLAHOMA	25	898	0.1	4	1.8
OREGON	34	26	<0.05	1	0.5
PENNSYLVANIA	16	8,881	0.7	5	2.3
PUERTO RICO	7	38,162	3.0	5	2.3
SOUTH CAROLINA	8	35,767	2.8	4	1.8
TEXAS	1	521,822	40.8	24	10.9
UTAH	28	394	<0.05	4	1.8
VERMONT	36	3	<0.05	1	0.5
VIRGINIA	14	13,288	1.0	4	1.8
WEST VIRGINIA	11	28,889	2.2	8	3.6
WISCONSIN	23	2,659	0.2	4	1.8
TOTAL		1,280,216	100.0	221	100.0

NOTES: States not listed did not manage hazardous waste by incineration during 1989.  
Columns may not sum due to rounding.

## 1989 National Biennial RCRA Hazardous Waste Report

Exhibit 3-4. Number and Quantity of Waste Minimized by Waste Reported, by SIC Code, 1989

SIC CODE	TOTAL QUANTITY GENERATED (tons)	WASTES MINIMIZED		TOTAL NUMBER OF WASTES REPORTED	WASTES MINIMIZED	
		QUANTITY GENERATED (tons)	PERCENT		NUMBER	PERCENT
unknown	1,034,981	33,885	3.3	18,005	1,079	6.7
01	24	0	0.0	1	0	0.0
02	7,583	42	0.6	51	2	3.9
07	139	20	14.4	29	4	13.8
08	270	228	84.4	53	3	5.7
09	22	0	0.0	27	0	0.0
10	484	37	8.0	180	8	4.4
12	629	230	36.6	38	12	33.3
13	23,181	1,341	5.8	304	17	5.6
14	524	176	33.6	72	3	4.2
15	798	57	7.1	219	2	0.9
16	2,716	17	0.6	294	4	1.4
17	5,314	354	6.7	467	36	7.7
20	40,508	4,471	11.0	1,123	78	6.9
21	180	0	0.0	38	0	0.0
22	65,109	4,117	6.3	577	48	8.3
23	1,175	131	11.1	80	7	11.7
24	22,851	3,601	15.8	1,020	84	8.2
25	138,457	4,076	2.9	939	130	13.8
26	82,409	18,484	28.4	1,810	186	9.2
27	35,282	11,259	31.9	1,382	173	12.7
28	175,727,980	5,978,525	3.4	22,643	1,875	8.5
29	3,903,810	176,908	4.5	1,707	160	9.4
30	234,082	11,079	4.7	2,848	337	11.8
31	6,751	830	9.3	73	15	20.5
32	119,348	39,894	33.5	1,411	144	10.2
33	3,853,780	880,393	22.8	5,334	488	8.8
34	3,249,929	258,539	8.0	12,048	1,811	13.4
35	336,332	113,842	33.8	5,052	857	13.0
36	3,864,120	224,883	6.1	14,518	1,435	9.9
37	1,622,608	79,883	4.9	14,375	835	5.8
38	73,607	9,148	12.4	3,216	239	8.1
39	24,185	3,809	15.8	968	82	8.5
40	9,012	616	6.8	328	25	7.6
41	8,003	105	1.3	423	13	3.1
42	358,459	17,798	5.0	1,439	72	5.0
43	38	1	2.6	33	1	3.0
44	5,723	2,997	52.4	150	7	4.7
45	121,548	1,088	0.9	1,166	78	6.7
46	5,423	1,490	27.5	94	46	48.9
47	5,096	511	10.0	192	24	12.5
48	1,821	26	1.6	151	24	15.9
49	1,716,893	201,983	11.8	6,152	316	5.1
50	84,390	7,348	8.7	3,052	44	1.4
51	56,401	3,467	6.1	1,621	109	6.0
52	110	11	10.0	9	1	11.1
55	1,892	121	6.4	545	23	4.2
57	28	0	0.0	6	0	0.0
58	67	0	0.0	4	0	0.0
59	454	75	16.5	188	4	2.1
60	862	0	0.0	3	0	0.0
65	126	0	0.0	75	0	0.0
67	655	0	0.0	16	0	0.0
70	21	0	0.0	24	0	0.0
72	2,091	279	13.3	936	20	2.1
73	258,053	30,159	11.7	2,087	44	2.1
75	2,921	62	2.1	596	24	4.0
76	4,316	207	4.8	388	21	5.7
78	1,105	32	2.9	46	3	6.5
79	59	4	6.8	33	4	12.1
80	1,939	373	19.2	2,464	59	2.4
81	0	0	0.0	1	1	100.0
82	4,103	352	8.6	4,153	179	4.3
87	5,594	1,094	19.6	1,816	123	7.6
88	2	0	0.0	1	0	0.0
89	50,114	1,051	2.1	512	17	3.3
91	4,434	858	19.4	1,158	42	3.6

(Continued on next page)

Exhibit 2-48. RCRA Hazardous Waste Generation, Imports, Exports, and Management, by State, 1989

STATE	TOTAL GENERATED (tons)	IMPORTS		EXPORTS		TOTAL MANAGED (tons)
		AMOUNT (tons)	PERCENT OF QUANTITY MANAGED	AMOUNT (tons)	PERCENT OF QUANTITY GENERATED	
ALABAMA	403,701	333,681	88.1	157,501	39.0	564,189
ALASKA	3,684	0	0.0	3,470	94.7	29
ARIZONA	124,595	776	0.6	23,415	18.8	95,737
ARKANSAS	805,150	115,352	1.0	88,014	12.3	824,156
CALIFORNIA	4,670,579	28,556	0.6	204,896	4.4	4,978,478
COLORADO	117,347	1,994	2.4	33,044	28.2	81,292
CONNECTICUT	1,390,314	21,253	5.8	108,501	7.8	386,215
DELAWARE	19,766	1	<0.05	14,084	71.3	3,472
DISTRICT OF COLUMBIA	2,357	0	0.0	2,409	102.2	0
FLORIDA	411,832	18,817	4.6	60,915	14.8	359,733
GEORGIA	2,615,210	18,188	0.7	89,459	3.4	2,551,209
GUAM	573	0	0	203	35.5	0
HAWAII	2,149	149	18.6	1,449	67.4	803
IDAH0	15,082	37,524	81.7	1,579	10.5	45,951
ILLINOIS	1,381,799	285,888	19.8	244,472	17.7	1,441,365
INDIANA	1,843,015	313,484	15.5	132,313	7.2	2,021,016
IOWA	76,240	2,330	3.1	21,402	28.1	74,653
KANSAS	1,713,983	26,167	1.5	40,820	2.4	1,700,795
KENTUCKY	149,612	92,282	63.4	86,109	44.2	145,481
LOUISIANA	9,094,768	238,750	2.6	150,058	1.6	9,205,887
MAINE	52,528	0	0.0	52,835	100.2	0
MARYLAND	265,227	7,731	3.7	88,913	26.0	211,256
MASSACHUSETTS	34,142	0	0.0	25,444	74.5	0
MICHIGAN	35,143,284	199,634	0.6	227,060	0.6	35,067,217
MINNESOTA	239,098	12,581	3.6	38,805	16.2	348,586
MISSISSIPPI	717,291	18,649	2.7	43,415	6.1	697,961
MISSOURI	384,289	96,944	33.5	105,154	27.4	289,531
MONTANA	4,978	0	0.0	2,487	50.2	2,857
NEBRASKA	72,209	19,115	22.8	8,374	11.6	63,959
NEVADA	4,685	15,142	74.6	1,954	41.7	20,246
NEW HAMPSHIRE	18,211	211	3.5	13,100	71.9	5,952
NEW JERSEY	47,096,658	165,933	0.4	218,015	0.5	46,931,754
NEW MEXICO	10,961	16	0.3	5,252	47.9	6,355
NEW YORK	406,910	141,486	33.7	149,938	36.8	419,838
NORTH CAROLINA	588,338	36,168	6.4	43,530	7.4	585,799
NORTH DAKOTA	28,840	660	2.6	3,851	12.7	25,451
OHIO	2,727,383	402,061	14.8	326,339	12.0	2,710,118
OKLAHOMA	205,382	113,781	49.8	47,713	23.2	228,363
OREGON	27,954	57,330	87.8	18,817	67.3	65,285
PENNSYLVANIA	1,246,706	356,702	31.3	426,113	34.2	1,139,446
PUERTO RICO	246,161	8	<0.05	8,636	3.5	243,417
RHODE ISLAND	5,585	13,707	106.3	5,201	93.5	12,897
SOUTH CAROLINA	106,224	151,852	86.3	38,535	36.3	175,807
SOUTH DAKOTA	1,088	122	<0.05	1,372	126.1	0
TENNESSEE	34,363,940	67,541	0.2	41,335	0.1	34,533,270
TEXAS	28,171,680	189,576	0.7	298,396	1.1	27,768,963
TRUST TERRITORIES	23	2	100.0	24	105.4	2
UTAH	211,563	46,639	18.1	6,505	3.1	258,227
VERMONT	13,481	100	94.4	13,840	102.7	106
VIRGIN ISLANDS	5,757	0	0.0	0	0.0	5,757
VIRGINIA	5,227,092	53,109	1.0	40,968	0.8	5,324,021
WASHINGTON	228,323	15,501	9.1	57,476	25.2	170,943
WEST VIRGINIA	14,396,206	1,774	<0.05	83,767	0.4	14,335,483
WISCONSIN	411,897	23,387	6.3	111,190	27.0	371,333
WYOMING	3,180	0	0.0	2,954	92.9	287
TOTAL	197,501,112	3,740,225	1.9	3,972,853	2.0	196,500,666

<sup>1</sup> Quantity managed only by storage is excluded.

NOTE: Columns may not sum due to rounding.

**1989 National Biennial RCRA Hazardous Waste Report  
November 2, 1992**

**FLORIDA**

**Table 1. RCRA Hazardous Waste Generation and Management, 1989**

<b>Total Number of RCRA Large Quantity Generators:</b>	<b>368</b>
<b>Total Quantity of Regulated Waste Generated:</b>	<b>411,832 tons</b>
<b>RCRA TSD Facilities (excluding storage-only facilities)</b>	
Facilities managing only waste generated on site	10
Facilities managing only waste generated off site	5
Facilities managing waste generated both on and off site	1
<b>Total RCRA TSD Facilities (excluding storage-only facilities):</b>	<b>16</b>
<b>Total Quantity of RCRA Regulated Waste Managed in RCRA TSD units:     (excluding quantity managed in storage only)</b>	<b>359,733 tons</b>
<b>Total RCRA TSD Facilities:</b>	<b>22</b>

**Final Disposition of Wastes Managed in RCRA Processes**

Management Method -----	Code ----	No. of facilities using method*	Hazardous Waste Managed Quantities (tons)		Total -----	Percent -----
			On site -----	Off site -----		
OTHER TREATMENT	M121-M129	10	18,130	0	18,130	5.0
UNDERGROUND INJECTION	M134	1	320,134	0	320,134	89.0
INVALID SYSTEM TYPE		6	0	21,468	21,468	6.0
<b>TOTAL</b>		<b>16</b>	<b>338,264</b>	<b>21,468</b>	<b>359,733</b>	<b>100.0</b>
<b>PERCENTAGE</b>		<b>-</b>	<b>94.0 %</b>	<b>6.0 %</b>	<b>100%</b>	<b>-</b>

\*Column may not sum to total because facilities may have multiple handling methods.



1989 National Biennial RCRA Hazardous Waste Report  
October 9, 1992

FLORIDA

TABLE 2. RCRA Hazardous Waste Imports and Exports, 1989

Imports		Exports	
State	Tons Received	State	Tons Shipped
-----	-----	-----	-----
	0	AL	19,474
AL	11,408	AR	580
GA	4,776	CT	21
LA	45	GA	2,198
SC	388	IL	609
		IN	286
		KY	181
TOTAL	16,617	LA	7,220
		MA	0
		MD	0
		MI	973
		MO	2
		NC	337
		NJ	449
		NY	238
		OH	796
		OR	7
		PA	9,432
		RI	7
		SC	16,151
		TN	1,815
		TX	359
		UT	18
		TOTAL	60,915

**1989 National Biennial RCRA Hazardous Waste Report  
November 2, 1992**

**FLORIDA**

**TABLE 3. RANK ORDER OF 40 LARGEST HAZARDOUS WASTES GENERATED, 1989**

Rank	Waste Type	Quantity Generated (tons)	Percentage
1	D002	341,109	82.8
2	LAMP	22,383	5.4
3	D001	12,805	3.1
4	K061	11,133	2.7
5	D006	8,268	2.0
6	F006	3,050	0.7
7	D008	2,468	0.6
8	F003	2,417	0.6
9	F002	2,316	0.6
10	F001	1,811	0.4
11	D007	1,381	0.3
12	F019	1,019	0.2
13	F005	702	0.2
14	P078	243	0.1
15	D009	112	0.05
16	D003	99	0.05
17	U239	82	0.05
18	F007	73	0.05
19	U147	68	0.05
20	D011	46	0.05
21	U210	26	0.05
22	D005	24	0.05
23	D004	23	0.05
24	D016	18	0.05
25	U036	18	0.05
26	U080	17	0.05
27	D010	9	0.05
28	U122	8	0.05
29	D013	7	0.05
30	F008	6	0.05
31	U016	6	0.05
32	U154	5	0.05
33	U226	5	0.05
34	F009	4	0.05
35	U134	4	0.05
36	U019	4	0.05
37	U121	4	0.05
38	P050	4	0.05
39	U133	3	0.05
40	U044	3	0.05

\* These waste types represent waste streams that were characterized by more than one EPA waste code. An explanation of the derivation of these mixture codes is provided in Section 2-3.

1989 National Biennial RCRA Hazardous Waste Report  
November 2, 1992

FLORIDA

Table 4. Four Largest Quantities and Types of RCRA Hazardous Waste Managed, by RCRA Management Method, 1989

Management Method	Code	Waste Type	Quantity Managed in State (tons)
OTHER TREATMENT	N121-N129	0002	17,460
		LARP	327
		0007	309
		0001	30
UNDERGROUND INJECTION	N134	0002	320,134
INVALID SYSTEM TYPE		LARP	19,920
		P003	734
		0001	528
		0006	189
TOTAL			359,733

\* These waste types represent waste streams that were characterized by more than one EPA waste code. An explanation of the derivation of these mixture codes is provided in Section 2-3.

**1989 National Biennial RCRA Hazardous Waste Report  
October 9, 1992**

**FLORIDA**

**TABLE 5. FORTY LARGEST RCRA HAZARDOUS WASTE GENERATORS AND RCRA QUANTITY GENERATED, 1989**

<b>RANK</b> ----	<b>EPAID</b> -----	<b>SITE NAME</b> -----	<b>CITY</b> ----	<b>TOTAL GENERATED (U.S. TONS)</b> -----
01	FLD006106811	KAISER ALUMINUM & CHEMICAL CORP	MULBERRY	320,134
02	FLD057231821	AMERICAN CYANAMID CO INC	MILTON	17,427
03	FLD083812537	FLORIDA STEEL CORP	BALDWIN	8,312
04	FLD980729610	TRICIL RECOVERY SERVICE	BARTOW	7,462
05	FLD043860451	GATES ENERGY PRODUCTS INC	MACLE	6,597
06	FLD980842207	FLORIDA DER WASTE CLEANUP	TALLAHASSEE	4,077
07	FLD093545206	REICHOLO CHEMICALS INC	PENSACOLA	3,207
08	FLD000814434	FLORIDA STEEL CORP	TAMPA	2,938
09	FLD980847271	SAFETY KLEEN CORP 3-163-01	TAMPA	2,283
10	FLD980847214	SAFETY KLEEN CORP 3-079-01	ORANGE PARK	1,884
11	FL6170024412	USNAS JACKSONVILLE	JACKSONVILLE	1,648
12	FLD000776708	CHEMICAL WASTE MGT POMPANO	POMPANO BEACH	1,646
13	FLD984166942	UNC RECLAMATION INC	MULBERRY	1,476
14	FLD004092839	GULF COAST RECYCLING INC	TAMPA	1,387
15	FLD000602334	HARRIS SEMICONDUCTOR DIV	PALM BAY	1,309
16	FLD097837983	SAFETY KLEEN CORP 3-130-01	ALTAMONTE SPRINGS	1,241
17	FLD981474802	GSX SERVICES	PINELLAS PARK	965
18	FLD982106775	FAME PLASTICS INC	DAYTONA BEACH	961
19	FLD065912966	ADVANCED QUICK CIRCUITS	MELBOURNE	931
20	FLD980840086	SAFETY KLEEN CORP 3-097-02	MIAMI	864
21	FLD093558466	PEC VIKTRON	ORLANDO	790
22	FLD069145019	NORTHERN TELECOM ELECTRONICS INC	WEST PALM BEACH	788
23	FLD004073177	AERO CORP	LAKE CITY	772
24	FLD065885931	METAL CONTAINER CORP	JACKSONVILLE	696
25	FL6800014585	USNASA KENNEDY SPACE CENTER	KENNEDY SPACE CENTER	672
26	FLD061993606	MARTIN MARIETTA AEROSPACE	OCALA	643
27	FLD000776716	SAFETY KLEEN CORP 3-163-02	PORT CHARLOTTE	610
28	FLD000776773	SAFETY KLEEN CORP 3-079-02	TALLAHASSEE	600
29	FLD980602734	RESOURCE RECOVERY OF AMERICA INC	MULBERRY	567
30	FLD001447952	UNITED TECHNOLOGIES	JUPITER	510
31	FLD161150446	METALPLATE GALVANIZING INC	JACKSONVILLE	504
32	FL9170024567	USN NAVY PUBLIC WORKS CENTER	PENSACOLA	471
33	FLD981469612	FLORIDA DER AMNESTY DAYS	TALLAHASSEE	442
34	FLD004065470	WALT DISNEY WORLD CO	BAY LAKE	421
35	FL2800016121	USAF CAPE CANAVERAL	CAPE CANAVERAL	408
36	FLD981475049	CONNECTRONICS INC	FORT LAUDERDALE	400
37	FLD067966593	MARTIN ELECTRONICS INC	PERRY	398
38	FLD059859587	VISION EASE	FORT LAUDERDALE	337
39	FLD067096524	OLIN CORP	ST MARKS	326
40	FLD006117677	PERCO INC	MIAMI	287

**1989 National Biennial RCRA Hazardous Waste Report  
October 9, 1992**

**FLORIDA**

**TABLE 6. FORTY LARGEST RCRA HAZARDOUS WASTE FACILITIES, 1989**

Rank	EPA ID	Site Name, City				Total Managed 1
-----	-----	-----				-----
		Management Method	On Site	Off Site	Method Total	
		-----	-----	-----	-----	
1	FLD004106811	KAISER ALUMINUM & CHEMICAL CORP., MULBERRY OTHER TREATMENT N121-N129	320,134	0	320,134	320,134
2	FLD000737312	OLDOVER CORP., GREEN COVE SPRINGS INVALID SYSTEM TYPE	0	20,562	20,562	20,562
3	FLD057231821	AMERICAN CYANAMID CO INC., HILTON OTHER TREATMENT N121-N129	17,427	0	17,427	17,427
4	FLD981750706	MATRIX RECOVERY SYSTEMS INC., WILLISTON INVALID SYSTEM TYPE	0	655	655	655
5	FLD047096524	GLIN CORP., ST MARKS OTHER TREATMENT N121-N129	315	0	315	315
6	FLD047966593	MARTIN ELECTRONICS INC., PERRY OTHER TREATMENT N121-N129	309	0	309	309
7	FLD984166942	UNC RECLAMATION INC., MULBERRY INVALID SYSTEM TYPE	0	189	189	189
8	FLD004092839	GULF COAST RECYCLING INC., TAMPA INVALID SYSTEM TYPE	0	62	62	62
9	FLD099694572	ABB POWER DISTRIBUTION INC., SANFORD OTHER TREATMENT N121-N129	49	0	49	49
10	FLD001447952	UNITED TECHNOLOGIES, JUPITER OTHER TREATMENT N121-N129	16	0	16	
11	FLD004104105	HONEYWELL INC., CLEARWATER OTHER TREATMENT N121-N129	10	0	10	10
12	FL6170022952	USN BOCA CHICA, KEY WEST OTHER TREATMENT N121-N129	5	0	5	5
13	FL8572128587	USAF AVON PARK, AVON PARK INVALID SYSTEM TYPE	0	1	1	1
14	FL2800016121	USAF CAPE CANAVERAL, CAPE CANAVERAL OTHER TREATMENT N121-N129	0	0	0	0
		INVALID SYSTEM TYPE	0	0	0	
15	FL6890090008	USDOE PINELLAS PLANT, LARGO OTHER TREATMENT N121-N129	0	0	0	0
16	FLD064824030	MCDONNELL DOUGLAS MISSILE SYSTEMS, TITUSVILLE OTHER TREATMENT N121-N129	0	0	0	0

1 Excluding quantity managed by storage only.

**Agricultural Chemical Usage Reports (Department of Agriculture)****Publications reviewed:**

1990		
Vegetables Summary	USDA	NASS and ERS
1991		
Field Crops Summary	USDA	NASS and ERS
Fruits and Nuts Summary	USDA	NASS and ERS
1992		
Field Crops Summary	USDA	NASS and ERS
Vegetables Summary	USDA	NASS and ERS

**1991 and 1992 Field Crops Summary**

This report is listed as the third annual Field Crops Summary issued by the National Agricultural Statistics Service (NASS), and the 1991 report names itself as the second annual Field Crops Summary. The reports are part of the data series on chemical use funded through the Water Quality Initiative and the Pesticide Data Program.

The reports are evolving, with continuity provided by a two year comparison table in the Overview section. The evolving nature of the report is evidenced by removing or adding crops, such as peanuts and sorghum. These products were present in the overview in 1991, but removed in 1992.

The overview includes the number of states surveyed, the reports summarized and the U.S. acreage included. A comparison across the three years is included as table 1, which gives an example of how the reports could be combined for a continuum of Environmental Indicators.

Each major crop section starts with a 1 page description of activities associated with the crop, followed by a thematic map showing the number of usable reports from the various states growing the crop. A graph of the top 4 or 5 pesticides and their usage over three years is presented next. Following the graphical materials, summary pages are showing the acreage and percentage of areas receiving fertilizers and pesticides, by state, see examples for Soybeans attached.

State by state data are then presented in greater detail, on a chemical by chemical basis under the categories of fertilizers, herbicides, insecticides, fungicides, and other chemicals, if applicable. A copy of

the soybean data for Arkansas is attached. The raw numbers of chemical usage are probably not directly useful as an environmental indicator (especially in the case of fertilizers). However, knowledgeable analysis of upwards trends in environmentally preferable chemicals, and downward trends in environmentally unfriendly chemicals have potential, at least in a relative sense.

The 1992 survey included, for the first time, data on the target pest by pesticide product for fall potatoes. The Overview states that there are intentions to provide this type of information on other crops in the future. The fall potato information is also attached..

The data may be very useful due to the quantity of chemicals associated with major field crops, the tendency for the chemicals to migrate to water sources, and its potential applicability to the areas of clean water, safe drinking water, ecological protection, safe food, worker health and safety, and improved understanding of the environment.

#### 1991 and 1992 Vegetables Summary

The 2 documents were reviewed together, as they are a series. The 1990 document was limited to only 4 states, however by 1992, the survey had expanded to include 13 states. The states are:

1990	1992
Arizona	Arizona
	California
Florida	Florida
	Georgia
	Illinois
Michigan	Michigan
	New Jersey
	New York
	North Carolina
	Oregon
Texas	Texas
	Washington
	Wisconsin

Focus will be on the 1992 report. It's considerably more comprehensive, although the 1990 report had good graphics which were missing from the 1992 report.

The section labeled **HIGHLIGHTS** in the very similar **Field Crops Summary** appears in the 1992 **Vegetables Summary**, however it does not have a heading, **HIGHLIGHTS** or otherwise, and it starts on page 250. The material is quite extensive and a sample is enclosed.

The report contains both a **Survey Procedures** section, page number 2, and a **Reliability Statement**, page 259.

Twenty-eight vegetables are addressed by tables which include summary data for the vegetable, by state, and detailed vegetable by state by chemical data. Again as in the **Field Crops Summary**, this report contains data which may be very useful due to the quantity of chemicals associated with vegetable crops (and the tendency for many vegetables to be consumed raw), the tendency for the chemicals to migrate to water sources, and its potential applicability to the areas of clean water, safe drinking water, ecological protection, safe food, worker health and safety, and improved understanding of the environment. The raw numbers of chemical usage are probably not directly useful as an environmental indicator (especially in the case of fertilizers). However, knowledgeable analysis of upwards trends in environmentally preferable chemicals, and downward trends in environmentally unfriendly chemicals have potential, at least in a relative sense.

### 1991 Fruits and Nuts Summary

This report is listed as the first **Fruit and Nuts Summary** issued by the **National Agricultural Statistics Service (NASS)** containing on-farm agricultural use statistics. It compliments the reports series on field crops and vegetables. The format is very similar to that of the other reports in the series.

The overview states that California pesticide data are summarized and published by the California Department of Pesticide Regulation and thus were not included in this report. However, the report provides information on obtaining the California information by ordering from an address listed on the inside of the back cover.

Survey procedure information is provided, as well as a reliability statement. The reliability statement is separated from the survey procedures (page 159 vs. page 2). Sampling variability ranges are given, and examples are provided to generate approximate confidence bands.



Summary sections of one or two paragraphs are provided for each crop, highlighting salient points.

The bulk of the report consists of a crop by crop listing of several pages each, enumerating fertilizer, herbicide, insecticide, and fungicide usage for the major states, listings of the acreage of the major states (less California in some cases) and a state by state analysis of the major chemical components.

**Asparagus: Agricultural Chemical Applications.  
California, 1992 <sup>1/</sup>**

Agricultural Chemical <sup>2/</sup>	Area Applied <sup>3/</sup>	Appli- cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	Number	Pounds per Acre		1,000 Lbs
<b>Fertilizers</b>					
Nitrogen	33	2.4	90	215	2.429
Phosphate	12	1.4	59	82	348
Potash	12	1.4	56	78	329
<b>Herbicides</b>					
Diuron	49	1.4	1.80	2.52	42.2
Linuron	23	1.2	0.91	1.13	9.0
<b>Insecticides</b>					
Disulfoton	37	1.4	0.94	1.27	16.3

<sup>1/</sup> Planted acres in 1992 for California were 34,500 acres.

<sup>2/</sup> Insufficient reports to publish data for the following agricultural chemicals: Herbicides: 2,4-D, Glyphosate, Napropamide, Paraquat, Sethoxydim, Simazine, Trifluralin. Insecticides: Chlorpyrifos, Fonofos, Malathion, Methomyl, Piperonyl butoxide, Pyrethrins. Fungicides: Fosetyl-a1, Metalaxyl, Sulfur, Triforine.

<sup>3/</sup> Refers to acres receiving one or more applications of a specific agricultural chemical.

Note: Data may not multiply across due to rounding.

Source: "Vegetables - 1992 Summary" and Agricultural Chemical Usage Survey.  
National Agricultural Statistics Service, USDA.

**Asparagus: Fertilizer Applications.  
Total Acreage and Percentage Receiving Applications.  
Major States and Total, 1992**

State	Planted Acreage	Area Receiving 1/		
		Nitrogen	Phosphate	Potash
	Acres	Percent		
CA	34,500	33	12	12
IL	810	34	46	43
MI	23,000	91	30	78
NJ	1,300	96	96	96
OR	1,200	100	83	43
WA	28,500	77	39	34
Total	89,310	64	28	38

1/ Refers to acres receiving one or more applications of a specific fertilizer ingredient.

Source: "Vegetables - 1992 Summary" and Agricultural Chemical Usage Survey.  
National Agricultural Statistics Service, USDA.

**Asparagus: Pesticide Applications.  
Total Acreage and Percentage Receiving Applications.  
Major States and Total, 1992**

State	Planted Acreage	Area Receiving 1/			
		Herbicide	Insecticide	Fungicide	Other Chemical
	Acres	Percent			
CA	34,500	71	41	8	*
IL	810	71	**	*	*
MI	23,000	96	84	50	*
NJ	1,300	83	67	**	*
OR	1,200	99	77	*	*
WA	28,500	96	77	38	*
Total	89,310	86	64	28	*

\* Applied on less than 1 percent of acres.

\*\* Insufficient reports to publish percent of Area Receiving.

1/ Refers to acres receiving one or more applications of a specific pesticide class.

Source: "Vegetables - 1992 Summary" and Agricultural Chemical Usage Survey.  
National Agricultural Statistics Service, USDA.

## Overview

This report is the second annual Field Crops Summary issued by the National Agricultural Statistics Service (NASS) containing on-farm agricultural chemical use statistics. The data presented in this report are part of the data series on chemical use funded through the President's Water Quality Initiative.

The Water Quality Initiative is a multi-agency program designed to provide information for farmers, ranchers, and foresters to address on-farm and off-farm environmental issues. In the past, there has been an inadequate amount of farm level data to determine the magnitude of water quality problems or to permit an assessment of alternatives for farmers and other affected parties. This report and other agricultural chemical reports help fill the needs of analysts evaluating the complex environmental issues of the 1990's.

NASS is responsible for collecting on-farm agricultural chemical use information to support the evaluation of water quality and food safety issues. The Economic Research Service (ERS) conducts research on the impact of alternative pesticide regulations, policies, and practices.

This report includes farm use of fertilizers and pesticides during 1991 on corn, cotton, peanuts, potatoes, rice, sorghum, soybeans, and wheat. New in this year's report is pesticide and fertilizer usage on peanuts and sorghum.

In 1991, changes were made to the sample sizes and the number of States surveyed for some crops. The table below compares survey coverage for 1990 with 1991 by crop. In it are the number of States surveyed, the number of reports summarized, and the percent of the U.S. crop acres accounted for in the surveyed States.

A Comparison of the 1990 and 1991 Chemical Use Surveys

Crop	1990			1991		
	States	Reports	US Acreage	States	Reports	US Acreage
	: Surveyed	: Summarized	: Included	: Surveyed	: Summarized	: Included
	-- Number --		Percent	-- Number --		Percent
Corn	47	4792	100	17	5759	90
Cotton, Upland	6	1197	81	6	1136	78
Peanuts	-	--	--	4	663	73
Potatoes, Fall	11	1324	94	11	1402	94
Rice	2	388	62	2	546	65
Sorghum	-	--	--	3	829	73
Soybeans	29	3642	100	16	4443	90
Wheat, Winter	12	1311	80	15	1658	87
Wheat, Durum	1	134	87	1	130	89
Wheat, Oth. Spr.	4	302	94	4	387	87

Agricultural Chemical Usage  
March 1992

NASS and ERS, USDA

**Soybeans: Fertilizer Applications,  
Total Acreage and Percentage Receiving Applications,  
Major States and Total, 1992**

State	Area Planted	Area Receiving 1/		
		Nitrogen	Phosphate	Potash
	1,000 Acres	Percent		
AR	3,200	12	31	31
GA	650	40	54	57
IL	9,500	10	19	26
IN	4,550	21	31	39
IA	8,300	10	12	14
KS	1,900	11	9	4
KY	1,180	37	44	42
LA	1,220	4	17	18
MN	5,500	15	16	14
MS	1,800	8	17	18
MO	4,300	10	20	22
NE	2,500	20	18	8
NC	1,400	54	63	67
OH	3,750	15	29	44
SD	2,300	15	15	6
TN	1,000	27	53	56
Total	53,050	15	22	25

1/ Refers to acres receiving one or more applications of a specific fertilizer ingredient.

Source: "Crop Production" 1992 Summary and Agricultural Chemical Usage Survey.  
National Agricultural Statistics Service, USDA.

**Soybeans: Agricultural Chemical Applications,  
Major States, 1992 1/**

Agricultural Chemical 2/	Area Applied 3/	Appli- cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	Number	Pounds per Acre		Mil Lbs
<b>Fertilizers:</b>					
Nitrogen	15	1.0	21	22	172.6
Phosphate	22	1.0	46	47	550.2
Potash	25	1.0	73	75	981.7
	Percent	Number	Pounds per Acre		1,000 Lbs
<b>Herbicides:</b>					
2,4-D	1	1.0	0.40	0.40	303
2,4-DB	1	1.1	0.07	0.08	56
Acifluorfen	10	1.0	0.19	0.20	1,074
Alachlor	9	1.0	2.05	2.08	10,162
Bentazon	14	1.0	0.65	0.66	4,785
Chlorimuron-ethyl	17	1.0	0.02	0.02	173
Clomazone	5	1.0	0.56	0.57	1,363
Ethalfuralin	2	1.0	0.87	0.87	883
Fenoxaprop-ethyl	1	1.0	0.09	0.09	53
Fluazifop-P-butyl	6	1.0	0.11	0.12	342
Fomesafen	2	1.0	0.23	0.23	273
Glyphosate	7	1.0	0.59	0.61	2,394
Imazaquin	18	1.0	0.09	0.09	863
Imazethapyr	29	1.0	0.06	0.06	861
Lactofen	2	1.0	0.08	0.08	72
Linuron	2	1.0	0.50	0.51	514
Metolachlor	6	1.0	1.86	1.87	5,818
Metribuzin	14	1.0	0.29	0.29	2,181
Paraquat	1	1.0	0.47	0.49	314
Pendimethalin	21	1.0	0.83	0.87	9,736
Quizalofop-ethyl	4	1.0	0.06	0.06	136
Sethoxydim	6	1.0	0.20	0.20	596
Thifensulfuron	7	1.0	0.004	0.004	14
Trifluralin	35	1.0	0.83	0.85	15,626
<b>Insecticides:</b>					
Methyl parathion	*	1.2	0.40	0.47	117
Permethrin	*	1.0	0.10	0.10	15

\* Applied on less than one percent of acres.

1/ Area planted in 1992 for the 16 major States was 53.1 million acres.

2/ Insufficient reports to publish data for the following agricultural chemicals: Herbicides: Barban, Chloramben, Diuron, Naptalam, Norflurazon, Triallate, Vernolate. Insecticides: Acephate, Aldicarb, Bt (Bacillus thur.), Carbaryl, Carbofuran, Chlorpyrifos, Diazinon, Dimethoate, Esfenvalerate, Methomyl, Thiodicarb, Tralomethrin, Trichlorfon. Fungicides: Benomyl, Metalaxyl, Thiophanate-methyl.

3/ Refers to acres receiving one or more applications of a specific agricultural chemical.

Note: Data may not multiply across due to rounding.

Source: "Crop Production" 1992 Summary and Agricultural Chemical Usage Survey. National Agricultural Statistics Service, USDA.

Agricultural Chemical Usage  
March 1993

NASS and ERS, USDA

### **Forest Health Monitoring Summary Reports**

**Forest Health Monitoring, New England, Summary Report, 1990, United States Department of Agriculture (USDA), Forest Service, Northeastern Forest Experiment Station, NE-INFC-94-91, May 1991.**

This report covers a survey of the six-state New England region at 263 permanently maintained sampling sites and was mandated by Public Law 100-521. This study is the first in a series and serves as a baseline for the purpose of monitoring forest health.

Data collected at each site includes geographic, topographic and physiographic location, tree species, diameter, crown position, crown damage, other vegetation, and foliar symptoms on indicator plants.

Forest conditions are assessed using five indicator groups: growth, foliar symptoms, soil chemistry, foliar chemistry, sulfur dioxide, and hydrogen fluoride are also evaluated as well as counts of tree seedlings-saplings, mature live/dead, tree crown ratings, crown dieback, needle retention, and foliage discoloration.

The report also summarizes the major forest insect and pathogen problems as compiled from a survey taken by the USDA Forest Service.

Summary tables include (1) number of trees by major species and tree class, (2) distribution of open growth, dominant, and codominant trees by percent of crown dieback and class for major species, and (3) distribution of open growth, dominant, and codominant trees by percent of foliage transparency class for major species.

**Forest Health Monitoring in the South, Summary Report, 1991, USDA Forest Service, Southeastern Forest Experimental Station, General Technical Report SE-81, December, 1992.**

This report is similar to the 1990 New England Health Monitoring Summary Report but covers an initial summary of data collected during 1991 in Alabama, Georgia, and Virginia. The program is still in the implementation stages and undergoing development in nine other states in the south.

All aspects of the Forest Health Monitoring program are still under development but the goal is to: (1) identify and develop indicators of forest health, (2) establish baseline conditions with respect to selected indicators, (3) monitor the indicators to detect unexpected deviations from baseline, (4) identify casual relationships in the event of unexpected deviations, and (5) provide periodic statistical summaries and interpretive reports on the trends in forest health.

Many summary tables and graphs are provided in the report covering the same data as the 1990 New England Forest Health Monitoring Study, but it is cautioned that the tables are preliminary, still undergoing revision, and should be interpreted with caution.

**Forest Health Monitoring, New England/Mid-Atlantic, Summary Report, 1991, USDA, Forest Service, NE/NA-INF-115-92, November, 1992.**

This report is a follow-up to the 1990 New England Forest Health Monitoring Study and has been expanded to include three additional states from the Mid-Atlantic region (New Jersey, Delaware, and Maryland) and also adds the three southern states included in the 1991 South Forest Health Monitoring Study (Virginia, Georgia, and Alabama). Many tables and graphs are included in the report covering the same data as the 1990 New England Forest Health Monitoring Study.



### **Emissions of Greenhouse Gases in the United States 1985-1990 (DOE/EIA-0573)**

This report focuses on reporting the amounts and trends in the amounts of greenhouse gas emissions from 1985 to 1990. The eight greenhouse gases examined in this report are CO<sub>2</sub>, CH<sub>4</sub>, NO<sub>2</sub>, Ozone, CFCs, NO<sub>x</sub>, VOCs, and SO<sub>x</sub>. Water vapor is also reported. The purpose of this report is to develop an understanding as to how the greenhouse gases affect global climate change and how emissions of these gases can increase or decrease with respect to human activity.

The Greenhouse Gases report summarizes the changes, trends, sources and miscellaneous details of each of the greenhouse gases nationwide for the period 1985 to 1990, although 1991 data are included when available. Emissions and emission trends of greenhouse gases are reported in tabular form for the various gases. The estimates of emissions are based on data from a variety of sources both within and outside of the Department of Energy, but in general are computed by multiplying an activity, such as vehicle miles traveled (VMT), by an emissions coefficient. The reliability of both the emissions coefficients and activity data vary widely. A more complete discussion of the reliability of the emission estimates is found in Appendix A of the Greenhouse Gases Report.

Attached are examples of emissions and emission trends and source tables of greenhouse gases found in the Greenhouse Gases Report.

The author of this report is the Department of Energy/Energy Information Administration/Office of Energy Markets and End Use.

### 3. Methane Emissions

#### Overview

Anthropogenic methane is emitted into the atmosphere as a byproduct of the production and combustion of fossil fuels, the decomposition of human and animal wastes, digestion processes in ruminant animals, and the decomposition of organic matter in rice paddies. In the United States, emissions from oil, gas, and coal production, collectively, account for approximately one-fourth of total estimated methane emissions (Table 19). Solid waste landfills account for about a third of the total—making waste landfills the largest single source. Agricultural activities, primarily cattle production, account for the remainder of the anthropogenic methane emissions.

In aggregate, the data indicate relative stability in overall emissions rates in the late 1980s. It should be noted, however, that estimated emissions from energy production have been rising relative to other sources. The rise in energy-related emissions relates primarily to increasing levels of coal and natural gas output. Methane emissions from landfills are in decline primarily because methane recovery from landfills for fuel use has become more prevalent. Agricultural sources of

methane have also trended downward. The ruminant animal population—primarily cattle—is in decline in the United States as the composition of American diets has shifted away from red meat to chicken and other white meat substitutes and to greater reliance on grains, fruits, and vegetables.

Methane emissions estimates are much more uncertain than carbon dioxide emissions estimates. Most carbon dioxide emissions can be computed with a fairly high degree of reliability based on the carbon content of the fuel consumed. The quantity of fuel consumed, in turn, is usually carefully measured by organizations which buy and sell fuel. In contrast, known anthropogenic methane emissions are produced as an unintended side-effect of energy production and consumption, municipal waste disposal, and animal husbandry. As a consequence, methane emissions are not metered, and must therefore be estimated indirectly from a small volume of experimental data, which may or may not be representative of the population of emitters. Emissions can then be estimated by multiplying the estimated coefficient by some known variable (such as tons of solid waste landfilled), which may be badly suited for the purpose of computing methane emissions.

**Table 19. U.S. Methane Emissions from Anthropogenic Sources, 1985-1991**  
(Thousand Metric Tons of Methane)

Source	1985	1986	1987	1988	1989	1990	1991
<b>Energy Sources</b>							
Oil and Gas . . . . .	2,850	2,860	3,000	3,110	3,110	3,190	3,280
Coal Mining . . . . .	4,190	4,190	4,290	4,390	4,570	4,920	4,590
Transportation . . . . .	323	309	297	286	276	264	248
Stationary Combustion . . . . .	79	77	78	79	83	72	72
<b>Area Sources</b>							
Landfills . . . . .	11,310	11,360	11,240	11,220	10,980	10,720	NA
<b>Agricultural Sources</b>							
Ruminant Animals . . . . .	6,840	6,600	6,440	6,350	6,130	6,170	6,210
Animal Waste . . . . .	3,685	3,586	3,594	3,585	3,497	3,527	3,604
Rice Paddies . . . . .	209	197	195	243	225	236	232
<b>Total</b> . . . . .	<b>29,486</b>	<b>29,179</b>	<b>29,134</b>	<b>29,263</b>	<b>28,871</b>	<b>29,098</b>	<b>NA</b>

NA = not available.

Source: Emissions estimates presented in this report.

generate an emissions estimate of methane from coal mining of between 3.3 and 5.2 million metric tons for 1988.<sup>51</sup>

An alternative methodology, developed for EPA's September 1990 report, *Methane Emissions From Coal Mining: Issues and Opportunities for Reduction*, was adopted by the Intergovernmental Panel on Climate Change (IPCC) in August 1991.<sup>60</sup> Applying this methodology to U.S. coal production data results in a much larger emissions estimate for 1988 of 7.7 million metric tons. This method constructs a relationship between ventilation data from 59 of the "gassiest" mines in the United States and the in situ methane content of the coal in those mines. In situ methane content is estimated on the basis of laboratory examination of coal samples from the various U.S. coal basins. The estimated in situ methane content of coal in these basins is shown in Table 21.<sup>61</sup>

The EPA/IPCC method extends the relationship between emissions from underground coal mines and in situ methane content to surface coal mines, with minor modifications. However, such a relationship may differ substantially in surface coal mines where methane in coalbed cracks and fractures has the opportunity to migrate into the atmosphere in the absence of mining. The relationship is further altered by the much lower in situ methane content of surface-mined coal. Thus, the EPA/IPCC method provides the high end of the range of emissions estimates.

By definition, methane emissions are a function of in situ methane content. Before it is combusted, all coal is pulverized, releasing any methane it may contain. Therefore, the methane emitted from coal mining is, at a minimum, equal to coal production multiplied by in situ methane content. In 1990, this minimum emissions level amounted to 2.05 million metric tons.

**Table 21. Estimated Average In Situ Methane Content of U.S. Coal Basins and States**  
(Cubic Meters Methane per Metric Ton of Coal)

Basin or State	Methane Content	Reference
<b>Underground Mined Coal</b>		
Northern Appalachian . . . . .	5.4	Kelefant, J.R., Wicks, D.E., and Kuuskraa, V.A., 1988
Central Appalachian . . . . .	10.4	Kelefant, J.R., and Boyer, C.M., 1988
Warrior . . . . .	10.0	McCall, K.S., Wicks, D.E., and Kuuskraa, V.A., 1986
Piceance . . . . .	8.0	McCall, K.S., Wicks, D.E., Kuuskraa, V.A., and Sedwick, K.B., 1986
San Juan . . . . .	7.1	Kelso, B.S., Wicks, D.E., Kuuskraa, V.A., 1988
Illinois . . . . .	1.8	Mroz, T.H., Ryan, J.G., and Bryer, C.W., 1983
Uinta . . . . .	1.3	Mroz, T.H., Ryan, J.G., and Bryer, C.W., 1983
Green River . . . . .	1.3	Mroz, T.H., Ryan, J.G., and Bryer, C.W., 1983
Pennsylvania Anthracite Fields . . . . .	4.4	Diamond, W.P., Lascola, J.C., and Hyman, D.M., 1986
<b>Surface Mined Coal</b>		
Appalachian (Including Warrior) . . . . .	1.55	Diamond, W.P., Lascola, J.C., and Hyman, D.M., 1986
Illinois . . . . .	1.22	Diamond, W.P., Lascola, J.C., and Hyman, D.M., 1986
Powder River . . . . .	0.10	Diamond, W.P., Lascola, J.C., and Hyman, D.M., 1986
Arkoma . . . . .	3.40	Diamond, W.P., Lascola, J.C., and Hyman, D.M., 1986
San Juan . . . . .	0.48	Diamond, W.P., Lascola, J.C., and Hyman, D.M., 1986
Alaska . . . . .	0.10	Extrapolated from Powder River Basin
Arizona . . . . .	0.48	Extrapolated from San Juan Basin
Arkansas . . . . .	1.22	Extrapolated from Illinois Basin
California . . . . .	0.10	Extrapolated from Powder River Basin
Louisiana . . . . .	0.10	Extrapolated from Powder River Basin
North Dakota . . . . .	0.10	Extrapolated from Powder River Basin
Texas . . . . .	0.10	Extrapolated from Powder River Basin
Washington . . . . .	0.10	Extrapolated from Powder River Basin

Source: OECD, *Estimation of Greenhouse Gas Emissions and Sinks* (Final Report) (Paris, France, August 1991), p. 2-85.

<sup>50</sup>U.S. Environmental Protection Agency, *Anthropogenic Methane Emissions in the United States: Estimates for 1990* (Washington, DC, April 1993), pp. 3-1 - 3-30.

<sup>60</sup>U.S. Environmental Protection Agency, *Methane Emissions from Coal Mining: Issues and Opportunities for Reduction* (Washington, DC, September 1990), pp. 36-48.

<sup>61</sup>OECD, *Estimation of Greenhouse Gas Emissions and Sinks* (Final Report) (Paris, France, August 1991), pp. 2-80 - 2-88.

**Table 27. Methane Emissions from U.S. Stationary Combustion Sources, 1985-1991**  
(Thousand Metric Tons of Methane)

Source	1985	1986	1987	1988	1989	1990	1991
<b>Residential</b>							
Coal .....	0.04	0.04	0.04	0.04	0.03	0.04	0.03
Distillate Fuel .....	5.80	5.91	6.00	6.18	6.08	4.89	4.85
Natural Gas .....	5.43	5.29	5.29	5.68	5.86	5.38	5.58
LPG .....	0.43	0.42	0.46	0.46	0.51	0.47	0.50
Wood .....	<sup>a</sup> 23.50	<sup>a</sup> 23.00	22.49	<sup>a</sup> 21.60	24.23	15.34	<sup>a</sup> 15.30
<b>Total</b> .....	<b>35.20</b>	<b>34.65</b>	<b>34.28</b>	<b>33.95</b>	<b>36.70</b>	<b>26.12</b>	<b>26.27</b>
<b>Commercial</b>							
Coal .....	0.07	0.07	0.05	0.05	0.05	0.05	0.05
Fuel Oil .....	0.77	0.84	0.80	0.78	0.71	0.68	0.65
Natural Gas .....	2.98	2.84	2.98	3.27	3.33	3.22	3.35
LPG .....	0.07	0.07	0.08	0.08	0.09	0.08	0.09
Wood .....	<sup>a</sup> 0.17	<sup>a</sup> 0.17	<sup>a</sup> 0.17	<sup>a</sup> 0.17	<sup>a</sup> 0.17	<sup>a</sup> 0.17	<sup>a</sup> 0.17
<b>Total</b> .....	<b>4.06</b>	<b>3.99</b>	<b>4.08</b>	<b>4.36</b>	<b>4.36</b>	<b>4.20</b>	<b>4.31</b>
<b>Industrial</b>							
Coal .....	1.58	1.51	1.53	1.61	1.59	1.57	1.48
Fuel Oil .....	2.47	2.44	1.98	1.87	1.45	1.46	1.20
Natural Gas .....	9.35	8.86	9.67	10.19	10.74	11.24	11.41
LPG .....	2.46	2.31	2.45	2.54	2.49	2.32	2.54
Wood .....	<sup>a</sup> 13.10	<sup>a</sup> 12.80	12.48	<sup>a</sup> 12.80	13.25	13.26	<sup>a</sup> 13.25
<b>Total</b> .....	<b>28.96</b>	<b>27.91</b>	<b>28.11</b>	<b>29.00</b>	<b>29.53</b>	<b>29.85</b>	<b>29.89</b>
<b>Electric Utility</b>							
Coal .....	9.45	9.33	9.78	10.32	10.45	10.54	10.51
Fuel Oil .....	0.85	1.15	0.98	1.22	1.29	0.97	0.91
Natural Gas .....	0.41	0.35	0.39	0.36	0.38	0.38	0.38
Wood .....	0.07 <sup>a</sup>	0.07 <sup>a</sup>	0.07	0.09 <sup>a</sup>	0.10	0.10	0.09 <sup>a</sup>
<b>Total</b> .....	<b>10.79</b>	<b>10.91</b>	<b>11.22</b>	<b>11.99</b>	<b>12.22</b>	<b>11.98</b>	<b>11.90</b>
<b>Total All Fuels</b>							
Coal .....	11.14	10.95	11.40	12.03	12.12	12.20	12.08
Fuel Oil .....	9.89	10.33	9.77	10.05	9.54	7.99	7.62
Natural Gas .....	18.18	17.34	18.33	19.49	20.31	20.22	20.72
LPG .....	2.96	2.80	2.99	3.08	3.09	2.88	3.13
Wood .....	36.84	36.04	35.21	34.66	37.75	28.86	28.81
<b>Total</b> .....	<b>79.01</b>	<b>77.46</b>	<b>77.70</b>	<b>79.31</b>	<b>82.81</b>	<b>72.15</b>	<b>72.37</b>

<sup>a</sup>Estimate. Underlying energy data not available

Note. Totals may not equal sum of components due to independent rounding.

Sources: U.S. Environmental Protection Agency, *Compilation of Air Pollutant Emission Factors*, AP-42 (Research Triangle Park, NC, 1985); Energy Information Administration, *State Energy Data Report*, DOE/EIA-0214(91) (Washington, DC, May 1993), and *Annual Energy Review 1992*, DOE/EIA-0384(92) (Washington, DC, June 1993)

acidity, and landfill temperature. Waste management techniques such as open dumping versus sanitary landfill also play a crucial role. Wastes disposed of using open dumping techniques decompose under aerobic conditions producing carbon dioxide, while waste disposal in tightly packed sanitary landfills like those used in the United States, are more conducive to anaerobic decomposition.<sup>41</sup>

There were two methodologies considered for calculating U.S. emissions from landfills. The first model assumes that methane is released into the atmosphere during the same year that the waste is landfilled.<sup>42</sup> The alternative includes time lag variables that account for the delay in the onset of anaerobic decomposition as well as the decreasing levels of methane production over time. The former was the preferred methodology

<sup>41</sup>OECD, *Estimation of Greenhouse Gas Emissions and Sinks* (Final Report) (Paris, France, August 1991)

<sup>42</sup>H. G. Bingemer and P. J. Crutzen, "The Production of Methane From Solid Wastes," *Journal of Geophysical Research*, Vol. 92 (1987), pp 2181-2187

**Table 31. Maximum Methane-Producing Capacity for U.S. Animal Wastes**  
(Cubic Meters of Methane per Kilogram of Volatile Solids)

Animal Category	Maximum Potential Emissions	Reference
<b>Cattle</b>		
Beef on Feed .....	0.33	Hashimoto, A.G., Varel, V.H., and Chen, Y.R., 1981
Beef on Range .....	0.17	Hashimoto, A.G., Varel, V.H., and Chen, Y.R., 1981
Dairy Cows .....	0.24	Morris, G.R., 1976
<b>Swine</b>		
Breeding Swine .....	0.36	Summers, R., and Bousfield, S., 1980
Market Swine .....	0.47	Chen, Y.R., 1983
<b>Poultry</b>		
Broilers .....	0.30	Safley, L.M., et al., 1992
Layers .....	0.34	Safley, L.M., et al., 1992, based on Hill, D.T., 1982 and 1984
Sheep .....	0.20	Weighted value based on Safley, L.M., et al., 1992
Goats .....	0.17	Safley, L.M., et al., 1992
Horses .....	0.33	Ghosh, S., 1984

Note: Maximum methane-producing capacity is defined as cubic meters of methane emitted from 1 kilogram of volatile solids in the solid waste of a given animal under optimal anaerobic conditions

**Table 32. Methane Conversion Factors for U.S. Livestock Waste Systems**  
(Percent of Maximum Methane-Producing Capacity)

Waste System	EIA		EPA		
	Methane Conversion Factor	Alternate Conversion Factor	Methane Conversion Factor at 30°C	Methane Conversion Factor at 20°C	Methane Conversion Factor at 10°C
Pasture .....	10.00	1.25	2.00	1.50	1.00
Daily Spread .....	5.00	0.30	1.00	0.50	0.10
Solid Storage .....	10.00	1.25	2.00	1.50	1.00
Drylot .....	10.00	1.25	5.00	1.50	1.00
Deep Pit Stacking ....	5.00	5.00	5.00	5.00	5.00
Litter .....	10.00	10.00	10.00	10.00	10.00
Paddock .....	10.00	1.25	2.00	1.50	1.00
Liquid Storage .....	20.00	22.50	65.00	35.00	10.00
Anaerobic Lagoon ....	90.00	90.00	90.00	90.00	90.00
Pit Storage < 30 days .	10.00	11.50	33.00	18.00	5.00
Pit Storage > 30 Days .	20.00	22.50	65.00	35.00	10.00
Other Systems .....	10.00	10.00	NA	NA	NA

NA = not applicable.

Note: Maximum methane-producing capacity is defined as cubic meters of methane emitted from 1 kilogram of volatile solids in the solid waste of a given animal under optimal anaerobic conditions. The methane conversion factors represent the percentage of those emissions realized under a given waste management system.

for future drafts of this report. In April 1993, the Environmental Protection Agency released a new report on U.S. anthropogenic methane emissions. In their section on methane emissions from the solid waste of livestock, they introduced new, lower estimates using substantially lower methane conversion factors than those used in this report. A comparison of emissions factors is shown in Table 32.

Table 33 illustrates an alternative emissions estimate based upon these lower factors, supplied to the U.S. Environmental Protection Agency in personal communications with Dr. Andrew Hashimoto, Department Chairman, Bioresource Engineering Department, Oregon State University. Dr. Hashimoto provided conversion factors applicable at temperatures of 10, 20, and 30 degrees Celsius. As virtually all livestock in the

**Table B8. Coal Production from Underground Mining, 1981-1991**  
(Million Short Tons)

Coal Basin	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
<b>Northern Appalachia</b>											
Pennsylvania .....	34.59	35.50	34.50	36.80	35.86	36.76	37.78	36.77	39.07	40.88	40.60
Northern West Virginia ..	36.12	44.12	41.10	47.84	42.26	40.82	45.31	46.15	48.29	50.10	47.84
Maryland .....	1.72	1.90	1.65	2.21	1.79	2.45	2.40	2.02	1.83	1.99	2.83
Ohio .....	10.85	12.22	10.82	14.11	13.65	14.35	12.81	11.26	10.82	12.82	12.23
<b>Total .....</b>	<b>83.08</b>	<b>93.74</b>	<b>88.06</b>	<b>101.06</b>	<b>93.56</b>	<b>94.48</b>	<b>96.10</b>	<b>96.21</b>	<b>100.01</b>	<b>105.09</b>	<b>103.00</b>
<b>Central Appalachia</b>											
Virginia .....	32.29	30.89	26.78	32.80	33.55	33.80	36.73	37.58	35.82	39.07	34.00
Southern West Virginia .....	53.00	59.41	50.82	58.37	61.48	62.21	61.86	63.62	64.72	73.01	72.12
Eastern Kentucky .....	59.82	57.07	49.01	61.82	63.32	65.01	66.26	68.29	75.27	80.42	73.84
Tennessee .....	5.06	4.52	4.36	5.28	5.20	5.23	4.81	4.81	4.80	4.45	3.01
<b>Total .....</b>	<b>149.97</b>	<b>151.99</b>	<b>130.87</b>	<b>158.35</b>	<b>163.57</b>	<b>166.25</b>	<b>168.66</b>	<b>174.10</b>	<b>180.51</b>	<b>186.95</b>	<b>182.20</b>
<b>Warrior</b>											
Alabama .....	8.62	11.29	10.86	13.18	14.44	13.27	14.33	14.83	16.31	17.53	17.06
<b>Piceance</b>											
Colorado .....	6.57	6.61	5.58	6.41	6.38	5.46	5.64	6.85	8.50	10.82	9.60
<b>San Juan</b>											
New Mexico .....	0.82	0.71	0.10	0.55	0.80	0.75	0.62	0.22	0.05	0.08	0.03
<b>Illinois</b>											
Illinois .....	29.19	34.66	31.84	38.50	37.34	39.72	37.52	39.52	39.33	41.67	43.13
Indiana .....	0.56	1.57	1.78	2.25	2.05	1.86	2.45	2.41	2.52	3.04	2.83
Western Kentucky .....	17.58	17.72	15.82	17.32	17.91	22.20	25.89	25.79	23.32	24.46	23.98
Iowa .....	0.06	0.00	0.00	0.17	0.17	0.13	0.06	0.00	0.00	0.00	0.00
<b>Total .....</b>	<b>47.40</b>	<b>53.95</b>	<b>49.44</b>	<b>58.24</b>	<b>57.48</b>	<b>63.90</b>	<b>65.82</b>	<b>66.72</b>	<b>65.17</b>	<b>69.17</b>	<b>68.85</b>
<b>Utah</b>											
Utah .....	13.71	17.03	11.76	12.32	12.78	14.27	14.51	18.16	20.10	22.06	21.95
<b>Green River</b>											
Wyoming .....	1.31	1.28	1.25	1.35	1.06	0.16	0.11	1.14	1.65	1.72	2.42
<b>Pennsylvania Anthracite</b>											
Pennsylvania .....	NA	0.36	0.30	0.58	0.73	0.41	0.39	0.35	0.26	0.24	0.13
<b>Total Underground Production ..</b>	<b>NA</b>	<b>336.95</b>	<b>298.32</b>	<b>352.04</b>	<b>350.79</b>	<b>358.85</b>	<b>369.26</b>	<b>380.58</b>	<b>392.54</b>	<b>423.45</b>	<b>406.32</b>

NA = not available

Source: Energy Information Administration, *Coal Production*, DOE/EIA-0118, various years

**Table B9. Methane Emissions from Underground Coal Mining, 1981-1991**  
(Million Metric Tons)

Coal Basin	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
<b>Northern Appalachia</b>	0.55	0.62	0.58	0.67	0.62	0.63	0.65	0.65	0.66	0.70	0.68
<b>Central Appalachia</b>	1.91	1.94	1.67	2.02	2.08	2.12	2.17	2.22	2.30	2.51	2.33
<b>Warrior</b>	0.32	0.42	0.40	0.49	0.53	0.49	0.53	0.55	0.60	0.65	0.63
<b>Piceance</b>	0.06	0.06	0.05	0.06	0.06	0.06	0.06	0.07	0.08	0.10	0.08
<b>San Juan</b>	0.01	0.01	-	-	0.01	0.01	0.01	-	-	-	-
<b>Illinois</b>	0.10	0.12	0.11	0.13	0.13	0.14	0.15	0.15	0.14	0.15	0.15
<b>Utah</b>	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.04	0.04
<b>Green River</b>	-	-	-	-	-	-	-	-	-	-	-
<b>Pennsylvania Anthracite</b>	NA	-	-	-	-	-	-	-	-	-	-
<b>Total .....</b>	<b>2.98</b>	<b>3.20</b>	<b>2.84</b>	<b>3.40</b>	<b>3.46</b>	<b>3.46</b>	<b>3.58</b>	<b>3.67</b>	<b>3.83</b>	<b>4.15</b>	<b>3.93</b>

- = Less than 0.05 million metric tons

NA = not available

Note: Totals may not equal sum of components due to independent rounding

Source: EIA estimates, based on *Coal Production*, DOE/EIA-0118, various years, and methods described in Chapter 3

**Table B10. Coal Production from Surface Mining, 1981-1991**  
(Million Short Tons)

Coal Basin or State	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
<b>Appalachian</b>											
Pennsylvania .....	49.40	42.42	34.08	40.01	34.82	33.40	31.28	30.49	30.22	29.28	23.75
Ohio .....	25.05	24.12	22.78	25.15	21.86	21.86	22.94	22.58	22.70	22.16	18.23
Virginia .....	8.28	8.08	7.74	7.47	7.39	6.97	7.45	7.97	6.85	7.68	7.78
West Virginia .....	23.09	24.37	22.37	24.79	24.01	28.14	28.78	34.81	40.14	45.61	47.28
Eastern Kentucky .....	55.79	51.98	44.19	55.48	49.93	46.18	52.23	48.07	49.63	47.24	43.57
Tennessee .....	4.65	2.77	2.21	2.05	2.24	1.52	1.54	1.80	1.77	1.65	1.20
Alabama .....	15.74	14.94	12.77	13.91	13.38	12.42	11.13	11.60	11.58	11.41	10.10
Maryland .....	2.52	1.87	1.48	1.90	1.20	1.42	1.53	1.20	1.51	1.48	1.11
<b>Total .....</b>	<b>183.53</b>	<b>170.51</b>	<b>147.58</b>	<b>170.74</b>	<b>154.90</b>	<b>149.80</b>	<b>156.86</b>	<b>158.31</b>	<b>164.39</b>	<b>166.52</b>	<b>153.01</b>
<b>Illinois Basin</b>											
Indiana .....	28.57	30.15	30.01	35.31	31.28	30.85	31.73	28.82	31.11	32.85	26.62
Illinois .....	22.68	25.60	25.01	25.27	21.88	22.15	21.83	20.07	19.92	18.72	17.12
Iowa .....	0.65	0.56	0.37	0.38	0.42	0.35	0.41	0.33	0.39	0.38	0.34
Missouri .....	4.88	5.34	4.98	6.72	5.57	4.68	4.28	4.17	3.38	2.65	2.30
<b>Total .....</b>	<b>56.78</b>	<b>61.65</b>	<b>60.36</b>	<b>67.68</b>	<b>58.11</b>	<b>58.13</b>	<b>58.04</b>	<b>53.39</b>	<b>54.80</b>	<b>54.50</b>	<b>46.39</b>
<b>Powder River</b>											
Montana .....	33.55	27.88	28.92	33.00	33.29	33.88	34.40	38.88	37.74	37.62	38.23
Wyoming .....	101.66	107.08	110.96	129.57	139.65	138.66	146.74	182.88	169.91	182.53	191.44
<b>Total .....</b>	<b>135.21</b>	<b>134.97</b>	<b>139.89</b>	<b>162.57</b>	<b>172.95</b>	<b>172.53</b>	<b>181.14</b>	<b>221.76</b>	<b>207.66</b>	<b>220.14</b>	<b>229.66</b>
<b>Arkoma</b>											
Oklahoma .....	5.77	4.71	3.66	4.64	3.33	3.04	2.88	2.13	1.69	1.58	1.82
<b>San Juan</b>											
New Mexico .....	17.87	19.23	20.31	20.73	21.40	20.74	18.51	21.58	23.66	24.22	21.48
Colorado .....	13.30	11.89	11.13	11.56	10.87	9.76	8.77	9.04	8.61	8.28	8.23
<b>Total .....</b>	<b>31.18</b>	<b>30.93</b>	<b>31.44</b>	<b>32.28</b>	<b>32.26</b>	<b>30.80</b>	<b>27.29</b>	<b>30.62</b>	<b>32.27</b>	<b>32.50</b>	<b>29.73</b>
<b>Alaska</b>	0.81	0.83	0.79	0.86	1.43	1.57	1.49	1.75	1.58	1.71	1.44
Arizona .....	11.81	12.36	11.40	11.52	9.63	11.56	11.38	12.40	11.94	11.30	13.20
Arkansas .....	0.22	0.14	0.06	0.08	0.08	0.15	0.07	0.28	0.04	0.04	0.03
California .....	0.00	0.00	0.00	0.00	0.07	0.00	0.05	0.05	0.04	0.06	0.06
Louisiana .....	0.00	0.00	0.00	0.00	0.21	2.25	2.75	2.89	2.98	3.19	3.15
North Dakota .....	18.12	17.85	19.18	22.11	26.87	25.84	25.14	29.72	29.58	29.21	29.53
Texas .....	32.81	34.82	38.95	41.15	45.48	48.59	50.53	52.28	53.85	55.78	53.83
Washington .....	4.64	4.16	3.88	3.87	4.44	4.59	4.45	5.17	5.04	5.00	5.14
<b>Total Surface Production .....</b>	<b>480.83</b>	<b>472.93</b>	<b>457.19</b>	<b>517.48</b>	<b>510.73</b>	<b>508.56</b>	<b>522.03</b>	<b>550.72</b>	<b>565.82</b>	<b>581.80</b>	<b>568.99</b>

Source: Energy Information Administration, *Coal Production* DOE/EIA-0118, various years

**Table B11. Methane Emissions from Surface Coal Mining, 1981-1991**  
(Million Metric Tons)

Coal Basin or State	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Appalachia	0.22	0.20	0.18	0.20	0.18	0.18	0.19	0.19	0.20	0.20	0.18
Illinois Basin	0.05	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.05
Powder River	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02
Arkoma	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	--	--	--
San Juan	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Alaska	--	--	--	--	--	--	--	--	--	--	--
Arizona	--	--	--	--	--	--	--	--	--	--	--
Arkansas	--	--	--	--	--	--	--	--	--	--	--
California	0.00	0.00	0.00	0.00	--	0.00	--	--	--	--	--
Louisiana	0.00	0.00	0.00	0.00	--	--	--	--	--	--	--
North Dakota	--	--	--	--	--	--	--	--	--	--	--
Texas	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--
<b>Total .....</b>	<b>0.32</b>	<b>0.30</b>	<b>0.27</b>	<b>0.31</b>	<b>0.28</b>	<b>0.28</b>	<b>0.28</b>	<b>0.28</b>	<b>0.29</b>	<b>0.29</b>	<b>0.27</b>

-- = Less than 0.05 million metric tons

Note: Totals may not equal sum of components due to independent rounding

Source: EIA estimates, based on *Coal Production*, DOE/EIA-0118, various years, and methods described in Chapter 3

## NHANES

### Publications reviewed

Vital and Health Statistics Sample Design: Third National Health and Nutrition Examination Survey, Centers for Disease control/National Center for Health Statistics, Series 2, No. 113, September 1992.

Vital and Health Statistics Data Systems of the National Center for Health Statistics, U.S. Department of Health and Human Services, Series , No. 16, December 1981.

The National Health and Nutrition Examination Survey (NHANES) was designed to assess the health and nutritional status of the non institutionalized population of the United States. Goals include but are not limited to (1) producing national health parameters, (2) estimate the national prevalence of selected diseases and disease risk factors, and (3) investigate trends in selected diseases. Blood and urine tests check for Lead, Cadmium, Arsenic and Iodine. Major health conditions targeted by NHANES include cancer, cardiovascular disease, gallbladder disease, and diabetes among others.

NHANES III (in progress) is the seventh in a series of survey using health examination procedures that have been conducted since 1960. The sampling frame for NHANES III was composed of all of the counties, parishes, and independent cities in the United States including Hawaii, and Alaska.

The general pattern of data collection has meant that each survey has been conducted over a period of three or four years. Traditionally NHANES data are presented primarily through publication of individual reports in the National Center for Health Statistics (NCHS) *Vital Statistics*, Series 11.

The diverse nature of the data attracts a wide variety of users. In addition to policy makers and planners in Federal and State health agencies, NHANES data is used by industrial groups and health researchers. Ultimately data tapes with detail specific information is available through NCHS.



**1992 Federal Expenditures for the Conservation of Protected Species Under the Endangered Species Act, December, 1992 (Department of Transportation)**

This report includes a table of FY92 expenditures for threatened and endangered species under the endangered species act for 23 states and lists 79 total species disbursements.

**Framework for Measuring Progress Toward Meeting Federal Highway Environmental Goals, A Survey of State Department of Transportation Environmental Programs, DOT, FHWA, Conducted by Worldwide Environmental Practice, SRI International, May, 1993 (Department of Transportation)**

This report focuses on a survey of Department of Transportation Environmental programs in 12 states. Areas addressed include a description of environmental programs and policies; action strategies for policy implementation, and environmental performance indicators used to measure program success. Methods said to be prescribed in the Clean Air Act are stated to provide a universal means of separating pollution generated by mobile sources from stationary sources.

Metrics for measuring progress and performance for each of nine major issue areas follows:

*Air Quality:* Sampling the level of air pollutants in metropolitan areas.

*Water Quality:* Reduction in the volume of surface and groundwater contaminants generated as measured in reports of spills of hazardous materials and EISs for highway construction projects.

*Visual Quality:* Dollar value spent on actions to mitigate visual impact.

*Noise Abatement:* Measuring funds expended on noise abatement and the miles of noise walls constructed.

*Use of Hazardous Substances (Washington Only):* Progress in the identification, substitution and disposal of the state department of transportation inventory of environmentally hazardous substances.

*Fish and Wildlife Habitat Protection:* Dollar value expended for remedial actions to safeguard endangered or threatened species and their habitat.

*Use of Non-Renewable Energy Resources:* Reduction in the highway use of gasoline, vehicle-miles traveled, and the annual gasoline consumption per registered automobile.

*Cultural Resources:* Funds expended in preservation of cultural resources.

**Wetlands Conservation:** Number of acres of wetlands lost and gained as a result of highway construction.

**The Status of the Nation's Highways, Bridges, and Transit: Conditions and Performance, Report of the Secretary of Transportation to the United States Congress, DOT, FHWA, January, 1993.**

This report provides detailed information on system characteristics, finance, and trends in environmental condition and performance of the nation's highways, bridges, and transit systems. It includes capital investment requirements from all sources to either maintain current overall environmental system condition and performance or to systematically improve overall condition and performance to a predefined set of standards for the period 1992-2011.

The report also presents selected data and other information describing the environmental consequences of transportation using readily available information. Environmental categories addressed include air quality, water quality, wetlands, energy, noise, land/open space, threatened and endangered species, and community impacts.

**Air Quality:** Measures of national air quality such as carbon monoxide, lead, nitrogen dioxide, and ozone (as reported in the EPA's *National Air Quality and Emissions Trend Report, 1991*) are used to monitor and show improvements and emission reductions that have occurred during the time period 1982-1991. However, no databases or repositories of data are mentioned.

**Water Quality:** The planning for and implementation of highway systems can impact both surface and underground water resources. Highway project planning, location, and design activities can influence future uses of water resources by influencing patterns of growth, development, and water supply distribution. Impacts range from erosion of disturbed soils to the chemical pollutants associated with highway maintenance practices to potential pollution sources present in roadway storm water runoff.

**Wetlands:** The report cites a 1991 U.S. Fish and Wildlife Service study which investigated wetland status and trends from the 1970s to the 1980s. The report found an estimated 1.1 percent of estuarine wetlands and 2.5 percent of inland wetlands were lost from the lower 48 states during the 9-year study period, mostly due to agricultural land use (54 percent) urban expansion (5 percent) and other land uses. FHWA acknowledges the lack of measures of the impacts of highways on wetlands and intends to begin measuring their impact in the future.

**Energy:** The FHWA uses U.S. Departments of Transportation and Commerce data on highway use of gasoline (measured in gallons), number of registered automobiles, number of licensed drivers, and number of driving age population to monitor energy consumption (49 percent of U.S. petroleum use). FHWA acknowledges the lack of data for transit as of the writing of this report.

**Highway Project Noise Mitigation:** Highway noise is being attacked by FHWA with a three-part strategy: motor vehicle control (quieter vehicles through regulation), land use control (reasonable distances between highways and buildings through land use control), and highway planning and design (noise control mandated by Federal noise criteria). The construction of traffic noise barriers as measured by the number of linear miles of barriers is the most commonly used index used to monitor the progress being made in noise abatement on the nations highways.

**Land Use/Open Space:** FHWA acknowledges the lack of indices for monitoring land use/open spaces but identifies probable data sets as being such items as the amount of land devoted to transportation purposes, open space (including park land and wildlife habitat) conservation efforts supported by the highway program, information on access control, and other land-use issues. FHWA acknowledges the indirect impacts of highways on open space and land use, through development activity, but acknowledges that it may be impossible to measure.

**Threatened and Endangered Species:** FHWA monitors the threat to endangered species through the amount of Federal-aid highway funds expended for the conservation of threatened and endangered species. Not reflected in these costs are the numerous cases where State highway agencies have avoided the habitats of protected species through project modifications and other actions.

**Community Impacts:** Three broad categories of potentially adverse community effects due to highway construction are noted: (a) dislocation of businesses and residents within the proposed transportation corridor; (b) division and separation of formerly cohesive communities; and (c) the fostering of urban sprawl and decline of central business districts by inducement of growth in undeveloped or sparsely developed areas. FHWA uses the NEPA environmental review process to identify possible effects and to develop measures to minimize or eliminate those effects. FHWA also requires local and State governments to integrate transportation planning into long-term urban planning and rural development efforts.