**&EPA**

# Office Of Water Information Resources Management Annual Report

# Fiscal Years 1989-90

Water Programs | Data for Decision Making
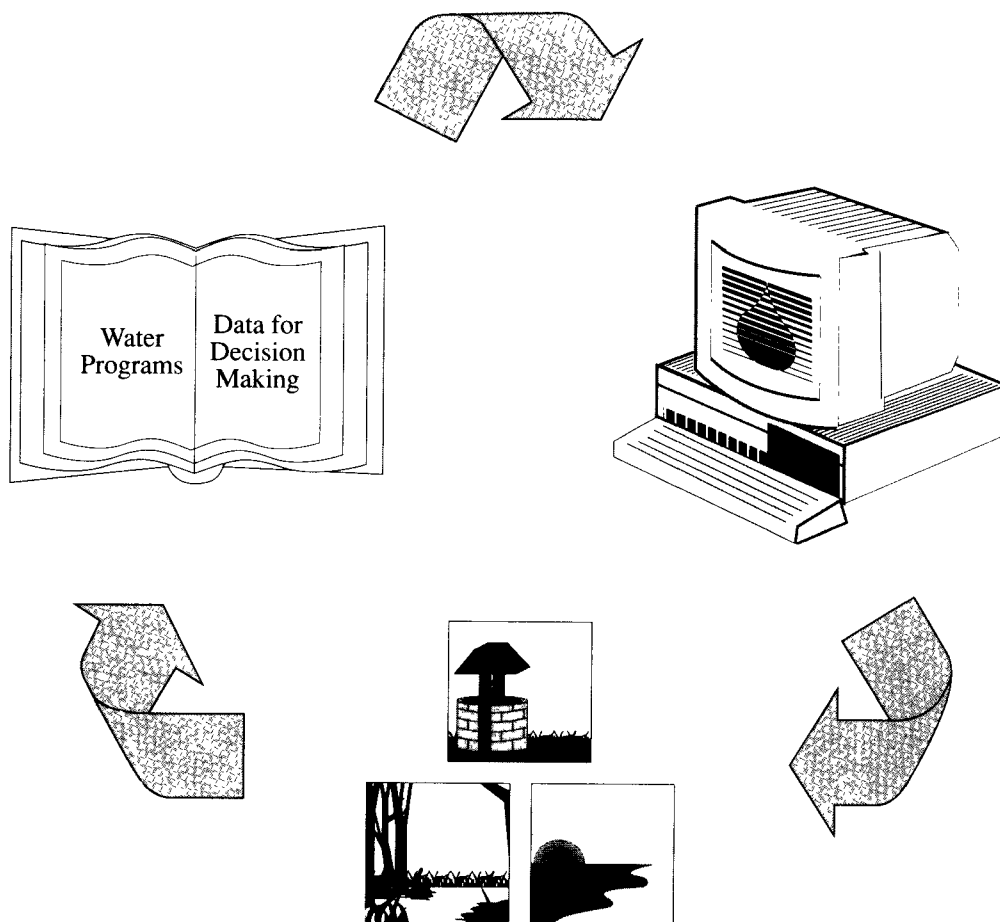
**Information Resources Management:**

**Tools For Making Water Program Decisions**

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# Introduction

*As the challenge to restore and maintain our nation's water quality becomes more complex, it is increasingly important that we effectively manage more environmental data than ever before.*

Technological advances like personal computers and geographic information systems help us to accomplish this objective. These advances also help us to solve problems more effectively by facilitating partnerships comprised of Federal, State, local, and tribal governments; the private sector; and the public.

The collection and use of environmental information is the basis for making critical program decisions and for evaluating the effectiveness of our environmental programs. Success depends on the quality, completeness, and timeliness of information in the information management systems of our water programs and the ease of obtaining information from these systems. The Agency's Water Program is committed to providing the necessary information to its managers to ensure that decisions are based on the best possible information and that adequate information exists to measure program effectiveness.

**This Report Highlights IRM Activities Taking Place In FY 1989-90**

Each year the Water Program initiates many information resources management (IRM) activities to strengthen its program management capabilities. This first annual IRM report highlights activities initiated and either completed or in progress by the Water Program in FY 1989-90. The Report targets Headquarters' accomplishments and initiatives primarily in the areas of information access and utilization. Future reports will update Headquarters activities initiated in FY 1990; address quality assurance and data collection efforts aimed at maximizing the integrity of water program information, such as monitoring protocols and Information Collection Request (ICR) development; discuss Regional activities in more detail; and measure the Program's progress in meeting its IRM goals.

# Introduction

**It Takes both a Broad View (Volume I) and Detailed Look (Volume II)**

The Annual Report is organized into two volumes. Volume I, the Annual Report in Brief, provides a broad overview of the Water Program's IRM goals and highlights major activities undertaken to support these goals. Volume II contains more detailed descriptions both of the activities introduced in Volume I and other important initiatives.

Additionally, it includes program contacts for each project. Both volumes are organized around four key water program IRM goals:

**IRM Planning**

*Identify the information needed to make well-informed decisions and evaluate environmental program effectiveness.*

**Information Access and Usefulness**

*Improve access to data for water-related decisions and overcome obstacles preventing the use of information in program decision making and implementation.*

**Strengthening Partnerships**

*Work with the public and private sectors to create information networks that support cross-program and cross-media solutions.*

**Office Automation**

*Increase the use of office automation technology to improve staff productivity and facilitate information exchange among water programs.*

# IRM Planning

**Goal:**    *Identify the information needed to make well-informed decisions and evaluate environmental program effectiveness.*

An important Water Program goal is to make IRM planning an integral component in the strategic planning for each individual water program and for the Water Program as a whole. Integrating IRM planning into the Water Program's strategic planning activities ensures that it is collecting appropriate data to support its critical program decisions and evaluate environmental program effectiveness in meeting environmental goals.

Through effective IRM planning, water programs are striving to:

■ Recognize the value of different types of information to decision making;

■ Ensure that programs assess their information needs prior to initiating or significantly enhancing systems;

■ Promote coordination within and outside the Agency to

   - Share information to capitalize on previous investments,

   - Guarantee timely and useful feedback during system development, and

   - Maximize the usefulness of the data collected;

■ Eliminate duplications and gaps in data collected; and

■ Select appropriate technology to ensure effective use of resources.

During the past two years, the Water Program has placed increasing emphasis on ensuring that individual programs use a systematic approach to assess information collection and management needs before systems are developed or enhanced. This approach helps participants to assess their needs for information management systems systematically, define system requirements, identify and evaluate options for implementing the systems, select the best option, plan for system implementation, and test and implement the system.

**PROGRAM HIGHLIGHTS**

**Accomplishments**

● UIC Assessment

● Agency-Wide Drinking Water Information Study

● Data Sharing/Systems Compatibility Study

**Initiatives:**

● Sludge Feasibility Study

● OW Systems Modernization

# IRM Planning

Several projects completed in FY 1989 or currently in progress illustrate this commitment to utilize systematic approaches to IRM Planning.

(For full information on the lead organization and the points of contact for IRM projects, please see section concerning: IRM Managers and Project Leaders.)

**Underground Injection Control Program Mission Needs Assessment (ODW\*, FY 1988 - 89)**

The purpose of the Underground Injection Control (UIC) Mission Needs Assessment, completed in February 1989, was to assess the usefulness of the UIC program's information management systems and the adequacy of the information collected to support program needs.

The Mission Needs Assessment documented the need for and approved the development of a decentralized, but integrated, UIC information management system to replace the existing system. The key components of this system will be well-based tracking systems maintained at the program implementation level. By discretely identifying each well, the UIC program will be able to establish correlations between individual wells and program activities in areas such as compliance, enforcement, inspections, permitting, and well operations.

The Mission Needs Assessment also recommended the development of a five-year strategy that would provide the framework to help State and Regional Programs develop or improve their information management capabilities to satisfy new reporting requirements  The strategy would also provide a framework for revising Headquarters information collection and management to support the newly identified information requirements.  The first step in this process was to develop a standard set of UIC data elements, with accompanying definitions, that all UIC programs would collect.

*\*Please see appendix for a list of acronyms*

The UIC Program aims to ensure that all State and direct implementation (DI) programs are tracking information on a well-by-well basis by FY 1992 and that the Regions and Headquarters are capable of collecting, managing, and interpreting the information necessary for oversight, enforcement planning, and resource allocation.

# IRM Planning

**Agency-Wide Drinking Water Information Study (OW, ODW, FY 1989-90)**

The Agency-Wide Drinking Water Information Study was initiated to evaluate the need for and availability of drinking water information to support decision making throughout EPA. The findings indicated that the needs and uses for drinking water data are widespread, but awareness of the types of drinking water information available and sharing of data across programs is limited.

Based on these findings, the Office of Water (OW) and the Office of Drinking Water (ODW) developed an action plan identifying several outreach initiatives for FY 1990 designed to publicize the availability of ODW information and to encourage sharing of information across Agency programs. Outreach initiatives underway are as follows: a managers' guide to ODW's Federal Reporting Data System (FRDS) for the Public Water Supply System program, an ODW information guide, and a drinking water program contacts directory.

**Data Sharing and Systems Compatibility Study (Steering Committee for Water Quality Data Systems, FY 1989-90)**

The purpose of the Data Sharing and Systems Compatibility Study was to identify how the priority Agency water-related data bases could be better coordinated. The priority systems assessed included BIOS, the Federal Reporting Data System (FRDS II), the Drinking Water Supply File (DWS), the Gage File, the Grants Information Control System (GICS), the Industrial Facilities Discharge File (IFD), the Needs Survey, the Ocean Data Evaluation System (ODES), the Permits Compliance System (PCS), the Reach File, STORET, and the Waterbody System.

The study recommended steps to take for each priority data system to facilitate data sharing and compatibility with other data systems. These steps would enhance each system to ensure that it provides the following: 1) minimum data elements and location identifiers, 2) the capability to transfer data to personal computers (PCs), 3) suitable system security, 4) quality assurance/quality control for data collection and entry and an on-line quality assurance evaluation capability, 5) graphics and mapping retrieval categories, 6) the ability to access and display overlay data from other systems, and 7) timeliness in obtaining current data.

This study has resulted in specific recommendations for individual systems as well as overall recommendations for data integration in OW. OW managers are considering the recommendations.

# IRM Planning

**Sludge Tracking Feasibility Study (OWEP, FY 1989-90)**

The Sludge Tracking Feasibility Study was undertaken to examine approaches for developing an information management tracking system to support sludge program requirements promulgated in the Water Quality Act of 1987. The Office of Water Enforcement and Permits (OWEP) is investigating how best to use PCS as the framework to meet sludge tracking needs.

To date, as part of the study, OWEP has developed a Mission Needs Analysis; an initial system concept, operational specifications for collecting, storing, and analyzing sludge data; a number of system alternatives; and an evaluation of each alternative based on ranked criteria. All portions of the study have been or will be reviewed by the PCS sludge workgroup consisting of Regional and State representatives. The effort will result in proceeding with the option that the workgroup believes best responds to State and EPA sludge tracking needs.

**OW Systems Modernization Initiative (OW, FY 1990)**

OW initiated this project to determine whether the type and amount of information needed to manage the Water Program will change enough over the next decade to warrant a re-examination on how it collects and manages information. The project is also intended to provide the Office of Information Resources Management (OIRM) with a framework for modernizing the current STORET software by converting it from in-house software to a commercial off-the-shelf data base management package. STORET modernization will facilitate the users' retrieval and manipulation of data.

In April 1990 the Office of Water held a workshop on the OW Data System Modernization Initiative attended by all OW Division Directors (or their representatives) and by Region X. In support of the initiative's overall purpose, participants discussed how decisions made by Federal and State Water Program managers will change over the next decade, what information water programs will need to accommodate these changes, and the role of OW in this changing environment. The group recommended that OW develop a vision statement to help guide OW in developing an Information Management Action Plan that covers the period 1995-2000. The goal is to finalize the vision statement by late fall 1990 and begin work on the Plan in winter 1990.

# Information Access and Usefulness

**Goal:**   *Improve access to data for water-related decisions and overcome obstacles preventing the use of information in program decision making and implementation.*

The Water Program is moving toward an integrated approach to program management that will have a significant impact on its information management activities. The intent is to:

■ Reduce duplication of information among water programs; and

■ Promote joint efforts to increase program effectiveness in meeting environmental goals.

Because today's water programs involve all levels of government, we have placed increasing emphasis on working with Federal, State, local, and tribal programs to manage and protect water resources. Therefore, improving access to information is a major program priority.

We are achieving this through:

■ Developing standard minimum data sets, common definitions, consistent collection and monitoring protocols, and promoting data integration; and

■ Identifying and implementing information system enhancements to ensure access by a broader base of users.

## Information Access and Usefulness

### A. Data Standardization and Integration

Historically, much of the data the Water Program collected came from a variety of different sources and was submitted in varied and often incompatible formats. Inconsistencies in definitions and monitoring protocols have made this data of limited value in supporting management decision making outside of the specific purpose for which it was collected. Currently, an important objective of our water programs is focusing on developing minimum data sets, standard definitions and formats, and consistent collection and monitoring protocols to increase the usefulness of the information to all users.

The following projects illustrate the Water Program's commitment to improving access to and broadening its application of data.

**Ground-Water Minimum Data Set Project (OGWP, FY 1989)**

The purpose of the Ground-Water Minimum Data Set Project is to enable the sharing and use of ground-water data that the ground-water management community can reliably depend on. This community includes States, local and tribal governments, the regulated community, EPA, and other Federal Agencies. The project has built upon the results of the Agency's Ground-Water Monitoring Strategy (1986) and the Ground-Water Data Requirements Analysis (FY 1987), both of which provided a clear message about the need for ground-water data standards.

Participants at the June 1988 EPA Workshop for the project identified 22 minimum data elements to be collected and managed through the Agency's ground-water data collection activities.

The minimum data set was finalized in the 1989 EPA Order on the Ground-Water Minimum Data Set. The Order requires the collection of the minimum data set for all EPA funded ground-water monitoring. This will ensure Agency-wide data consistency, the collection of key data elements, improved confidence in the quality of ground-water data, and greater ease in data sharing and cross-media analysis. It will also provide

# Information Access and Usefulness

resource savings and allow for improved program effectiveness and decision making.

A workgroup consisting of members from various Federal Agencies and all 50 States has been established to reach an agreement on standard Ground-Water Minimum Data Set Definitions. These definitions will further support the consistency of ground-water data. This effort will be completed in the fall of 1990.

**Underground Injection Control Minimum Data Set Workgroup (ODW, FY 1990)**

The Underground Injection Control (UIC) Data Management Project, discussed earlier, identified the need for a multi-tiered Minimum Data Set for use at the Headquarters, Regional, and State levels to ensure data consistency across all State programs and in those Regions that directly implement the UIC program in lieu of State involvement. Currently, data collected by States and EPA's Direct Implementation (DI) programs varies considerably.

The purpose of the minimum data set is to provide consistent data with which States and DI programs will be able to implement, operate, and measure the success of their efforts. Data consistency will support EPA's aim to allocate resources, undertake compliance and enforcement activities, and oversee and measure the progress of the national, Regional and State UIC programs.

The UIC program recently completed a draft of a minimum data set for the States. The data set contains mandatory and suggested data elements and their accompanying definitions. The completion of this initiative in FY 1990 will yield an approved minimum data set for Headquarters, the Regions, and States, and provide definitions and guidance to support program implementation.

**Automated Section 305(b) Reporting by Creating the Waterbody System (OWRS, FY 1989)**

The Office of Water Regulations and Standards (OWRS) has developed a computerized data base—the Waterbody System (WBS)—to manage the data for the waterbody portion of the biennial State Water Quality Assessment. The biennial assessment to Congress is required by Section 305(b) of the Clean Water Act. The Waterbody System has also been designed to facilitate national consistency of State data collected for the Section 305(b) Report. This consistency is critical because information from the 305(b) process is becoming increasingly

# Information Access and Usefulness

important as nation-wide pollution control efforts shift from technology-based to water quality-based approaches.

Before the Waterbody System was developed, EPA had to address many different and inconsistent formats as it incorporated each State's data into the Water Quality Assessment. WBS has standardized the content and format of State 305(b) Report submittals and provides a simple, automated method by which States electronically submit their data to EPA.

Both mainframe and PC components are available to facilitate State usage of the system. In conjunction with developing the Waterbody System, EPA provided technical support to States on how to use it. This assistance included guidance on coding and data entry, on-site training, consultation, indexing waterbody designations to the River Reach System, custom programming, and programming to enable data transfer from a State system to the WBS.

Both data standardization and provisions for electronic reporting have helped to shorten State 305(b) Report preparation time and have provided States with analytical tools to assess their own data and make program management decisions.

**Inclusion of Locational Information in PCS (OWEP, FY 1989)**

In FY 1989, OWEP began an initiative to upgrade geographic information for the National Pollutant Discharge Elimination System (NPDES) facilities maintained in the Permit Compliance System (PCS).

Currently, few dischargers have reported the latitude and longitude of their facility's outfall to PCS. The inclusion of latitude and longitude coordinates of outfalls for major NPDES facilities will enhance the usefulness of PCS in managing the NPDES program. This new geographic information is key to linking outfall data to stream reaches and to mapping and targeting pollutant discharges. The coordinates will also provide new opportunities to interface with other EPA systems that have mapping capabilities. Entry of latitude and longitude information into PCS will result in many additional program offices being able to use the information in PCS for planning and program development purposes.

# Information Access and Usefulness

**Indicators To Measure Ground-Water Program Progress (OGWP, FY 1989-90)**

The Indicators for Ground-Water Progress Project, begun in 1986 by the Office of Ground Water Protection (OGWP), has aimed to develop a set of consistent environmental indicators for measuring program progress and characterizing and reporting ground-water trends.

In 1989, EPA published a report entitled "Indicators for Measuring Progress in Ground-Water Protection" that identified a set of ground-water indicators based on principles defined earlier in the effort. OW believes the indicators can provide useful information on ground-water quality in five areas: public water supplies, hazardous waste sites, solid waste and industrial sites, regional ground-water sources, and area-wide sources facing potential contamination from pesticides.

OGWP is currently testing the usefulness of these indicators in a series of FY 1990 State Pilot projects.

**Use Of Toxic Release Inventory Data (TRI) (OWRS, OWEP, OMPC, ODW, FY 1989-90)**

The purpose of this project is to evaluate how Toxic Release Inventory (TRI) information, maintained by the Office of Toxic Substances (OTS), can be used by OW program offices. OW developed a preliminary action plan in June 1989 (to be updated annually) that outlines pilot projects by OWRS, OWEP, ODW, and OGWP. These projects are designed to determine how useful TRI data is as a tool for

■ Reviewing 304(l) lists,

■ Screening for possible unpermitted dischargers,

■ Ranking chemicals for future development of water quality criteria and water quality advisories,

■ Identifying wastewater treatment methods used by pharmaceutical facilities, and

■ Screening for potential contaminants to public supply wells and ground water.

An important advantage of the TRI project is its exploration of new avenues for intra-agency cooperation and data sharing to meet environmental enforcement objectives.

# Information Access and Usefulness

**Federal Reporting Data System (FRDS II) Project (ODW, FY 1990)**

## B.  System Enhancements

One of the key objectives of the water program is to increase the use of information available from water systems by simplifying access to them.  Furthermore, another water program priority is to make the information within the systems available to a broader user base both within and outside the Agency.

The Water Program has a number of efforts underway to increase user friendliness and availability of its systems.

ODW began this project in 1988 to enhance the existing information system for the Public Water Supply Supervision Program, the Federal Reporting Data System (FRDS 1.5).  The enhancements to FRDS were designed to increase the utility of FRDS for management decisions and to facilitate data entry by the Regions and States.  FRDS II incorporates five major modifications: data base integration, noncompliance tracking, significant noncompliance (SNC) identification and tracking, historical data retention, and storage of State discretionary data.  In addition, FRDS II enables PC-based data entry procedures to facilitate the system's use.

In conjunction with the enhancement efforts, ODW held extensive FRDS II training sessions for program and data processing managers.  The 11 one-week training sessions (10 in the Regions and one at Headquarters) focused on improving the quality of FRDS II data and on showing users how to retrieve the data they need.  Specifically, the sessions covered entering data into FRDS II, analyzing error reports and making corrections, and retrieving and interpreting data.  Training

## Information Access and Usefulness

materials included a handbook and descriptive system documentation.

**Grants Information Control System (GICS) Modernization (OMPC, FY 1990)**

In 1989, a team consisting of staff from the Office of Municipal Pollution Control (OMPC) and the Office of Information Resources Management completed a three-year Grants Information Control System (GICS) Modernization effort that converted GICS from a flat file to an ADABAS database environment. The GICS database is the primary source of information for construction grants and State Revolving Fund (SRF) managers at the State, Regional, and Headquarters levels.

In addition to the conversion of GICS to ADAbase, OMPC has also developed within GICS a data base for national and State management of the new State Revolving Fund (SRF) program. Its components include:

■ SRF national on-line data entry system;

■ SRF National Reporting System;

■ SRF State optional on-line data entry system; and

■ Generic SRF State Pilot Optional Reporting System.

In FY 1990, the modernization team is exploring the feasibility of developing an SRF PC Workstation model as part of OIRM's State/EPA Data Management Initiative.

**PPETS - PCS Development (OWEP, FY 1990)**

The purpose of this effort is to develop software for the Pretreatment Permits and Enforcement Tracking System (PPETS) that enables users to identify publicly owned treatment works (POTWs) into which industrial users discharge and the controlling authority that oversees the discharge. PPETS is a subsystem of the Permit Compliance System (PCS) that supports the pretreatment program's information needs.

The development of OWEP PPETS was divided into two phases. During Phase I, completed in 1988, OWEP developed the portion of the system that tracks pretreatment compliance inspections, pretreatment audits, and pretreatment annual reports. Additional software that enables the user to determine linkages between the Pretreatment Control Authority, the POTW receiving the discharge, and industrial users will be completed in Phase II.

## Information Access and Usefulness

Development of this new software has many programmatic advantages. For example, a user will be able to identify the number of industrial users discharging into a particular POTW as well as track the type and amount of chemicals being sent to that POTW. These details about pretreatment discharges to POTWs will assist permit writers in their review and reissuance of pretreatment permits to ensure the maintenance of water quality in surface waters affected by industrial discharges.

**Personal Assistance Link (OWEP, FY 1989)**

The Personal Assistance Link (PAL) was developed by OWEP in 1989 to make PCS easier to use for program managers and decision makers. PAL is a user friendly PC software package for accessing PCS data. It is designed specifically to access the type of PCS information commonly useful for managers. At the request of the user, PAL can produce any of 14 commonly requested PCS reports quickly and easily. PAL is completely menu-driven, allowing managers to identify and produce the reports they need without having to learn any complex commands or special syntax.

**NEP Tracking System (OMEP, FY 1990)**

The National Estuary Program Tracking System (NEPTS) was originally developed by the Office of Marine and Estuarine Protection (OMEP) in 1985 to track individual projects funded through cooperative agreements, interagency agreements, and contracts. The current enhancement will incorporate features developed and tested by Region I to allow efficient management of the many committees necessary under the National Estuary Program. The upgraded system will also provide estuary programs with an invaluable tool for tracking projects and associated products, providing summary reports on their status. In addition, the Program Milestone module of the system enables the estuary programs to monitor their progress against the seven purposes and two steps required of these programs by the Water Quality Act of 1987.

The system also functions as a technology transfer tool. It provides a list of ongoing projects which may be of interest to the National Estuary Program management and staff as well as other Federal, State, and local organizations involved in the protection and improvement of near coastal environments.

# Information Access and Usefulness

**Reach File
Enhancements
(OWRS, FY 1989-90)**

The purpose of this project is to increase the utility of the Reach File as a tool for program management and analysis. The Reach File is a computerized directory of streams, lakes, reservoirs, and estuaries in the continental United States. Waterbodies are divided into segments called reaches. Each reach has a unique identifier which enables the user to determine the reach's location and access information about that reach in STORET and other OW data bases.

OWRS's FY 1990 initiative will result in the inclusion of a greater number of stream reaches within the Reach File than is now available, the segmentation of estuaries and open waters, the categorization of reaches in terms of perennial or ephemeral flow, access and display of hydrographic and water data for 3,000,000 reaches on 54,000 quadrangle maps in the United States, and the development of a digitizing capability using PCs to transfer data to and from the Reach File. As a result of the increased scope and level of detail, EPA Regions, States, and localities will be better able to conduct analyses needed to support their programs.

**Access To STORET
(OGWP, OWRS,
OIRM, FY 1989)**

STORET, the Agency's water quality data base, has historically been under-utilized because its command language, although highly versatile and accommodating, is difficult for non-technical users to learn. Under the auspices of the OW Steering Committee, a cooperative effort between OGWP, OWRS, and OIRM has resulted in improvements that make STORET easier for non-technical users to operate.

The initiative has created new menu driven processes and help features to analyze and extract water data from the system. In addition, it has sought to reduce the overall cost and time required to analyze data and produce reports and to improve the accuracy of reports. To date, enhancement efforts have addressed the capability of STORET to retrieve data and have begun to examine issues involving the storage of data. Later efforts will focus on a PC interface with STORET.

**Enhancements of
LISTS (OWRS, FY
1990)**

OWRS is currently enhancing its LISTS system to enable it to serve as the Agency-wide system for cataloguing analytical methods. The enhancements were necessary in order to accommodate the Agency's Methods Cataloging Steering Group's unanimous recommendation that LISTS be used as the Agency's standard system for this purpose.

# Information Access and Usefulness

The Agency's Methods Cataloguing Steering Group, consisting of representatives from the Office of Research and Development (ORD), the Office of Air and Radiation (OAR), the Office of Pesticides and Toxic Substances (OPTS), the Office of Solid Waste and Emergency Response (OSWER), the Office of Regional Operations (ORO), and OW convened in February 1989 to propose a system that would serve as a computerized catalogue identifying the availability, applicability, and degree of standardization of analytical methods currently used in the Agency. The steering group unanimously recommended using the OWRS LISTS system, which already serves as an automated catalogue of analyses and methods used by the Agency in the testing of wastes, wastewater, and sludge. LISTS was originally developed by OWRS in 1985.

The enhanced system will be distributed throughout the Agency and, at the request of the Office of Regional Operations and OWEP, will be installed in Regional Environmental Services Division laboratories and Water Divisions as soon as possible in FY 1990. As a result, LISTS will serve as the single, authoritative source of the Agency's analytical methods.

# *Strengthening Partnerships*

**Goal:**    *Work with the public and private sectors to create information networks that support cross-program and cross-media solutions.*

Over the past few years, the Water Program has worked increasingly with Regions, States, local and tribal governments, other Federal Agencies, citizen groups, and universities to fulfill its mission. The Agency has increased its reliance on broad-based coalitions and State and local initiatives to protect water resources and resolve pollution problems. Assisting partners in using Federally-maintained water information is integral to this evolving partnership. Likewise, we encourage other programs to share their information as part of the overall effort to use information effectively. The Water Program has developed a variety of training and outreach "tools" to educate and inform our partners about the information available to help them implement their programs. The Water Program is also seeking the support and assistance of other public and private sector groups to collect and disseminate water-related information so that we utilize our collective resources effectively.

**PROGRAM HIGHLIGHTS**

**Accomplishments**

• *Regional Forums*

• *PCS Managers Training*

• *Bulletin Boards and Clearinghouses*

**Initiatives:**

• *Public Access to PCS*

• *Bulletin Boards and Clearinghouses*

## A. Training and Outreach

A major objective is to increase awareness of information available and how it can be timely and useful to program implementation. In FY 1989-90, the Water Program has been establishing a variety of information networks to provide our partners with useful and timely information. These efforts have included creating training courses and forums, bulletin boards, clearinghouses, and information catalogues to publicize the availability of water information to potential users. Several efforts in this area are highlighted below.

# Strengthening Partnerships

**Regional Forums (Steering Committee for Water Quality Data Systems, FY 1989-90)**

In FY 1990, the Steering Committee for Water Quality Data Systems held forums in eight of the Agency's Regions to provide Regional, State, and local representatives with an overview of the information in major water information systems; describe how to access and use these systems; and introduce new enhancements to familiar systems. Two additional forums are slated for the fall of FY 1990. Specific topics covered in the forums included 1) information on menu driven STORET retrieval and ground-water and surface water data management capabilities in STORET and 2) presentations about BIOS, the Waterbody System (WBS), the Water Quality Analysis System (WQAS), the Reach File, NEEDS File General Query, and the Ocean Data Evaluation System (ODES).

Several hundred Regional, State, and local representatives have attended this forum series. The forums increased the awareness of State and Regional staffs about information management tools available to them. They have also opened a dialogue with Headquarters system managers about additional enhancements that would be helpful to State and Regional managers as they implement their programs.

**PCS Managers Training (OWEP, FY 1989-90)**

OWEP has offered training in the use of the Permits Compliance System (PCS) on a continuing basis for several years. In FY 1989, classes on advanced retrieval methods as well as sessions offering special assistance were added to the curriculum. In FY 1990, the emphasis of PCS training is to increase managers' awareness of what information is in PCS and how it can be used to support decision making. In conjunction with this, OWEP developed a user friendly PC-based course promoting basic training in the use of PCS to facilitate managers in their decision-making activities.

**Public Access to PCS (OWEP, FY 1990)**

In response to public demand, OWEP is taking steps to increase public access to PCS Data. This is being accomplished through a two-step process. The first step has been to allow all current PCS users access to all national data, and not to limit them to data for their Region or State. The next step will be to allow open access to PCS. Although the data is now available to the public in hard copy form through Freedom of Information Act requests, OWEP's plan is to provide an easier method for the public to access the data electronically.
Discussions are underway with the National Technical Information Service (NTIS) as a point of distribution for

## *Strengthening Partnerships*

computer tapes and disks containing downloads or extracts of PCS data. OWEP will also explore the feasibility of working through EPA's National Computer Center (NCC) or an outside organization to maintain an on-line data base available to the public.

**OW Electronic Bulletin Boards**

Electronic bulletin boards are a powerful and relatively inexpensive means of making large amounts information available to users. These bulletin boards also provide a forum for EPA and bulletin board users or subscribers to interact. OW has recently invested in several bulletin boards with the result that program awareness and information exchange has increased by virtue of the development of an information users community and support system. The following bulletin boards deserve mention.

**COASTNET (OMEP, FY 1990)**

COASTNET is a state-of-the-art electronic bulletin board developed by OMEP in FY 1989 to provide Federal, State, and local organizations with timely information on coastal protection issues. COASTNET provides notices of upcoming program activities, organizational contacts, information sources, source documents, policies, regulations, and Federal Register notices. It also serves as a forum for networking among users. COASTNET is a cost-effective tool for transmitting documents and messages to and from individuals almost instantaneously; it is faster and cheaper than facsimile, overnight, or regular mail, yet simple to use. While currently limited to those who work with OMEP on a regular basis, COASTNET may be opened to a broader audience in the future.

**Local Exchange (OGWP, FY 1990)**

OGWP is in the process of establishing the Public Technology Local Exchange (LEX) consisting of a Ground-Water Bulletin Board and a Ground-Water Data Base. LEX is a one-stop communications and information service for municipal and county elected officials, managers, and technical staff. The bulletin board will serve as an information source on ground-water related events and issues for municipalities and as a tool for directing technical and management questions to Regional ground-water staffs. The bulletin board will be monitored by Regions, allowing them to respond to messages from municipalities and, eventually, from States within the Regions. Four categories of ground-water information will be contained within the data base: publications data, pilot projects, workshops and conferences, and a contacts directory.

# Strengthening Partnerships

**Waste Water Treatment Information Exchange Bulletin Board (OMPC, FY 1989-90)**

In FY 1989, OMPC added a Wastewater Treatment Information Exchange Bulletin Board to the National Small Flows Clearinghouse. The Wastewater Treatment Information Exchange Bulletin Board contains information on a variety of topics, including construction of new wetlands, wastewater operators' solutions to specific problems, a wastewater and water equipment exchange, and guidance on infrastructure financing.

**GICS Bulletin Board (OMPC, FY 1990)**

The GICS Bulletin Board provides user groups with notices of publications and meetings related to wastewater management.

**Wetlands Faunal List (OWP, FY 1989-90)**

OWP, in cooperation with the Nature Conservancy (TNC), developed a computer data base of wetland animals, birds, fish, reptiles, and amphibians to assist in evaluating dredge and fill permits under Section 404 of the Clean Water Act. The data base can be used to generate lists of species likely to occur in wetlands habitats in different States. It includes broad wetland categories (marine, estuarine, riverine, lacustrine, palustrine) with bare substrate, herbaceous, shrub, or wooded vegetation as well as isolated wetlands ecosystems (playa lakes, salt flats, headwaters streams, temporary pools, bogs, and fens). The data base will facilitate better assessments of non-game species and biological diversity than has been characteristic of federal efforts to date. Information on Florida wetlands species was furnished to the Florida Audubon Society for development of a citizen's monitoring program.

**Technology Transfer and Clearinghouses**

Other powerful tools maintained by water programs for disseminating information include clearinghouses, publications lists, and hotlines. Not only do these tools allow OW to inventory its information resources, but they also help EPA make the inventory available to its partners.

**Office of Water Resource Center (OW, WPO, FY 1990)**

OW has established several clearinghouses, either on its own or in cooperation with other groups. The Water Policy Office (WPO) has begun the development of an OW-wide information resource center and data system clearinghouse. In addition to serving as the focal point for all major Office of Water publications and policy documents, it will act as a repository for basic information on OW data bases and systems.

# Strengthening Partnerships

**Environmental Financing Network (OMPC, FY 1990)**

In 1988, OMPC was charged with lead responsibility for developing and establishing a National Clearinghouse to assist States and Regions in identifying, evaluating, and implementing methods to finance environmental programs and projects. An office-wide workgroup is currently designing the Environmental Financing Network (EFIN) which will provide information about and assistance in determining alternative funding sources for State water programs. Also available will be information on methods for constructing environmental infrastructure facilities, financial management techniques, and ways to encourage public-private partnerships. EFIN is expected to be in full operation in FY 1991.

**National Small Flows Clearinghouse (OMPC, FY 1989-90)**

In 1979, OMPC established the National Small Flows Clearinghouse in response to requirements of the 1977 Clean Water Act. The Clearinghouse provides both technical and non-technical assistance on small wastewater systems technologies to municipal leaders, local officials, consulting engineers, wastewater treatment professionals, and concerned citizens. The services provided by the clearinghouse include a toll-free number for use by small communities, establishment of the Wastewater Treatment Information Exchange (WTIE) bulletin board, two newsletters ("Managing Small Flows" and "Small Flows"), and several computer data bases that contain information on small flows information, innovative and alternative facilities, equipment manufacturers, and State technical assistance contacts.

**Clean Lakes Clearinghouse (OWRS, FY 1989)**

In FY 1989, OWRS made the Clean Lakes Clearinghouse available for public use. The Clearinghouse was initiated in 1988 to establish a core of technical literature on lake restoration, protection, and management and to make the information available to EPA and other Federal personnel, State lake managers, local communities, and lake associations. The Clearinghouse provides a computerized bibliographic data base, printed bibliographies, data base and literature searches upon request, and support to data base users.

# *Strengthening Partnerships*

**OMPC Automated Bibliography (OMPC, FY 1990)**

OMPC developed a PC-based automated bibliography which identifies documents by title, key word, source, document number, and cost. The data base currently contains 3,000 titles. OMPC and OW are currently investigating ways to expand the bibliography to contain abstracts for the listed documents. OMPC also distributes a list of current OMPC publications every six months.

**Safe Drinking Water Hotline (ODW, FY 1989)**

The primary function of EPA's Safe Drinking Water Hotline, in operation since July 1987, is to assist both the regulated community and the public with their understanding of the regulations and programs developed in response to the Safe Drinking Water Act Amendments of 1986. The Hotline regularly assists public water supply system officials; EPA Regions, State water supply programs, and local governments; consultants, engineers, law firms, and others in private industry; environmental groups, associations, and schools; and the general public. The Hotline averages about 2,000 calls and distributes over 50 documents on request each month.

In FY 1989, the Hotline began issuing a "Compendium of Responses to Policy Updates," updated every six months, and compiled a draft policy directives manual for ODW staff for the PWSS program. These have been distributed principally to the Regions and States for their use. Periodically, the Hotline also prepares summary Question and Answer documents on key issues (e.g., lead, point-of-use devices, and implementation of the Lead Contamination Control Act). In FY 1990, the Hotline will focus on responding to questions about the new surface water treatment rule and total coliform rule, Phases II and IV IOC/SOC contaminants, the lead rule, and the radionuclides rule.

**Program Data Bases (OGWP, OWP, FY 1989-90)**

In many instances, EPA monitors environmental information systems maintained by other public and private agencies. OW often responds to requests for information maintained by other organizations from Congress; Federal, State, and local government officials; citizens groups; industry; university researchers; and the general public. OW has developed several automated data bases that make it easier to locate this type of information and respond to inquiries.

## Strengthening Partnerships

**WETLANDS Data Base (OWP, FY 1989)**

The WETLANDS data base is a national data base of State wetland protection programs and contacts. The data base was a joint effort between EPA's Office of Wetlands Protection and the Council of State Governments. The data base is available to anyone with access to a computer and a modem who is interested in the status and structure of State wetland protection programs.

**Regulatory Communication and Knowledge-Based System (OWP, FY 1990)**

OWP and the U.S. Army Corps of Engineers' Regulatory Branch jointly operate and maintain an electronic communication system entitled "The Regulatory Communication and Knowledge-Based System" (KBASE). This system facilitates communication of current wetland regulatory information among Headquarters, Regions, States, and the Corps' nine division offices and 37 districts. Manuals and training materials are available.

**State Files Data Base (OGWP, FY 1989)**

An OGWP State Files Database allows users to perform searches on information pertinent to ground-water protection activities maintained by States. Each State has a file in the data base that contains information in three areas: 1) a State program folder contains each State's draft of a final ground-water protection strategy as well as budgeting, legislation, public information, and local ground-water protection efforts; 2) a ground-water reports folder contains documents and reports on technical ground-water subjects; and 3) a wellhead protection folder contains data on each State's existing or planned wellhead protection program.

# Strengthening Partnerships

## B. Joint Projects

The scope and direction of the Water Program is shifting to a more locally-oriented focus that, due to the complexity of the problems localities face, increasingly requires integrated problem solving and information management. At the same time, resources to accomplish this mission remain scarce. Therefore, it has become important to pool resources with our public and private partners to collect, store, and disseminate water information. An advantage of these cooperative efforts is that they encourage the development of mutually compatible information management systems, common minimum data sets, standard data definitions, and consistent monitoring protocols. The result is higher quality information available to support decision making and to evaluate program effectiveness. Efforts in this area are highlighted below.

**OW Steering Committee for Water Quality Data Systems (OGWP, OMEP, OWRS, OWEP, OMPC, FY 1989-90)**

The Office of Water Steering Committee for Water Quality Data Systems, chaired by OWRS, was formed in FY 1987 to address two major recommendations from the OW Surface Water Monitoring Study. The Study called for EPA to improve EPA and State knowledge about sources and uses of existing water-related data and to coordinate EPA activities in order to integrate water data.

The Committee recognizes the need to share water monitoring data across Agency programs to integrate data from various information systems, to make existing systems easier to use, and to document the quality of data in systems containing water data. Through a number of initiatives the Committee has sponsored, it seeks to ensure that the water information needs of States and EPA are met and to provide guidance on policy, management, and technical issues related to water quality information systems. The efforts of the Steering Committee in information systems related areas—Data Sharing and System Integration, STORET User Interface, Regional Forums, and Reach File Enhancements—are documented elsewhere in this report.

## Strengthening Partnerships

**Geographic Information Systems**

Geographic Information Systems (GIS) are an important decision making tool for managing and protecting environmental resources because of their ability to integrate multiple types of data and display the results as thematic maps. OW is currently involved in a number of projects that incorporate GIS technology into specific program areas.

**Boston Harbor Marine Monitoring Project (OMEP, FY 1989)**

The Boston Harbor Marine Monitoring Project used the Ocean Data Evaluation System (ODES) and its GIS link to consolidate, evaluate, and display marine monitoring data from Boston Harbor. When marine monitoring data are combined with other geographic information (e.g., combined sewer overflow [CSO] locations, point and nonpoint discharge locations), pollution levels and environmental trends can be viewed in correct spatial relationship to coastline, sensitive, and natural resource areas. Therefore, through integrating the capabilities of ODES and GIS, management can more effectively address environmental trends identified through the monitoring process.

**Wellhead Protection Program GIS Project (OGWP, FY 1989-90)**

In an effort to foster the effective implementation of GIS as a support tool for decision making in the Wellhead Protection (WHP) Program, the Source Assessment and Information Management Staff (SAIMS) worked with the Regions to identify potential GIS demonstration projects. Of the 23 potential projects identified, 3 have been funded: Carroll County, MD; St. Charles County, MO; and Santa Clara Valley, CA. The purpose of these projects is to demonstrate the use of GIS technology as an innovative decision making tool for managing and protecting ground-water resources and in the process bring GIS into common practice.

**Trinity River and Dallas/Fort Worth GIS Project (OWP, FY 1990)**

Region VI and the Office of Wetlands Protection initiated the Trinity River GIS to determine the theoretical distribution of wetlands in the Dallas/Fort Worth area. Actual wetland distributions will be verified by field assessments and used in a cooperative greenbelt planning process coordinated by the North Central Texas Council of Governments with assistance from EPA, U.S. Army Corps of Engineers, and North Texas State University.

# Strengthening Partnerships

**Big River GIS Project (OWP, FY 1990)**

Region I and the Office of Wetlands Protection conducted the Big River GIS project in cooperation with the University of Rhode Island and the Rhode Island Department of Environmental Management. The GIS integrated information on wetlands, wildlife values, cold water fisheries, dissolved oxygen levels, and ground water. It was used to analyze and display environmental impacts of alternative water supply proposals.

**Electronic Reporting Pilot (Region IV, TVA, OWEP, FY 1990)**

To reduce the reporting burden on permitted facilities and improve the quality of information submitted, OWEP is actively exploring options available for electronic submission of Discharge Monitoring Reports from permitted facilities into PCS. One pilot is currently underway in Region IV with the Tennessee Valley Authority and the State of Tennessee. The purpose of this project is to develop a working prototype that reduces manual entry by Tennessee State Staff. Additional pilots are being considered in two Regions to test the concept with both municipal and industrial facilities. OWEP is developing an evaluation approach so the results of these pilots can serve as the foundation for future management decisions for the remaining 7,000 major facilities in PCS. The results may also eventually provide insight on how to address the 56,000 minor permitted facilities.

**User Groups**

Over the years, OW has sponsored sponsored several user groups to support its major data bases such as GICS, PCS, and STORET. These user groups offer an opportunity for OW to solicit the advice of system users on how to ensure that the system is responsive to the needs of the community. During the past two fiscal years, there has been an increased emphasis on utilizing these groups to better define user needs with respect to major OW information systems. The contribution of Users Groups in this area has been very helpful. For example, in FY 1989, on-line PCS documentation was added at the request of the PCS Users Group.

ODW is currently talking with the Regions and States about initiating a formal user group for FRDS in addition to their current monthly conference calls with the Public Water Supplies Data Management Contacts. The conferences focus on technical, policy, or programmatic issues relating to FRDS-II and its users' needs.

# Office Automation:
## The State of IRM for Water Programs

**Goal:**  *Increase the use of office automation technology to improve staff productivity and facilitate information exchange among water programs.*

Information management in the Water Program is continuously changing due to the availability of newer automation tools and the evolving needs of the programs. Over the past two years, the Water Program has experienced a dramatic change in its operating environment. During FY 1989 and 1990, the number of PCs in the Water Program increased from approximately 300 to more than 600. Approximately 75 percent of Office of Water staff have a personal computer work station.

These workstations have increased the number of tools available to help us maintain our productivity and improve our effectiveness as we meet a changing set of program objectives (e.g., tracking and analyzing work, statistical analyses, desktop publishing, presentation graphics). Thus far, some manual processes have been replaced by automated systems. However, we have far to go before we are using the personal computer workstation in a way that achieves the potential of office automation.

To that end, we are beginning to increase efforts in training, staff development, and ongoing needs analyses to capitalize on our investment in technology. This chapter describes the Water Program's automation activities, which include planning and acquisition, training, and office procedures automation.

### A. Planning

Several Offices within the Water Program are conducting projects to improve their automation capabilities. The Office of Drinking Water's State Programs Division has formed an office automation workgroup that meets weekly to discuss office automation issues. The workgroup is composed of representatives from each Branch and Section within the Division. The group's purpose is to identify and develop strategies for implementing the division's short term and long term automation needs. Currently, the workgroup's focus is on short term needs, such as assessing the division's need for

# Office Automation:
## The State of IRM for Water Programs

training, setting up a library of training materials, and setting priorities for hardware and software purchases. In the near future, the focus will shift to meeting long term goals.

The Office of Ground-Water Protection has formed an Information Management Committee consisting of representatives throughout OGWP. The committee's purpose is to discuss issues and problems that have arisen with the office's automation equipment. The committee sets priorities based on the professional needs of the staff, and then makes recommendations to OGWP management regarding the types of equipment the office should purchase.

The Office of Municipal Pollution Control has begun conversion to a PC Local Area Network (LAN), which will be completed in FY 1990. The LAN will increase productivity and performance by enabling file sharing and will decrease hardware and software costs.

### B. Training

Currently, most Water Program staff and managers do not take full advantage of the PC's capability to provide them with easy access to a large amount of information to support decision making. Our goal for FY 1990-91 is to overcome this obstacle by improving the utilization of existing computer resources and by helping to encourage managers and staff to recognize the value of using PCs to save time and effort.

To accomplish this goal, the programs are being encouraged to explore and select training approaches tailored to meet their specific needs. For example, the Office of Ground-Water Protection has used on-site WIC Specialists to assist with education and training of OGWP staff; responsibilities have included developing brown bag seminars on word processing topics, such as creating tables and outlines, using fonts, and using columns.

### C. Office Procedures Automation

During the past few years, the Water Program's use of PC-based software for administrative activities has increased. Programs are beginning to rely on PCs to support every day activities, such as budget, tracking, electronic mail, and desktop publishing. For example, most programs now have PC-based correspondence

# *Office Automation:*
## *The State of IRM for Water Programs*

tracking systems, and OWEP uses a dBASE application to track Regional proposals and funding for special projects.

Many Water Program staff avoid using EPA's mainframe because they find it difficult to use. Several offices are developing "user-friendly front ends" to assist staff in using the mainframe for program and administrative purposes. For instance, to develop its Spotlight Report, OWEP downloads data from the EPA mainframe to a PC, where the data is manipulated, and subsequently back to the mainframe to generate graphics.

As automation of office procedures expands, water program offices will work together to develop effective and tailored training programs and promote technology transfer among the offices through better communication. In the coming year (FY 1990-91), the Water Program will place more emphasis on facilitating the development of tailored training programs and effective communication forums to share project results to help eliminate duplication of effort.

# *Looking Ahead*

This is the first in a series of tools designed to improve communication about the information the water program manages, how to obtain it, and our efforts to enhance its availability and usefulness.

The focus of the next issue of the annual report will be expanded to include discussion on several additional areas. For instance, EPA is placing increasing emphasis on taking advantage of projects in other Federal agencies to acquire information to support Agency decision making. Other areas receiving more attention are quality assurance/quality control issues, which include items such as monitoring protocols and data verification, and information collection issues such as ICR development. Finally, the next issue will highlight our continuing efforts to encourage the increased understanding and use of automation in the workplace.

# IRM Managers and Project Leaders

**IRM Planning**

For each project listed in the annual report, the following list identifies the lead organization, point of contact, and his or her phone number.

Underground Injection Control Program Mission Needs Assessment
(ODW/State Programs Division
Underground Injection Control Branch
Roger Anzzolin--202-382-5530)

Agency-Wide Drinking Water Information Study
(OW/Immediate Office
Gerald Widdowson--202-382-5698)

Data Sharing and Systems Compatibility Study
(Steering Committee for Water Quality Data Systems
Cynthia Warner--202-382-7046)

Sludge Tracking Feasibility Study
(OWEP/Enforcement Division
Compliance Information and Evaluation Branch
Dela Ng--202-475- 8313)

OW Systems Modernization Initiative
(OW/Immediate Office
Mary Blakeslee--202-382-5698)

**Information Access and Usefulness**

## A. Data Standardization and Integration

Ground-Water Minimum Data Set Project
(OGWP/Source Assessment and Information Management Staff
Caryle Miller--202-382-7077)

Underground Injection Control Minimum Data Set Workgroup
(ODW/State Programs Division
Underground Injection Control Branch
Roger Anzzolin--202-382-5530)

# IRM Managers and Project Leaders

Automated Section 305(b) Reporting by Creating the Waterbody System
**(OWRS/Assessment and Watershed Protection Division**
**Monitoring Branch**
**Bruce Newton--202-382-7074)**

Inclusion of Locational Information in PCS
**(OWEP/Enforcement Division**
**Compliance Information and Evaluation Branch**
**Dela Ng--202-475-8313)**

Indicators to Measure Ground-Water Program Progress
**(OGWP/Source Assessment and Information Management**
**Staff;**
**Caryle Miller--202-382-7077)**

Use of Toxic Release Inventory Data (TRI)
**(OWRS/Analysis and Evaluation Division**
**Economic and Statistical Analysis Branch**
**Nilesh Patel--202-382-5397)**

## B.  Hardware and Software Enhancements

Federal Reporting Data System (FRDS II) Project
**(ODW/State Programs Division**
**Drinking Water Branch**
**Larry Weiner--202-382-2799)**

Grants Information Control System (GICS) Modernization
**OMPC/Municipal Construction Division**
**Program Management Branch**
**Jannie Latta--202-382-5837)**

PPETS - PCS Development
**(OWEP/Enforcement Division**
**Compliance Information and Evaluation Branch**
**Dela Ng--202-475--8313)**

Personal Assistance Link
**(OWEP/Enforcement Division**
**Compliance Information and Evaluation Branch**
**Dela Ng--202-475--8313)**

# IRM Managers and Project Leaders

NEP Tracking System
(OMEP/Technical Services Division
Technical Services Branch
Joe Hall--202-475-7102)

Reach File Enhancements
(OWRS/Assessment and Watershed Protection Division
Water Quality and Analysis Branch
Philip Taylor--202-382-7046)

Access To STORET
(OGWP/Source Assessment and Information Management
Staff
Norbert Dee--202-382-7077)

Enhancements of LISTS
(OWRS/Industrial Technology Division
Analysis and Analytical Support Branch
Bill Telliard--202-382-7131)

**Strengthening
Partnerships**

**A. Training and Outreach**

Regional Forums
(Steering Committee for Water Quality Data Systems
Cynthia Warner--202-382-7046)

PCS Managers Training
(OWEP/Enforcement Division
Compliance Information and Evaluation Branch
Steve Martin--202-475--8313)

Public Access to PCS
(OWEP/Enforcement Division
Compliance Information and Evaluation Branch
Steve Martin--202-475--8313)

**OW Electronic
Bulletin Boards**

COASTNET
(OMEP/Technical Services Division
Technical Services Branch
Joe Hall--202-475-7102)

# IRM Managers and Project Leaders

Public Technology Local Exchange (LEX)
(OGWP/Source Assessment and Information Management
Staff
Robin Heisler--202-382-7077)

Wastewater Treatment Information Exchange Bulletin Board
(OMPC/Municipal Facilities Division
Wastewater Facility Management Branch
Richard Kuhlman--202-382-7263)

Wetlands Faunal List
(OWP/Wetlands Strategies and State Program Division
Martha Stout--202-475-6745)

**Technology Transfer
and Clearinghouses**

National Small Flows Clearinghouse
(OMPC/Municipal Facilities Division
Wastewater Facility Management Branch
Richard Kuhlman--202-382-7263)

OMPC PC-based Automated Bibliography
(OMPC/Municipal Facilities Division
Wastewater Facility Management Branch
Bernita Stark--202-382-7263)

Safe Drinking Water Hotline
(ODW/Immediate Office
Charlene Shaw--202-382-2285)

Clean Lakes Clearinghouse
(OWRS/Assessment and Watershed Protection Division
Nonpoint Source Control Branch--202-382-7085)

Environmental Financing Network
(OWP/Wetlands Strategies and State Program Division
Martha Stout--202-475-6745)

**Program Data Bases
(OGWP,OWP, FY
1989-90)**

WETLANDS Data Base
(OWP/Wetlands Strategies and State Program Division
Martha Stout--202-475-6745)

State Files Database
(OGWP/Source Assessment and Information Management
Staff
Norbert Dee--202-382-7077)

## IRM Managers and Project Leaders

### B.  Joint and Interagency Projects

OW Steering Committee for Water Quality Data Systems
**(Steering Committee for Water Quality Data Systems
Cynthia Warner--202-382-7046)**

Boston Harbor Marine Monitoring Project
**(OMEP/Technical Services Division
Technical Services Branch
Joe Hall--202-475-7102)**

GIS Wellhead Protection (WHP) Program Pilot
**(OGWP/Source Assessment and Information Management
Staff
Robin Heisler--202-382-7077)**

Trinity River and Dallas/Fort Worth GIS project
**(OWP/Wetlands Strategies and State Programs Division
Martha Stout--202-475-6745)**

Big River GIS project
**(OWP/Wetlands Strategies and State Programs Division
Martha Stout--202-475-6745)**

Electronic Reporting Pilot
**(OWEP/Enforcement Division
Compliance Information and Evaluation Branch
Steve Martin--202-475-8313)**

PCS Users Group
**(OWEP/Enforcement Division
Compliance Information and Evaluation Branch
Dela Ng--202-475-8313)**

**Office Automation**     Office Automation Workgroup
**(ODW/State Programs Division
Peter Bahor--202-382-5530)**

Information Management Committee
**(OGWP/Source Assessment and Information Management
Staff
Norbert Dee--202-382-7077)**

# IRM Managers and Project Leaders

Local Area Network Effort
**(OMPC/Municipal Construction Division
Program Management Branch
Jannie Latta--202-382-5837)**

OGWP Training Efforts
**(OGWP/Source Assessment and Information Management
Staff
Norbert Dee--202-382-7077)**

OWEP Regional Special Projects Tracking System
**(OWEP/Program Management Staff
Ed Kramer--202-475-8494)**

OWEP's Spotlight Report
**(OWEP/Program Management Staff
Ralph Rizzo--202-475-8494)**

# Acronyms

| | |
|---|---|
| **CENR** | Center for Environmental and Natural Resources |
| **CSG** | Council of State Governments |
| **DMR** | Discharge Monitoring Report |
| **GIS** | Geographic Information System |
| **EFIN** | Environmental Financing Network |
| **FRDS** | Federal Reporting Data System |
| | |
| **IRM** | Information Resources Management |
| **KBASE** | Regulatory Communication/Knowledge-Based System |
| **LAN** | Local Area Network |
| **LEX** | Ground Water Protection: Public Technology Local Exchange |
| **NCC** | National Computer Center |
| **NPDES** | National Pollutant Discharge Elimination System |
| | |
| **NTIS** | National Technical Information Service |
| **ODW** | Office of Drinking Water |
| **OGWP** | Office of Ground-Water Protection |
| **OIRM** | Office of Information Resources Management |
| **OMPC** | Office of Municipal Pollution Control |
| **OMEP** | Office of Marine and Estuarine Protection |
| | |
| **OW** | Office of Water |
| **OWEP** | Office of Water Enforcement and Permits |
| **OWP** | Office of Wetlands Protection |
| **OWRS** | Office of Water Resources and Standards |
| **PAL** | Personal Assistance Link |
| **PC** | Personal Computer |
| | |
| **PCS** | Permits Compliance System |
| **PPETS** | Pretreatment Permits/Enforcement Tracking System |
| **SAIMS** | Source Assessment/Information Management Staff |
| **SIRMO** | Senior Information Resources Management Officer |
| **STORET** | STOrage and RETrieval Data Base |
| **TNC** | The Nature Conservancy |
| | |
| **TRI** | Toxic Release Inventory |
| **TVA** | Tennessee Valley Authority |
| **UIC** | Underground Injection Control |
| **URI** | University of Rhode Island |
| **WHP** | Wellhead Protection |
| **WIC** | Washington Information Center |
| **WPO** | Water Policy Office |
| **WTIE** | Wastewater Treatment Information Exchange |