Illinois
Environmental
Protection Agency

Public Water Supplies
2200 Churchill Road
P.O. Box 19276
Springfield, Illinois 62794-9276

February 1990

Illinois Groundwater Protection Program:

A Biennial Report

Prepared by the
Interagency Coordinating Committee on Groundwater

February, 1990

IGPA
Illinois Groundwater
Protection Act

Printed on Recycled Paper

Illinois Environmental Protection Agency · P.O. Box 19276, Springfield, IL 62794-9276

217/782-3397

February 1, 1990

The Honorable James R. Thompson
Governor, State of Illinois

The Honorable Members of the
Illinois General Assembly

I am pleased to transmit our report "Illinois Groundwater Protection Program", which has been prepared pursuant to Section 4(b)(8) of the Illinois Groundwater Protection Act (P.A. 85-0863). This is the first biennial report of the Interagency Coordinating Committee on Groundwater in consultation with the Groundwater Advisory Council.

The Act created a comprehensive, prevention-based policy focused upon beneficial uses of groundwater and preventing degradation. As shown in the report, much progress has been made but more is needed.

The report gives the status of the various elements of groundwater protection organized in the general order of the Act. An executive summary is provided for quick reference. The report also includes several figures, tables and appendices to help document our progress.

The Committee will be happy to assist in the review and evaluation of the report.

Sincerely,

Bernard P. Killian

Bernard P. Killian
Director

Submitted to the Governor,
and the Illinois General Assembly

Illinois Groundwater Protection Program

BIENNIAL REPORT
February, 1990

Prepared by the
Interagency Coordinating Committee on Groundwater

EXECUTIVE SUMMARY

In September 1987, Governor Thompson signed legislation for protection of Illinois groundwater from contamination. The Illinois Groundwater Protection Act (P.A. 85-0863) responds to the pervasive need to manage groundwater quality by a prevention-oriented process. The Act is a comprehensive law which relies upon a State and local partnership. Although the Act is directed toward protection of groundwater as a natural and public resource, special provisions target drinking water wells. This biennial report to the Governor and General Assembly is intended to provide an overview of the implementation efforts since the adoption of the Act.

The Act responds to the need to protect groundwater quality and establishes a unified groundwater protection program using the following provisions:

- Sets a groundwater protection policy
- Enhances cooperation
- Establishes water well protection zones
- Provides for surveys, mapping and assessments
- Establishes recharge area protection
- Requires new groundwater quality standards

The groundwater policy sets the framework for management of this vital resource. The law focuses upon uses of the resource and establishes statewide protection measures directed toward potable water wells. In addition, local governments and citizens are provided an opportunity to perform an important role for groundwater protection in Illinois.

The IGPA created the Interagency Coordinating Committee on Groundwater (ICCG) to direct efforts of State agencies and facilitate implementation. Ten State agencies actively participate in the ICCG and work together on a regular basis. The Director of the Illinois Environmental Protection Agency (IEPA) serves as the chairman of the ICCG. The Governor-appointed Groundwater Advisory Council (GAC) has also been very active in directing the overall efforts.

An extensive groundwater education program is directed at those affected by the IGPA. Major initiatives include local and regional presentations and workshops, public participation projects, training programs and many other aspects developed in an annually revised workplan. The effort is coordinated by the Department of Energy and Natural Resources (ENR).

ENR also has responsibility for developing a comprehensive groundwater evaluation program. A long-term plan has been developed by ENR's Water and Geological Surveys and has been approved by the ICCG. The plan includes data collection and automation, groundwater quality monitoring, and quality and quantity assessments. Quantity and quality assessments are underway in priority regions.

Two short-term projects mandated by IGPA have been completed--the recharge area delineation and prioritization, and an initial report on the impacts of pesticides on groundwater.

The IEPA has conducted a synoptic analysis of the public water supply wells. The data indicates that the overall quality of the State's groundwater is generally good. In certain areas, naturally-occurring levels of chemicals are causing limited use impairments. While quality statewide is not an issue, local conditions indicate that 4.6 percent of the tested public water wells had detectable levels of organic chemical contamination. Although the

majority of affected water supplies do not exceed standards, their vulnerability to contamination supports a preventive approach. The IEPA is operating an ambient groundwater monitoring network for public water supply wells.

The IGPA established a groundwater protection policy. A key part of this policy involves the wellhead protection program for both public and private water wells. The Act established minimum setback zones between water wells and potential sources or routes of contamination. It also provided that communities can expand the area to a maximum setback zone. Several communities have already established maximum setback zones. The Agency is conducting PWS well site surveys and preparing reports for community water supplies. Half of these wells in the State have been field surveyed. Many reports have been sent to local officials. The IEPA and ENR are developing procedures for conducting groundwater protection needs assessments for communities.

The protection of regional area groundwater quality is provided by the regional groundwater recharge planning process. To assist in this process, ENR has developed a prioritized recharge area map. The IEPA has recently proposed an approach for designating regional planning areas and establishing related committees.

The IGPA requires that new groundwater quality standards be developed to protect groundwaters. The IEPA's proposal was filed with the Pollution Control Board in September of 1989 as a result of extensive public outreach efforts, interest group review, and considerable technical review. It is specific to groundwater, provides for classification, sets criteria for 56 chemicals or groups of chemicals and establishes preventive management and non-degredation procedures. Hearings are underway on the proposal.

The IGPA also established authority to develop technology regulations, a minimum hazard certification program, and monitoring well code revisions. These are in various stages of development and implementation.

Table of Contents

Introduction. 1

Interagency Coordinating Committee on Groundwater 3

Groundwater Advisory Council. 6

Education Program For Groundwater Protection. 8

Groundwater Evaluation Program. 11
- Short-Term Mandate
- Groundwater Quality and Quantity Assessments
- Data Collection and Automation
- Groundwater Quality Monitoring

Groundwater Resource - Its Quality and Availability 16
- Groundwater Quality
- Groundwater Quantity

Groundwater Quality Standards 21

Wellhead Protection Program 27
- Minimum Setback Zones
- Maximum Setback Zones
- Well Site Surveys
- Groundwater Protection Needs Assessments

Regional Groundwater Protection Program 38
- Regional Groundwater Planning Program
- Regulated Recharge Areas

Department of Public Health Groundwater Protection Program. 43

Groundwater Technology Regulations for Activities 44

Minimal Hazard Certification Program. 46

Groundwater Quality Protection - Future Directions. 47

List of Figures

Figure. 1 - Public Water Supply Wells Tested for Inorganic and Volatile Organic and Aromatic Constituents 17

Figure. 2 - Map of PWS Wells Displaying TDS Concentrations 17

Figure. 3 - PWS Wells with VOC/VOA Detections. 17

Figure. 4 - PWS Wells with SOC Detections. 17

Figure. 5 - Community Wells County 32

Figure. 6 - Well Site Survey Aerial Photograph Base Map. 34

Figure. 7 - Proposed Priority Groundwater Protection Planning Regions (I-II) 40

List of Tables

Table I. ICCG Members 4

Table II. GAC Members. 6

Table III. SOC Analyses Summary 18

Table IV. Preliminary Summary Potential Sources from Well Site Surveys Conducted on 1059 Community Water Wells. 35

List of Appendices

Appendix. A - Summary of Inorganic Analyses. 50

Appendix. B - General Statistical Summary of VOC/VOA's 51

Appendix. C - IEPA Remedial Action Summary in Response to Contaminated Community Water Supply Wells and Listing of Major Problems with Community Water Supply Wells. 52

Appendix. D - Geographic Well Site Survey Progress Report by IEPA Regions 53

INTRODUCTION

The Illinois Groundwater Protection Act (IGPA) was passed by the General Assembly and signed by the Governor on September 24, 1987. The IGPA establishes a comprehensive program for the protection of groundwaters. Some parts of the program, such as minimum setback zones for wellhead protection, became effective after January of 1988. Other parts of the program, however, required more development work or rulemaking in order to be implemented. The comprehensive groundwater quality standards and the recharge area planning program are examples of these provisions. The Interagency Coordinating Committee on Groundwater (ICCG) was established by the IGPA as a means to foster greater coordination among state agencies. Section 4(b)(8) requires the ICCG to report biennually to the Governor and the General Assembly on groundwater quality, groundwater quantity, and the State's enforcement efforts. The legislation establishes a general policy on groundwater, as follows:

> "It is the policy of the State of Illinois to restore, protect and enhance the groundwaters of the State, as a natural and public resource. The State recognizes the essential and pervasive role of groundwater in the social and economic well-being of the people of Illinois and its vital importance to general health, safety and welfare. It is further recognized as consistent with this policy that groundwater resources of the State be utilized for beneficial and legitimate purposes, waste and degradation of the resource be prevented, and underground water be managed to allow maximum benefit for people of the State of Illinois."

This first report is intended to set the framework for a meaningful status report on the groundwater of the State. This can serve as a base upon which to compare the progress and status of program responses to the groundwater issues. The overall report is presented in the general order of the IGPA.

The report presents a status on these elements. In addition, the report also includes information on the status and direction of groundwater quantity initiatives in Illinois.

INTERAGENCY COORDINATING COMMITTEE ON GROUNDWATER (ICCG)

The IGPA requires the creation of the ICCG. This Committee is chaired by the Director of the IEPA or his designee and has members from ten State agencies which have some jurisdiction over groundwater. The member agencies are the Illinois Environmental Protection Agency (IEPA), Illinois Department of Public Health (IDPH), Department of Energy and Natural Resources (ENR), Department of Mines and Minerals (DMM), Office of the State Fire Marshall (OSFM), Illinois Department of Transportation - Division of Water Resources (IDOT/DWR), Department of Agriculture (DOA), Emergency Services and Disaster Agency (ESDA), Department of Nuclear Safety (DNS), and the Department of Commerce and Community Affairs (DCCA). The Committee is required to meet at least twice a year to review and coordinate the State's groundwater protection policy as well as evaluate regulations that relate to groundwater and assess the effectiveness of the State's efforts to protect and improve groundwater. The Committee must also review and make recommendations on groundwater research and data collection and dissemination programs. Table I lists the Agency director or designee on the Committee:

Table I. Interagency Coordinating Committee on Groundwater (ICCG)

ENVIRONMENTAL PROTECTION AGENCY
Bernard Killian (Chair)
Roger Kanerva, Designate

DEPT. OF ENERGY & NATURAL RESOURCES
David Baker

DEPT. OF PUBLIC HEALTH
David Antonacci

STATE FIRE MARSHAL
Jack Moore

DEPT. OF TRANSPORTATION
Don Vonnahme

DEPT. OF MINES AND MINERALS
Bruce Phillips

DEPT. OF AGRICULTURE
Warren Goetsch

EMERGENCY SERVICES & DISASTER AGENCY
E. Lynn Grayson

DEPT. OF COMMERCE & COMMUNITY AFFAIRS
Stewart Schrodt

DEPT. OF NUCLEAR SAFETY
Dave Ed

GOVERNOR'S OFFICE
Jill McClellan

Section 4(b) of the IGPA provides that the Committee shall:

(1) review and coordinate the State's policy on groundwater protection;

(2) review and evaluate State laws, regulations and procedures that relate to groundwater protection;

(3) review and evaluate the status of the State's efforts to improve the quality of the groundwater and of the State enforcement efforts for protection of the groundwater and make recommendations on improving the State efforts to protect the groundwater;

(4) recommend procedures for better coordination among State groundwater programs and with local programs related to groundwater protection;

(5) review and recommend procedures to coordinate the State's response to specific incidents of groundwater pollution and coordinate dissemination of information between pollution and coordinate dissemination of information between agencies responsible for the State's response;

(6) make recommendations for and prioritize the State's groundwater research needs;

(7) review, coordinate and evaluate groundwater data collection and analysis; and

(8) beginning on January 1, 1990, report biennially to the Governor and the General Assembly on groundwater quality, quantity and the State's enforcement efforts.

The ICCG first met on September 21, 1987. Since that time, the Committee has met every several months to accomplish its legislative mandate. The Committee met twice in 1987, five times in 1988, and six times in 1989.

An Implementation Plan was developed by the ICCG and later approved by the GAC. A regulatory agenda was also developed pursuant to the IGPA. The Committee has had success in coordinating and assisting in many aspects of the groundwater protection program. In addition, the committee has established several subcommittees to facilitate program implementation, as follows:

- Groundwater Education Subcommittee chaired by DENR
- Pesticide Subcommittee chaired by DOA
- Monitoring Well Code Subcommittee chaired by DPH

The ICCG as well as its subcommittees and workgroups have helped to provide a cooperative process to develop and implement programs.

GROUNDWATER ADVISORY COUNCIL (GAC)

The IGPA also calls for the formation of the Groundwater Advisory Council (GAC). The Council is designed to allow the public, industry, and local governments to meet with the State government. Specifically, the Council is composed of 9 public members appointed by the Governor, 2 people representing industrial and commercial interests and one person each representing interest groups in agriculture, local government, regional planning, public water supply and water well drilling. The members, who serve three-year terms, elect a chairman from among their number, by majority vote. Table II displays the GAC members:

Table II. Groundwater Advisory Council (GAC)

Melford Dahl (Chairman)
Public Works Director of Elgin

Jerry Paulson
McHenry County Defenders

Kevin Greene
Citizens for Better Environment

Catherine Barnard
Industrial/Commercial Representative

John Baker
Chemical Waste Management

Dr. Harold Reetz
Potash and Phosphate Institute

Jacqueline Bruemmer
Regional Planning Interest

Allen Panek
Naperville Dept. of Water & Wastewater Utl.

John Pitz
Water Well Drillers Industry

Section 5(a) of the IGPA provides that the Council shall

(1) review, evaluate and make recommendations regarding State laws, regulations and procedures that relate to groundwater protection;

(2) review, evaluate and make recommendations regarding the State's efforts to implement this Act and to generally protect the groundwater of the State;

(3) make recommendations relating to the State's needs for groundwater research; and

(4) review, evaluate and make recommendations regarding groundwater data collection and analyses.

The diversity of the Council members' backgrounds provides unique points of view when the Council reviews and evaluates groundwater protection policy, program implementation and research/data collection, which are its mandates. The GAC met three times during 1988 and three times during 1989. The Council has participated in the review and evaluation of various efforts and provided recommendations regarding many aspects of the program. Joint meetings of the ICCG and GAC have helped to provide for close cooperation.

The GAC sponsored the "Groundwater Protection Policy Forum" on December 1, 1988 to provide a process to develop policy issues and responses relating to groundwater protection and the groundwater quality standards setting process.

EDUCATION PROGRAM FOR GROUNDWATER PROTECTION

The IGPA required ENR, with the cooperation of the Agency, the Department of Public Health, the Department of Agriculture and others as needed, to develop, coordinate and conduct an education program for groundwater protection. The program is to include, but not be limited to, education for the general public, business, agriculture, government, and private water supply owners, users and operators.

The education program is to address at least the following topics: hydrogeologic principles, groundwater protection issues, State groundwater policy, potential contamination sources, potential water quality problems, well protection measures, and the need for periodic well tests. ENR is directed to cooperate with local governments and regional planning agencies and committees, to coordinate local and regional education programs and workshops, and to expedite the exchange of technical information.

The Statewide education program was initiated by conducting a series of five groundwater protection workshops. The workshops started in early 1988 and were held in six locations: Jacksonville, Mt. Vernon, Bloomington, Rock Falls, and Elgin. These workshops were attended by the general public, local officials, and groundwater professionals. All the agencies represented on the ICCG described their role at the workshops.

The IEPA and ENR jointly conducted three public workshops regarding the development of groundwater quality standards. These workshops presented the public with opportunity to participate in the development of new groundwater quality standards. This was an integral part of the overall outreach efforts associated with the implementation of the IGPA.

To respond to education needs, the ICCG formed a Groundwater Education Subcommittee. Chaired by ENR, the eight participating agencies meet every two to three months to coordinate and plan activities. The Subcommittee's program document and its annual work plans have all been reviewed and approved by the ICCG and GAC. A partial list of achievements and lead agencies of the groundwater education program in FY 1988 and 89 is presented below:

* Produced or published materials using the interagency protocol
  - 'Safeguard' - general brochure on IGPA (ENR)
  - 'Primer' - detailed explanation of IGPA as related to community water wells (IEPA)
  - 'The Act' and index - over 2500 copies of IGPA were distributed (LRB, ENR)
  - Displays - colorful summaries of groundwater protection elements for meetings (ENR)
  - Overhead slide set - 65 concept slides related to groundwater, threats to it, and IGPA (ENR)
  - Slide Set - "Protecting Illinois' Invaluable Hidden Resource" (DENR)
  - "Suggested activities" - this leaflet suggests actions for individuals, businesses, organizations, local governments and schools (ENR)
  - "Groundwater Protection: Community Water Supply Planning" brochure (IEPA)
  - Groundwater Standards: "Issues and Options" and "Discussion Paper" documents (ICCG, IEPA)
  - Video - "Community Groundwater Protection" (IEPA)
  - Video - "Illinois Groundwater: Our Invisible Resource" (ENR)
  - Posters and brochures on abandoned wells (ENR, DPH)

* Conducted three media events on sealing abandoned wells
* Conducted three workshops for public health officials and water well drillers (DPH)
* Conducted five workshops for county agricultural staffs
* Responded to thousands of requests for information
* Distributed multi-agency groundwater protection month packets to 650 news outlets, 210 association contacts, 201 legislators, and over 3,000 local government units
* Developed and distributed "Buried Treasure - Education Activity Guide" to over 2,100 K-12 teachers, at more than 50 groundwater workshops
* Made presentations or had displays on IGPA at about 165 meetings of professional, trade and civic associations
* Developed groundwater protection slide set for pesticide applicator training (CES)
* Notified legislators of groundwater educational materials and services

GROUNDWATER EVALUATION PROGRAM

The IGPA requires ENR, in consultation with the ICCG and GAC, to develop a groundwater program consisting of resource assessments, data collection and automation, and groundwater monitoring. The information generated by this comprehensive program will be useful to both state and local government and will lead to better understanding, protection and management of Illinois groundwater. A long-term plan, developed by ENR's Water and Geological Surveys and approved by the ICCG, is being implemented as funds become available.

In addition to the long-term evaluation program, the legislature mandated two short-term studies -- statewide recharge area mapping, and an initial report on the impacts of pesticides on groundwater.

Short-Term Mandates

Recharge Area Mapping -- The Geological Survey has completed the appropriate recharge area map, titled "Potential for Aquifer Recharge in Illinois." The Water Survey has completed its mapping of statewide distribution of special waste generators and landfills, and a depth-based prioritization of community water wells. The combination of these maps is being used to delineate priority groundwater planning regions, to prioritize community needs assessments and aquifer assessments, and to promote and explain the groundwater protection program. Additional maps will be developed by the Surveys using the well site survey information collected by IEPA.

Evaluation of Pesticide Impacts Upon Groundwater -- The initial report on the pesticide evaluation program has been completed, as mandated by the IGPA. In general, the report identifies, 1) areas of the state with high potential for contamination by agricultural chemicals, 2) agricultural practices with

the greatest potential to impact groundwater, 3) preventive measures, and 4) proposed sampling programs. The report also summarizes the results of past sampling programs conducted by various entities throughout the state. However, the data was determined to be insufficient to accurately determine what impact pesticides have had on groundwater quality in Illinois.

Groundwater Quality and Quantity Assessments

Detailed information available from these assessments will help communities protect their groundwater resources. The assessments will be done at a scale usable by communities and will include aquifer mapping and evaluation of baseline groundwater quality. The ensuing database will also be usable by state regulators and will support the state's monitoring network.

a. Quantity Assessment. The quantity analysis will include evaluation of existing data as well as new data to be collected. New data includes determination of the hydrogeology and stratigraphy of the aquifer, aquifer characteristics, confining bed characteristics, and rates of recharge. Although some regional analyses have been done, particularly in the Chicago fringe area, most areas of the state do not have data detailed enough for groundwater protection planning purposes.

b. Quality Assessment. The baseline quality assessment will include some existing data and a sampling program to collect new data. Once the quality assessment is complete, the data will be transmitted to local governments so that they can relate groundwater conditions to possible sources of contamination, and if necessary, plan remediation procedures for degraded water supplies. In the future, the data will be used to determine if the water quality has improved or diminished. The baseline quality assessment will also provide basic information needed for designing and coordinating an

effective groundwater monitoring network, and for industry to comply with technical standards and groundwater quality standards.

The groundwater assessments will initially be done in priority planning regions. Although progress will be limited due to funding difficulties, some related assessments are being subsidized, on a short-term basis, by other programs. Some quality assessments have been completed in Rockford, although these have been very site-specific, and a regional assessment has been completed for Northeastern Illinois. The Geological Survey has begun assessments for two aquifer groups in the state, the Prairie Aquigroup and the Shallow Bedrock Aquigroup. The Water Survey is completing the last year of a regional groundwater quality assessment in the East St. Louis area, and is in the second year of a four-year assessment of the Peoria-Pekin area.

Data Collection and Automation

When fully operational, the data management program will ensure uniform collection of information by state agencies and database accessibility for regulatory programs and for technical assistance to communities.

As proposed under the law, this system will be the vehicle for storage, retrieval, analysis and display of groundwater information. It will include groundwater monitoring results, well logs, pollution source permits, water quality assessments and RCRA information. When developed, this broad-ranging database will support many different types of investigations.

During FY 90, the Surveys are establishing data management needs and methodology for the pesticide pilot study, pesticide evaluation, and community groundwater protection needs assessments.

Groundwater Quality Monitoring

The statewide monitoring network will rely on a core group of existing public water supply (PWS) wells monitored by IEPA and non-community wells

monitored by the Department of Public Health (DPH), in addition to a supplemental network of selected private and dedicated wells monitored by ENR. The sampling results from this network and from other sources, such as regulated facilities monitoring, will be reviewed periodically to determine problem areas and long-term quality trends.

Some preliminary work has been accomplished. From 1985 through 1989, the IEPA tested more than 75% of PWS wells for volatile organic and aromatic compounds. The Agency has also tested more than 400 high-risk PWS wells for pesticides and other synthetic organic compounds (see following section, "The Groundwater Resource, Its Quality and Availability").

In 1984 the Water Survey developed a preliminary design of a statewide monitoring network of public water supply wells. This year,the IEPA will use that research to initiate a long-term ambient monitoring program. A cooperative effort with the U.S. Geological Survey, the program will conduct comprehensive analyses of inorganic and organic compounds. Work to date includes selecting monitoring points and conducting site verification. The network will almost certainly be operated on a rotational basis, for example, during any given annual cycle a subset of wells would be sampled, with the entire network being sampled every three to five years. Formal reporting and review will be an integral part of the program, which should provide a continuous evaluation of ambient groundwater quality sampled at public water supply wellheads.

Also underway is a three-year pilot study of a statewide pesticide monitoring plan designed by the Surveys. The study, a joint effort of ENR and the Department of Agriculture (DOA), will provide preliminary assessment of the occurrence of agricultural chemicals in rural, private wells in representative hydrogeologic settings. Water samples will be collected in

five township-size areas in Mason, Kankakee, Livingston, Piatt and Effingham Counties. Results of the pilot study will help to refine the plan for the statewide survey. The long-term pesticide network will probably include rural private wells monitored by DPH and DOA, and selected public water supply wells monitored by IEPA. The network would be supplemented with research monitoring conducted by the Surveys.

THE GROUNDWATER RESOURCE - ITS QUALITY AND AVAILABILITY

Groundwater Quality

The IEPA established an initial groundwater monitoring network pursuant to PA83-1268 in 1985. This network is composed of community water supply wells (PWS). The program incorporates several sub-networks which were designed to help define ambient levels and help identify problem areas. Monitoring was conducted using a new protocol developed by the IEPA. The sampling and analysis program was initiated in 1985 and included the first comprehensive analyses for volatile organic chemicals (e.g., solvents) and inorganic compounds (e.g., heavy metals). Over 2,600 of the community wells have been sampled and analyzed for these chemicals (see Figure 1). In addition, special monitoring has been conducted for synthetic organic compounds such as pesticides. Four hundred forty-six PWS wells have been sampled for pesticides or synthetic organic compounds (SOCs). These represented the most vulnerable PWS wells based upon their depth and geological factors.

Although in-situ aquifer quality is generally good, a number of naturally-occurring inorganic parameters exceed water quality standards. Twenty-four hundred of the twenty-six hundred PWS wells sampled for inorganic constituents are statistically summarized in Appendix A. This appendix clearly illustrates that many inorganic constituents occur naturally in Illinois groundwater resources. Figure 2 illustrates the natural occurrence of total dissolved solids (TDS), a very common inorganic constituent.

The following information is indicative of the organic chemical groundwater contamination problems which are being documented in Illinois community water supply wells:

- One hundred and fifteen community water wells have shown detectable levels of VOC/VOA chemical contamination based upon sampling and

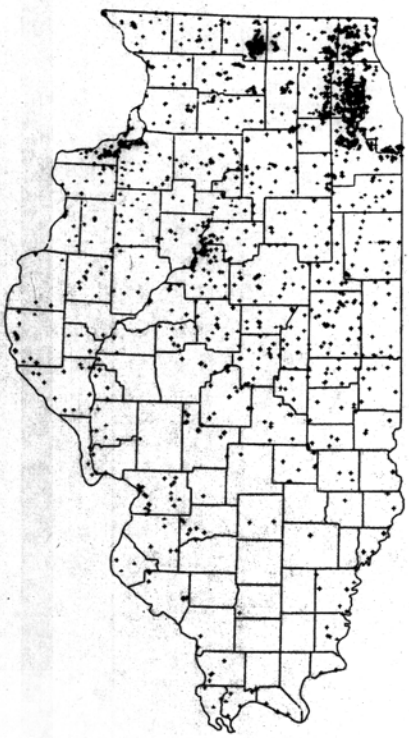


Figure 1 - Public Water Supply Wells Tested for Inorganic and Volatile Organic and Aromatic Constituents

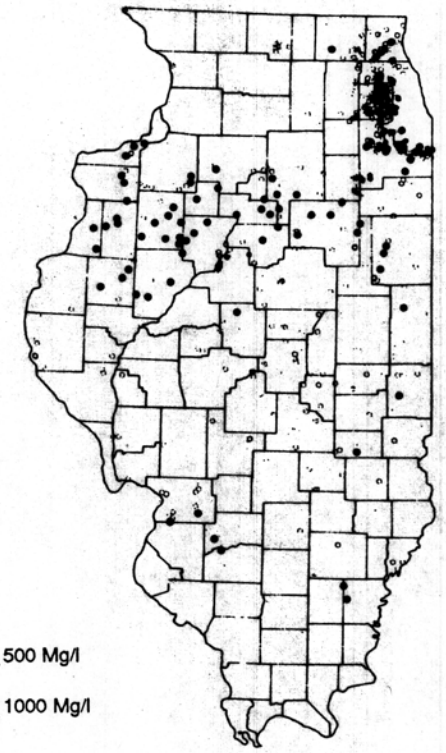


Figure 2 - Map of PWS Wells Displaying TDS Concentrations

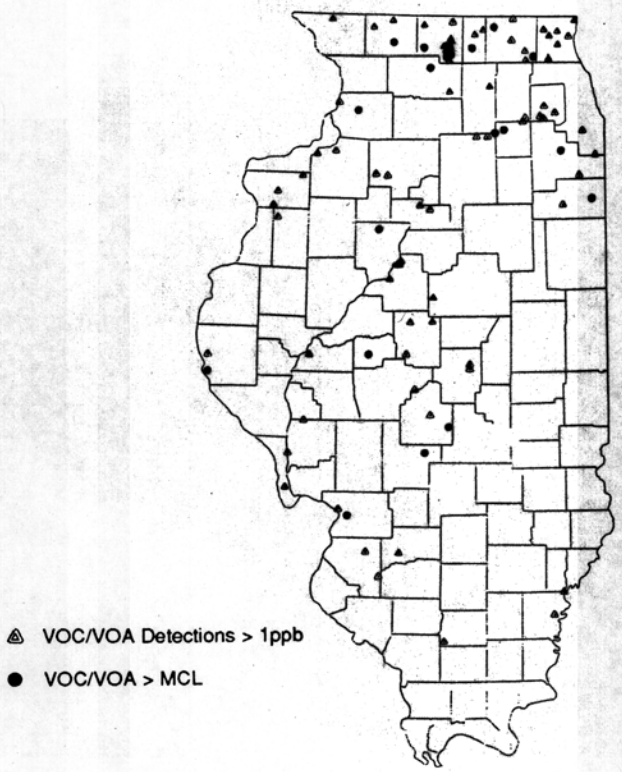


Figure 3 - Public Water Supply Wells with VOC/VOA Detections

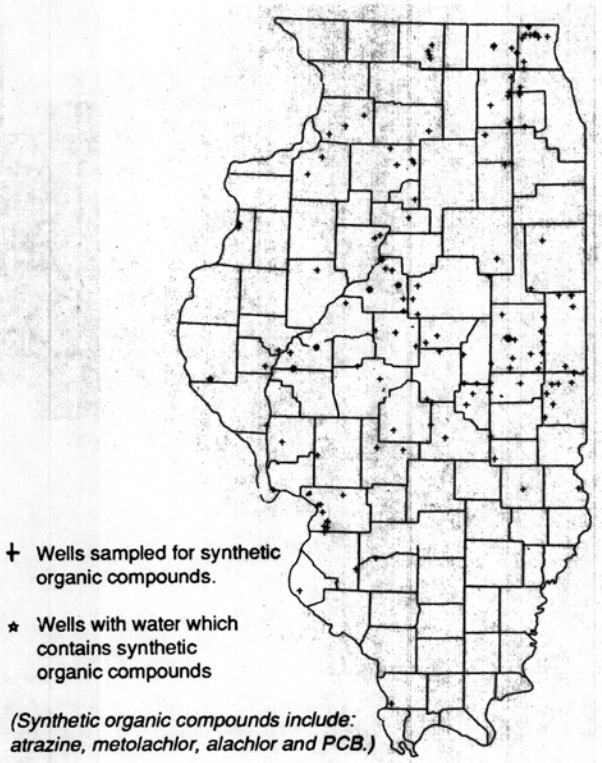


Figure 4 - Public Water Supply Wells with SOC Detections

analysis performed by the IEPA over the past several years. This represents about 4.6% of the 2,600 community water wells which have been analyzed to date.

- Forty-one of the 2,600 PWS wells or 1.6 percent exceed the USEPA final MCL or proposed MCL levels for one or more VOC/VOA contaminants (see Appendix B). These samples were taken at the wellhead, and do not represent PWS system compliance at points of entry to the distribution system.
- Twenty-one or 1.8 percent of facilities which may have one or more wells exceeding a USEPA MCL. Figure 3 presents the distribution of community water wells affected by VOC/VOA chemical constituents.
- Six wells or 1.3 percent have been confirmed by multiple analyses to have detectable levels of pesticides (see Figure 4). One of these six wells or 0.3 percent has one or more pesticide constituents that could exceed a USEPA proposed MCL. The 446 wells sampled for pesticides represent 300 PWS facilities; therefore, one facility or 0.33 percent of 300 PWS facilities have detected pesticides that could exceed a USEPA proposed MCL (PMCL). Table III summarizes the levels of detected pesticides.

Table III. Summary of PWS SOC Analyses

PESTICIDE	WELLS[1] NO/POS	SAMPLES[2] NO/POS	Concentrations LOW (ppb)	HIGH (ppb)	MEAN (ppb)
Alachlor	446/3	475/9	0.54	12.0	4.4
Atrazine	446/6	475/16	0.069	4.8	1.2
Metolachlor	446/3	475/9	1.2	11.0	4.8
Metribuzin	446/1	475/2	2.2	3.7	2.9
Cyanazine	446/2	475/4	0.38	4.5	1.8

[1] Number of wells sampled, and the number of positive detections. This does not include resamples.
[2] Number of wells sampled and resampled, and the number of detections.
ppb - parts per billion

The well site surveys conducted by the IEPA for these six community wells indicate that the apparent potential point source of pesticide contamination is related to nearby commercial operations within either the minimum setback zone or 1,000 foot survey area. All of the contaminated wells are in an area with high geologic susceptibility (e.g., highly permeable geologic materials) and the depth of the wells range from 37 to 220 feet.

For a detailed account of major problems at community water supply wells from testing conducted from 1985 - present, and remedial response action taken by the IEPA to date, see Appendix C.

Groundwater Quantity, Use and Expansion

In January 1984 the Illinois State Water Plan Task Force published the Illinois State Water Plan. This plan made numerous recommendations covering the need for improved protection and management of the groundwater resources of the State.

The legislative initiatives for groundwater quantity management were developed by a committee of the Illinois State Water Plan Task Force at the request of the Governor's Office. This committee initiated its efforts to study groundwater quantity issues in March of 1988. After eleven months of study the groundwater quantity committee prepared a 200 page report describing 23 significant groundwater quantity issues in Illinois. The committee also developed a report on groundwater supplies versus demands in Illinois as well as the legislative initiatives.

On February 23 and 24, 1989 the efforts of this committee were presented to the public at meetings in DeKalb and Springfield. Comments received from these public meetings were used to modify the draft legislative initiatives prior to their being introduced in General Assembly as HB 2710.

During the legislative review of HB 2710, over 18 interest groups, as well as the 10 agencies on the groundwater quantity committee, worked on the legislative language with the goal of reaching a consensus agreement on the provisions of HB 2710. Full agreement on this legislation was not reached and the bill was assigned to interim study by the House of Representatives on May 26, 1989. The Administration continued to work with interest groups and agencies on the language of HB 2710 through June of 1989 with the hope of reaching final agreement on HB 2710 prior to the end of the Legislative session.

Although there was general support for the groundwater management provisions of HB 2710 by business and local governmental interests, representatives of the farm community continued to express reservations regarding some of the provisions of the legislation. These reservations lead to a final lack of consensus near the end of the legislative session which did not allow HB 2710 to move to passage in a timely manner. In general the farm community representatives recognized the need to revise the State's groundwater quantity laws and they still feel there are important issues regarding groundwater quantity management that need to be addressed. The final reservations regarding HB 2710 as expressed by the farm community representatives concerned first, the appropriate degree of local control over the development of groundwater versus State control, secondly the degree of liability an irrigator would have in paying to fix a nearby impacted well that may be substandard, and finally whether the protection afforded impacted domestic wells should also apply to impacted livestock wells.

COMPREHENSIVE WATER QUALITY STANDARDS FOR GROUNDWATER

Establishment of comprehensive groundwater quality standards is a critical component of the groundwater protection program. Such standards are ultimately necessary to give us a practical means of defining expectations for groundwater quality and determining the adequacy of the protection program. In particular, groundwater standards are useful in four ways:

1. General water quality goals (e.g., drinking water) must be translated into chemical and biological parameters which can be monitored and analyzed. Using scientific "standards," we then have a way of determining the relative "goodness" or "badness" of actual groundwater around the State. Over time, we can also keep track of the progress being made to achieve or maintain desirable groundwater quality. The regulatory process of setting these standards can be greatly impacted by the complexity of the proposal. For example, does one address tens, hundreds or even thousands of chemicals which could potentially contaminate groundwaters? Should one use composite measures (total toxic organics, total dissolved solids, etc.) in lieu of or in addition to numbers for individual chemical substances?

2. Certain facilities and activities need to be designed and operated so as to minimize the potential for contaminating groundwaters. Groundwater standards can be used to determine the performance expectations and characteristics of control technologies which are utilized. In setting such standards, one must work out many procedural details. For example, at what point or location do the standards become applicable to a facility or portions thereof? How does one sort out changes in background water quality as opposed to site related impacts?

3. Use of groundwaters at specific geographic locations, such as withdrawal of water from a well for municipal usage, should be compatible with the characteristics or suitability of such waters. Thus, determinations regarding the particular characteristics of quality to be ascribed to groundwaters has direct implications for the acceptable uses which may be pursued at some point.

4. Where significant contamination of groundwaters has occurred, water quality standards can be useful in setting site cleanup objectives. Such restoration of groundwaters often involves complex evaluations of applicable treatment technology, institutional mechanisms and economic implications of alternative cleanup scenarios. Central to these considerations are cost-effective decisions regarding the suitability of resultant groundwaters. As part of this process, standards serve as a necessary reference point.

Section 8(a) of the IGPA requires the IEPA, after consultation with the Interagency Coordinating Committee on Groundwater and the Groundwater Advisory Council, to propose, and the Pollution Control Board (PCB) to adopt within two years:

> ...comprehensive water quality standards for the protection of groundwater. In preparing such regulations, the Agency shall address, to the extent feasible, those contaminants which have been found in groundwaters of the State and which are known to cause, or suspected of causing cancer, birth defects, or any other adverse effect on human health according to nationally accepted guidelines...

After much evaluation, 56 constituents were selected to be regulated as groundwater quality criteria or as preventive management limits. These were selected because they had health or welfare based limits according to nationally accepted guidelines. The recommended health criteria are primarily based upon federally adopted or proposed drinking water standards while the remainder are based upon other uses such as irrigation and livestock watering. Taste and odor factors were also considered. The resulting chemicals listed in the regulation were also confirmed to be present in Illinois groundwater.

While the IGPA does not directly specify the subject matter to be contained in the proposed regulations, Section 8(b) of the IGPA does list the factors that the Board must consider when adopting these regulations:

1. recognition that groundwaters differ in many important respects from surface waters, including water quality, rate of movement, direction of flow, accessibility, susceptibility to pollution, and use;

2. classification of groundwaters on an appropriate basis, such as their utility as a resource or susceptibility to contamination;

3. preference for numerical water quality standards, where possible, over narrative standards, especially where specific contaminants have been commonly detected in groundwaters or where Federal drinking water levels or advisories are available;

4. application of nondegradation provisions for appropriate groundwaters, including notification limitations to trigger preventive response activities;

5. relevant experiences from other states where groundwater programs have been implemented; and

6. existing methods of detecting and quantifying contaminants with reasonable analytical certainty.

The IEPA consulted with and coordinated with both the ICCG and the GAC in preparing the proposed regulations. In addition, the ICCG formed a Groundwater Standards Technical Team composed of technical and scientific experts from various state agencies to help adequately respond to this complex task. Extensive dialogue between various interests also helped to more fully respond to the task.

The ICCG and the GAC provided extensive exposure to both the general public and interest groups. The GAC sponsored a Groundwater Protection Policy Forum on December 1, 1988 to foster dialogue on various technical and policy issues relating to groundwater protection and the groundwater quality standards-setting process. The ICCG developed "An Issues/Options Paper for Comprehensive Water Quality Standards" for Groundwater. The IEPA and the ICCG sponsored three public workshops across the state in regard to the Issues/Options Paper. After extensive input on these issues, the ICCG published a "Discussion Document for Comprehensive Groundwater Quality Standards." This document was intended to further facilitate the process of proposing standards.

The IEPA held a Regulatory Development Session on the "Discussion Document" with various business, environmental and other interest groups to assist in making the proposal reasonable but environmentally responsive. The

IEPA, with guidance from the ICCG Technical Standards Team, developed a preliminary version of the proposal. Another Regulatory Development Session was conducted by IEPA to solicit specific input from various parties. The ICCG and GAC members were also participating in the review and revision of the preliminary package.

In September 1989, the proposed regulations were filed with the PCB by the IEPA.

The proposal is focused upon groundwater. Groundwaters in the natural underground state do not have an inherent use as do surface waters which are necessary for aquatic life. However, groundwater has specific uses after it is withdrawn. The proposal uses a classification process to associate groundwater with existing or future uses. Criteria for groundwater are based upon protection of the resource itself as well as providing for its uses. The proposal (Part 620) is organized as follows:

SUBPART A: GENERAL - This sets forth the general provisions which include definitions, applicability aspects, exclusions and exemptions.

SUBPART B: GROUNDWATER CLASSIFICATION - This describes the four classes of groundwater

1) Class I - Potable Resource Groundwater
2) Class II - General Resource Groundwater
3) Class III - Remedial Groundwater
4) Class IV - Naturally Limited Groundwater

All groundwater is classified into one of the four classes. A reclassification process, adjusted standards procedure and waiver are included.

SUBPART C: GROUNDWATER QUALITY CRITERIA - This defines specific numeric criteria or compound class limits for the 56 constituents to be regulated in Illinois' groundwater. The criteria are determined by the class of groundwater. Special on-site provisions are provided along with considerations for naturally occurring background levels. Monitoring, testing and reporting requirements are specified.

SUBPART D: NONDEGRADATION OF GROUNDWATER AND PREVENTIVE MANAGEMENT PROCEDURES - This section describes the general regulation prohibiting the downgrading of a groundwater class. It also establishes a preventive management procedure applicable to "appropriate groundwaters" pursuant to Section 8(b)(4) of the IGPA. These targeted procedures provide for early detection of contamination at locations to prevent exceedance of water quality criteria of Subpart C. The preventive notification process triggers corrective action for Class I and II Groundwaters at the earliest point based upon sound scientific procedures and the most sensitive levels.

SUBPART E: HEALTH ADVISORIES - This establishes a procedure to enable regulatory responses and corrective actions to chemicals or combinations which are detected in groundwater but do not yet have a specific Subpart C criteria. The provision for issuance of health advisories is consistent with federal procedures. It provides a focus to direct resources at emerging issues of newly found contaminants.

The proposal was filed with the Board after extensive public outreach efforts, interest group review, and considerable technical review. The proposal was developed with an open-door policy to help assure it is both

responsive to public concerns and comprehensive. The purpose is to establish water quality standards protective of groundwaters in Illinois. Hearings were conducted by the IPCB December 12 and 13 of 1989. More hearings are being scheduled.

WELLHEAD PROTECTION PROGRAM

In the long run, groundwater protection needs to be more prevention-oriented to be truly effective since full restoration of groundwater quality can be very difficult and costly once contamination occurs. Under the IGPA, drinking water supplies (public and private) receive protection from potential routes and sources of groundwater contamination by use of setback zones. Such protection regulates the spatial relationships between water supplies and potential contamination routes and sources. In all cases, existing water supply wells are protected from encroachment by new potential routes or sources of contamination. In a like manner, new water supply wells may not be located so as to create a threatening situation with respect to existing potential routes and sources. This approach ensures a baseline program that will prevent or greatly lessen the likelihood of well contamination by the most direct means.

The use of setback zones for wellhead protection is comparable to programs initiated in other states, such as Florida. The minimum setbacks referenced in the IGPA were determined by professional judgement and are standardized statewide to maintain uniformity, consistency and equity. The setback zones were designed to influence siting and location of potential sources relative to a community water supply designated for protection. In many respects, such groundwater protection measures and siting requirements are similar to community zoning ordinances.

Minimum Setback Zones

The first level of protection involves the use of a minimum setback zone for community and private water supply wells and potential sources and routes.

The minimum zone is 200 feet in radius for any type water supply well or potential sources or routes. The setback zones determine the allowable distances between potential sources and routes and drinking water supply wells. However, for community water supply wells tapping certain vulnerable geologic formations, the minimum zone is expanded to 400 feet in radius. The setbacks are applied as lateral distances on the land surface and are measured between a potable water supply well and a potential source or a potential route.

The 200 or 400 foot minimum setbacks are in effect for all new sitings unless any of the following apply:

- A waiver has been provided by a well owner.
- An exception has been granted by the Pollution Control Board pursuant to Section 14.2(c) of the Act.
- Certain new potential routes, such as excavating for stone, sand or gravel relative to water wells, in existence prior to January 1, 1988 (Section 14.2(h)).
- New common sources of sanitary pollution (e.g. septic systems, sewer lines, etc) shall follow regulations in effect (Section 14.2(e)).
- Certification which confirms a minimal hazard to groundwater by potential primary and secondary sources (Section 14.5).

A comprehensive community water well location effort has been completed by the IEPA. Field verified well locations have been mapped and data has been computerized. The IEPA and ENR developed the community water well susceptibility procedure to determine the minimum setback zone. The IEPA developed an automated Setback Zone Directory and notified all owners of

community water supplies of the setback zone requirement. A confirmation notice was also given. Thus, the following minimum setback designations have been established for community wells:

200 feet - 1684 wells

400 feet - 1819 wells

All permit authorities of IEPA are implementing the minimum setback zone provisions.

The IEPA developed "A Primer Regarding Certain Provisions of the Illinois Groundwater Protection Act". This primer was intended to provide local officials, consultants, and the public with a better understanding of the IGPA and its particular significance to community groundwater quality protection. Nearly 17,000 copies of this document have been released. Numerous responses have been provided to local government questions and concerns. Further details can be found in the Education Program summary.

Maximum Setback Zone

The second level of protection involves the use of a maximum setback zone for community water supply wells. This maximum zone may be up to 1,000 feet from the wellhead of a community water supply well. Based upon well drawdown characteristics, counties and municipalities may, by ordinance, establish a maximum setback zone. After July 1, 1989, the IEPA may also initiate rulemaking before the Pollution Control Board to establish such a zone. The Agency plans to propose a couple of maximum setback zones to the PCB in 1990.

This extra protection is only available for community water supply wells and is based upon pumping test and estimation techniques adopted as 35 Ill. Adm. Code 671 and are available from the IEPA. A request to determine technical adequacy must be submitted to the IEPA by a county or municipality and, upon confirmation, enables them to adopt an ordinance which establishes a

maximum setback zone and incorporates the minimum zone as well. Thus, for local governments the establishment of a maximum zone remains a voluntary process.

Once a maximum setback zone is established, no new potential primary source may be located within this protected area. For example, no new landfills could be placed within such a zone. However, for certain potential primary sources, the Board may grant an exception to this restriction if various criteria are met. For certain other potential sources, the certification provisions would also be applicable. Potential secondary sources are not affected by the maximum setback.

Two Illinois community water supplies have adopted maximum setback zones. The Pleasant Valley Public Water District and the City of Princeton, in Peoria and Bureau Counties respectively, have adopted maximum setback zones for their community wells. In addition, it's anticipated that several communities will be applying for a maximum zone in the near future.

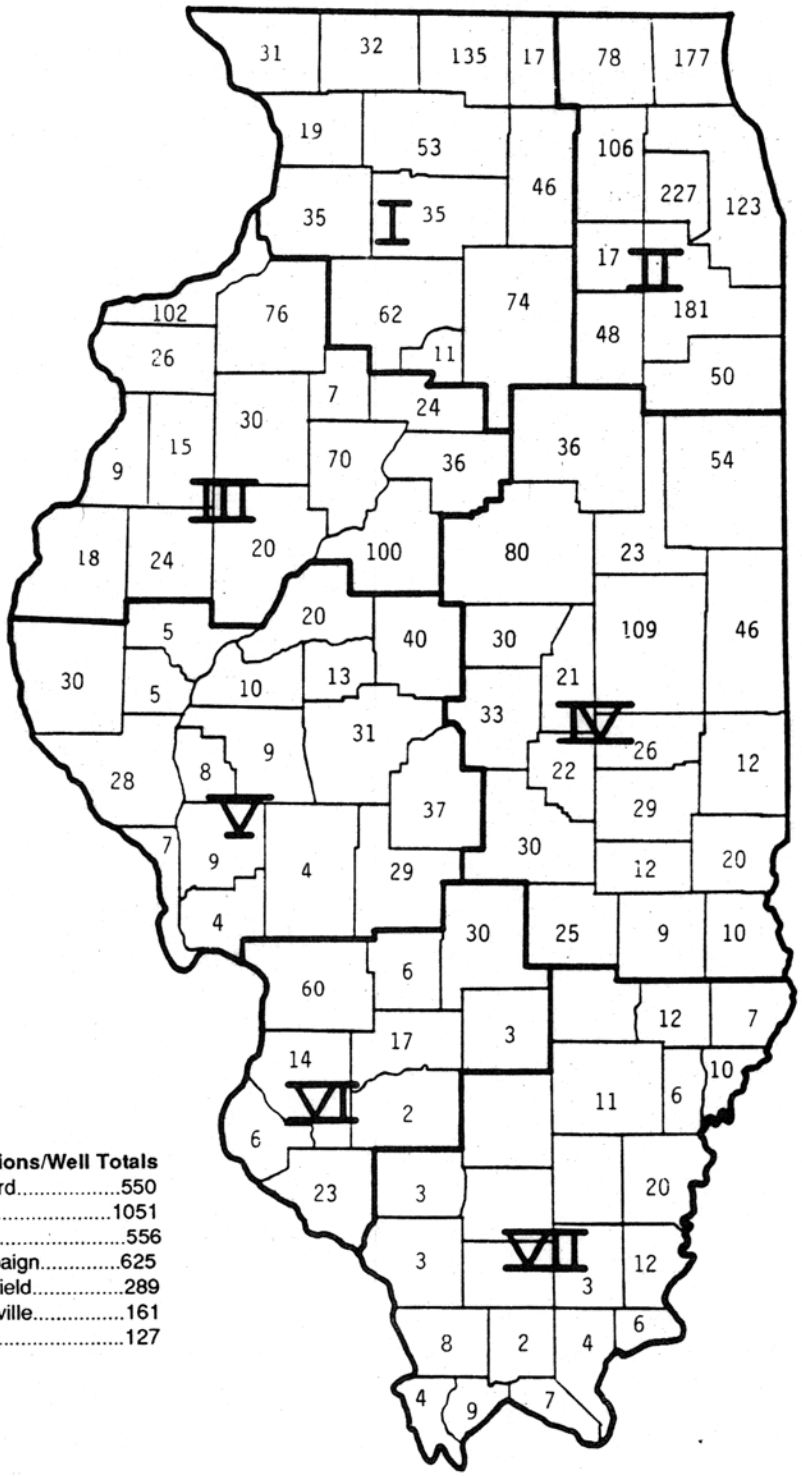
Well Site Survey Program

The IGPA establishes a community well site survey program to be conducted by IEPA (see Figure 5). Well site surveys provide an inventory of potential sources, routes and other activities within established minimum setback zones. The inventory will be used to determine if existing potential sources or routes pose threats or if additional protection is warranted. In addition, survey maps (e.g., aerial photos, topographic maps, etc.) will also locate other activities and facilities from the minimum setback out to a distance of 1,000 feet from the wellhead. Each potential source and route will be categorized and inventoried relative to the community water well. The locations provided by the map will be supplemented by attachments to provide

additional information on units and associated facilities to the greatest degree of availability. Each unit, or in some cases facilities or sites, will be described according to legal definitions of potential primary and secondary sources and routes. Descriptive examples could include:

- type of waste landfilled and treated or surface impounded
- type, phase and amount of substances stored at a facility or site
- origin of generated waste

Figure 5 - Illinois EPA Regions and the Total Number of Community Water Wells per County



Illinois EPA Regions/Well Totals

Region 1: Rockford.....550
Region 2: Elgin.....1051
Region 3: Peoria.....556
Region 4: Champaign.....625
Region 5: Springfield.....289
Region 6: Collinsville.....161
Region 7: Marion.....127

Units or facilities located between the minimum setback and a 1,000 foot setback (outside the regulated area) will also be described but will not be categorized as potential primary or potential secondary sources or potential routes. Figure 6 is an aerial photo with delineations for the minimum setback zone, 1,000 foot fixed radius area and sources/routes within the survey area.

The well site survey progress is tracked geographically by IEPA regions and counties within regions. Appendix D illustrates the Agency region, county name, number of well surveys completed (numerator), total number of wells per county (denominator), and the percentage of the total wells surveyed.

The Agency has completed a summary of the preliminary well results for 1,059 community wells representing 371 communities. Table IV provides a statistical summary of the data collected to date. The statistics in table IV are broken into three groups. The first group consists of potential sources found within the minimum setback zone (200/400 feet), the second group consists of potential sources outside the minimum zone but within 1,000 feet of the wellhead and, the third group is a total of all potential sources found within 1,000 feet. This provides a targeted approach of accounting for potential sources in relation to wellhead protection zones. The categories summarized in Table IV include possible problem sites, underground gasoline storage tanks, large quantities of above-ground storage of petroleum, sewage treatment plants, large quantities of hazardous substances, agricultural chemical operations, salt piles, landfills, and treatment storage/disposal units. The categories in Table IV are then ranked based upon the frequency of occurrence for each category in the three survey zones. In addition, Table IV provides the percentage of occurrence of each of the categories within the zones described above.

Figure 6 - Well Site Survey
Aerial Photographic Base Map

TABLE IV

PRELIMINARY SUMMARY AND RANK OF POTENTIAL SOURCES
FROM WELL SITE SURVEYS CONDUCTED ON 1059 COMMUNITY WATER WELLS

Categories	Number of Categories in Minimum Zone	% of Wells	Rank	Number of Categories Outside the Minimum Set-back Zone But Within 1000'	% of Wells	Rank	Total Number of Categories Within 1,000'	% of Wells	Rank
Possible Problem Sites (PPS)	410	38.7	1	(PPS)1063	100.3	1	(PPS)1473	139.1	1
Underground Storage Tanks (UST)	129	12.2	2	(UST) 422	39.8	2	(UST) 551	52.0	2
Large Quantities of Above-Ground Storage of Petroleum (APS)	40	3.8	3	(AC) 100	9.4	3	(AC) 109	10.3	3
Sewage Treatment Plants (STP)	29	2.7	4	(APS) 66	6.2	4	(APS) 106	10.0	4
Large Quantities of Hazardous Substances (LQHS)	11	1.0	5	(STP) 34	3.2	5	(STP) 63	5.9	5
Ag-Chem (AC)	9	.85	6	(LQHS) 22	2.1	6	(LQHS) 33	3.1	6
Salt Piles (SP)	9	.85	7	(SP) 14	1.3	7	(SP) 23	2.2	7
Landfills (LF)	8	.75	8	(LF) 8	.75	8	(LF) 16	1.5	8
Treatment Storage Disposal (TSD)	0	0	NA	(TSD) 0	0	NA	(TSD) 0	0	NA

The preliminary results from the well site survey program clearly demonstrate the need for minimum and maximum setback zone protection. A great number of wells with potential sources in close proximity have also shown organic chemical concentrations.

Groundwater Protection Needs Assessments

Counties and municipalities are authorized to conduct a more comprehensive evaluation, termed a "groundwater protection needs assessment." Such action, while not mandatory, is encouraged because it represents an important step in establishing sound programs coordinating water supply protection needs with community development. Investor-owned community water supplies can prepare assessments on behalf of local governments. Technical assistance from IEPA and ENR is available in conducting assessments. In addition, a survey by the IEPA of water well sites may be used as a basis for hazard assessments for smaller-sized governmental units.

The intent of these provisions is to determine the need for protection beyond the baseline provided by the statewide application of minimum setback zones. This process begins to focus attention upon the broader recharge area which supplies water to a community well. For larger communities, this effort will likely extend beyond the applicable maximum setback zone as well. For smaller communities, however, a well site survey, as conducted by the IEPA, is accepted as providing sufficient coverage of potential problems.

The major components of the assessment include:

- Delineation of the recharge area of the well outside the existing setback zone;

- Identification and location of potential routes and sources within the recharge area;
- Evaluation of the hazard associated with identified potential primary and secondary sources and potential routes;
- Evaluation of existing local controls for groundwater protection;
- Evaluation of the adequacy of the minimum or maximum setback zones;
- Identification of contingency measures that could be implemented in the event of contamination of the existing water supply.

The needs assessment allows the community the opportunity to build upon the foundation laid by the State. The needs assessment considers not only the setback zone but also the boundary of the recharge area for a specific well. No needs assessments or hazard reviews have been undertaken as yet.

Regional Groundwater Protection Planning Program

The IGPA requires the IEPA to establish a regional groundwater protection planning program. The IEPA, in cooperation with ENR, must designate priority groundwater protection planning regions. The IGPA requires that such designations shall take into account the location of recharge areas that are identified and mapped by ENR.

The Department completed the mapping of appropriate recharge areas in early 1989 and provided a prioritization map in the fall to assist IEPA in designating priority groundwater protection planning regions.

The IGPA requires the IEPA to establish a regional planning committee for each priority groundwater protection planning region. Each committee is to be appointed by the Director of the IEPA and shall include representatives from the IEPA and other State agencies as appropriate, representatives from among the counties and municipalities in the region, representatives from among the owners or operators of public water supplies which use groundwater in the region, and at least three members of the general public which have an interest in groundwater protection. From among the non-state agency members, a chairperson shall be selected by a majority vote. Members of a regional planning committee shall serve for a term of two years.

The IEPA utilized the priority recharge area map, groundwater pumpage data, population affected, water supply characteristics and other factors to initially consider six proposed regional groundwater protection planning

regions. The following options were considered for proceeding with the regional planning program:

1. Proceed with four areas in 1990;
2. Select one or two areas as pilot start-ups and defer the decision about proceeding with others until after some experience has been gained with the first two;
3. Proceed with six areas in 1990; or
4. Proceed with six areas in 1990 and develop a rationale for several additional areas.

This initial proposal was provided to the ICCG and GAC committee members for review. A joint meeting of the ICCG and GAC was held and the proposal was further discussed. The revised proposal after discussion and input from the ICCG/GAC was to proceed with two pilot planning regions as illustrated in Figure 7. These two pilot planning regions, Northern and Central, are likely to proceed with establishing a regional Committee during 1990. As an option the central planning region contains an additional county as an option.

The committees will be appointed by the Director of IEPA and be represented according to the IGPA. Consideration of these facts and recommendations by the ICCG and the GAC is a priority matter.

It should also be mentioned that resource constraints are of concern for this program. Establishing and working with these committees will exert a new demand upon the IEPA's very limited resources for the groundwater protection program.

Each regional planning committee shall be responsible for the following:

1. identification of and advocacy for region-specific groundwater protection matters;

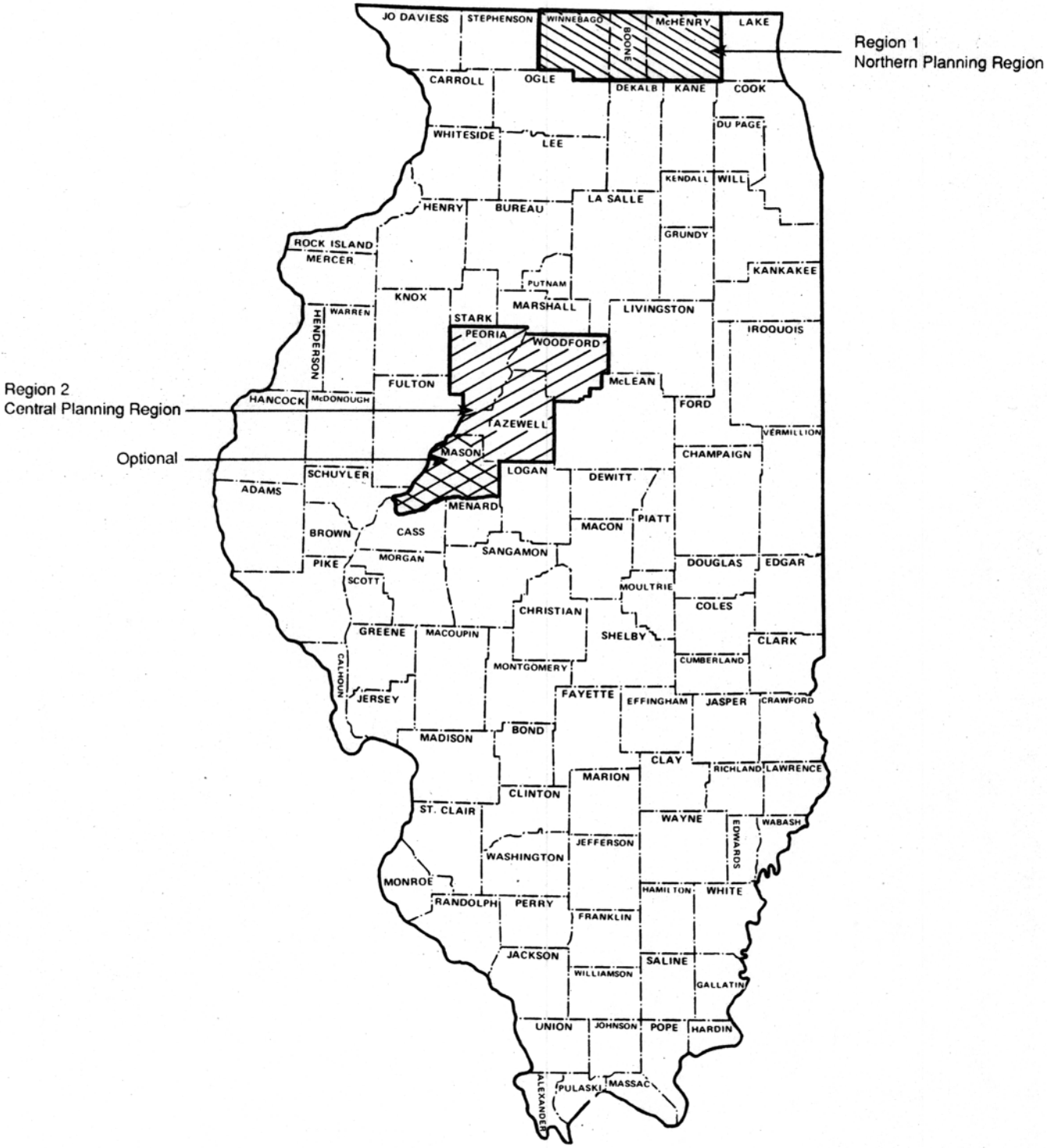


Figure 7 - Proposed Priority Groundwater Protection Planning Regions (I - II)

2. monitoring and reporting the progress made within the region regarding implementation of protection for groundwaters;

3. maintaining a registry of instances where the IEPA has issued an advisory of groundwater contamination hazard within the region;

4. facilitating informational and educational activities relating to groundwater protection within the region; and

5. recommending to the IEPA whether there is a need for regional protection pursuant to rulemaking before the PCB. Prior to making any such recommendation, the regional planning committee must hold at least one public meeting at a location within the region. This meeting may be held after not less than 30 days notice is provided, and must provide an opportunity for public comment.

The IEPA is required to provide regional planning committees with such supporting services as are reasonable for the performance of its duties with the exception of any review proceeding resulting from a decision made by the IEPA not to pursue rulemaking for a regulated recharge area.

Regulated Recharge Area

The IEPA may propose to the Board a regulation establishing the boundary of a regulated recharge area[1] if any of the following conditions exist:

1. the IEPA has previously issued one or more advisories within the area;

2. the IEPA determines that a completed groundwater protection needs assessment demonstrates a need for regional protection; or

3. mapping completed by DENR identifies a recharge area for which protection is warranted.

The IEPA must propose to the Board a regulation establishing the boundary for a regulated recharge area if a regional planning committee files a petition requesting and justifying such action, unless the IEPA:

1. determines that an equivalent proposal is already pending before the Board and so notifies the petitioner within 60 days of the receipt of the petition; or

---

[1] "Regulated Recharge Area" means a compact geographic area, as determined by the Board, the geology of which renders a potable resource groundwater particularly susceptible to contamination.

2. provides within 120 days a written explanation of why such action is not otherwise warranted.

At least 60 days prior to the filing of a proposal to establish the boundary for a regulated recharge area, the IEPA must notify in writing each affected county, municipality, township, soil and water conservation district and water district, and must publish a notice of such intended action in a newspaper of general circulation within the affected area. In proposing a boundary for a regulated recharge area, the IEPA must also identify each community water supply well for which protection up to 2,500 feet will be provided by operation of the regulations adopted by the Board relative to existing activities within the proposed regulated recharge area. To date there have been no regulated recharge areas proposed to the IPCB.

DEPARTMENT OF PUBLIC HEALTH GROUNDWATER PROTECTION PROGRAM

The Illinois Department of Public Health responded to the IGPA by assuming responsibility for issuing all potable water well permits. The Water Well Construction Code was revised to respond to this need and rules were promulgated for fees for construction permits. The rules provide a minimum setback zone between potable water wells and potential sources or routes of contamination. DPH issued 8,701 well permits during the first year and will issue over 7,800 this year. Effective January 1, 1990, 26 counties have assumed permit delegation authority. Permits for new wells can be issued at the county level. The ICCG has formed a Monitoring Well Code Subcommittee in response to PA86-0843. This statute provides that monitoring wells be constructed according to procedures and requirements. However, permits for these wells are not required after January 1, 1990. Furthermore, DPH will assume the permit responsibility for all water wells (e.g. irrigation etc) in addition to potable water wells.

GROUNDWATER TECHNOLOGY CONTROL REGULATIONS

The IGPA required the IEPA to propose, to the Board, regulations pertaining to the following activities:

1. landfilling, land treating, surface impounding or piling of special waste and other wastes which could cause contamination of groundwater and which are generated on the site, other than hazardous, livestock and landscape waste, and construction and demolition debris;

2. storage of special waste in an underground storage tank for which federal regulatory requirements are not applicable;

3. storage and related handling of pesticides and fertilizers at a facility for the purpose of commercial application;

4. storage and related handling of road oils and de-icing agents at a central location; and

5. storage and related handling of pesticides and fertilizers at a central location for the purpose of distribution to retail outlets.

The intent here is to establish standards and requirements for activities which were not addressed by the setback provisions of the IGPA. Thus, the legislative focus was directed at specific categories of sources of contamination or laws. Therefore, the thrust of these provisions is directed at facilities with units which do not have a permit or other regulatory standards. Since these regulations will only apply to activities within setback zones regulated by the Act or within regulated recharge areas, the primary intent is to assure all sources have appropriate monitoring, reporting, technology controls and closure requirements. The proposed regulations consist of two parts, 35 Ill. Adm. Code 615 applies to existing activities located within minimum setback zones, maximum setback zones, or regulated recharge areas, while 35 Ill. Adm. Code 616 regulates new activities located in such areas.

The IEPA developed a regulatory proposal early in 1989. The IPCB went to first notice on a proposal, referenced as R89-5 (35 Ill. Adm. Code Part 615 and 616). These draft regulations include requirements for monitoring, technology measures, reporting, remedial response, and closure. Their promulgation is being closely coordinated with the Groundwater Quality Standards Proposal (Part 620) to assure compatibility and consistency where warranted.

MINIMUM HAZARD CERTIFICATION PROCESS

The IEPA is authorized by the IGPA to develop and administer a certification system for certain potential primary and secondary sources. Under this system, the owner of a site may, after January 1, 1988, provide a certification of minimal hazard to the IEPA in lieu of being restricted by the 400 foot minimum setback or affected by certain technology regulations being considered as 35 Ill. Adm. Code 615 and 616. However, minimum hazard certifications will only be granted to sites meeting specific criteria for a particular time period. The minimal hazard certification system is designed to protect community water wells while allowing small commercial operations and business to achieve compliance in a reasonable fashion. A preliminary procedure has been developed which will included a minimum hazard certification and guidelines for the use and management of containers and above ground tanks, and for the piling of waste. As indicated above, the IPCB is currently in the process of adopting technology regulations pursuant to the IGPA. These regulations and their requirements will help to finalize the guidelines and allow these to be made available for use.

The IGPA specifies time periods for certification and a decertification procedure. Once a site has been certified, the owner must recertify periodically according to the adopted time periods, and maintain compliance with conditions necessary for certification (Subsection d, Section 14.5). Failure to maintain compliance may result in decertification and subjection to regulatory performance standards. Any county or municipality may enter into a written delegation agreement with the IEPA to administer the provisions of the minimal hazard certification. The local governmental unit must adopt an ordinance if delegation is requested.

GROUNDWATER QUALITY PROTECTION - FUTURE DIRECTIONS

The future direction of the groundwater protection efforts will be according to the implementation plan. In some tasks, the priority may be shifted due to funding constraints. The overall progress of implementing the IGPA has been good. The first two years focused upon the minimum setback zones, resource mapping, regulatory development, and pesticide evaluation. The near future priorities are to finalize the groundwater quality standards and regulations, put into operation the regional planning process, continue to expand community and private water supply protection efforts.

The projected direction for the action terms of the Implementation Plan are as follows:

1) ICCG Operations

- Review and update Implementation Plan
- Review regulatory agenda
- Conduct quarterly meetings
- Report biennially
- Begin to prepare comprehensive status report for January 1, 1992
- Continue to provide liaison person to GAC

2) GAC Operations

- Conduct routine meetings
- Review reports, plans and regulatory proposals as appropriate
- Prepare for orderly transition of new appointees after 3 years of membership

3) Education Program for Groundwater Protection

- Implement workplan
- Prioritize standards involvement, community protection aspects and regional planning area needs

4) Groundwater Evaluation Program

- Continue Pilot Pesticide Study
- Distribute Recharge Area Maps
- Conduct assessments
- Coordinate monitoring
- Automate database

5) Groundwater Quality Standards

- Continue to testify at hearings
- Respond to questions
- File Economic Impact Statement
- Develop proximate aquifer provisions

6) Wellhead Protection Program

- Setback Protection
  - Maintain and update community setback directory
  - Continue to enforce setback provisions
- Maximum Setback Zone Procedures
  - Continue to process maximum zone determinations
  - Propose maximum zones where appropriate
  - Develop brochures and workbook to assist local authorities and consultants

- Well Site Surveys
  - · Continue to conduct well site surveys
  - · Continue to provide well site survey reports
- Community Needs Assessments
  - · Develop prototype needs assessment process
  - · Conduct pilot needs assessments
  - · Respond to hazard review requests
  - · Evaluate need for issuance of groundwater advisories

7) Regional Planning Program

· Initiate planning designation process

· Expand designation and implement committee process

· Respond to committee recommendations

8) Non-community and Private Well Program

· Continue to issue potable well permits

· DPH begin to issue other water well permits

· Develop and implement monitoring well code

9) Technology Standards

· Respond to R89-5 First Notice

· Implement regulations

10) Minimum Hazard Certification

· Develop and implement final guidelines and program

RC:jmm/sp0831K/1-58

Appendix A

Summary of Inorganic Analyses

PARAMETER		CRITERIA GU	PFP	MAC	SEC	# OF SAMPLE	# OF DETECTS	NUMBER ABOVE ESTABLISHED CRITERIA GU	PFP	MAC	SEC	MEAN	MIN	MAX	95%	75%	MEDIAN	25%	5%	UNITS
Total Dissolved Solids	(TDS)	1000	500	--	500	2390	2390	198	1075	--	1075	571.	67	3370	1180	648	478	385	301	Mg/L
Fluoride	(F)	1.4	--	1.8	--	2417	2335	135	--	95	--	.50	.1	4.5	1.5	.6	.3	.2	.1	Mg/L
Chloride	(Cl)	500	250	--	250	2425	2253	28	88	--	88	*41.8	<1	1700	180	39	14	3.5	<1	Mg/L
Sulfate	(SO4)	500	250	--	250	2424	1882	71	295	--	295	*105.8	<1	1500	390	130	49	12	<10	Mg/L
Phenol	(Phe)	100	1.0	--	--	2414	130	0	--	--	--	*1.2	<5	55	5	<5	<5	<5	<5	Ug/L
Cyanide	(CN)	.025	--	.2	--	2417	29	11	--	0	--	*****	<.005	.1	<.01	<.01	<.01	<.01	<0.0	Mg/L
Arsenic	(As)	1000	50	50	--	2419	879	0	44	44	--	*4.2	<1	110	26	2	<1	<1	<1	Ug/L
Lead	(Pb)	100	50	50	--	2419	144	9	13	13	--	*1.8	<5	260	6	<5	<5	<5	<5	Ug/L
Mercury	(Hg)	.5	--	2	--	2400	276	5	--	0	--	*.016	<.01	1.6	.08	<.05	<.05	<.01	<.01	Ug/L
Selenium	(Sel)	1000	10	10	--	2412	286	0	4	4	--	*.4	<1	39	1	<1	<1	<1	<1	Ug/L
Barium	(Ba)	5000	1000	1000	--	2411	2391	16	63	63	--	213	5	23000	500	200	80	40	10	Ug/L
Boron	(B)	1000	--	--	--	2408	1727	126	--	--	--	*306	<50	2300	1000	440	180	<50	<50	Ug/L
Cadmium	(Cd)	50	10	10	--	2410	109	0	9	9	--	*****	<2	17	<3	<3	<3	<3	<3	Ug/L
Chromium	(Cr)	1000	50	50	--	2409	182	0	0	0	--	*1.9	<5	40	6	<5	<5	<5	<5	Ug/L
Copper	(Cu)	20	--	5000	1000	2410	602	199	--	0	4	*11.5	<5	2700	34	<5	<5	<5	<5	Ug/L
Iron	(Fe)	1000	--	1000	300	2410	2050	984	--	984	1501	*1413	<5	45000	5100	1800	600	130	<50	Ug/L
Manganese	(Mn)	1000	150	150	50	2410	1950	24	345	345	723	*83.2	<5	2200	430	66	20	7	<5	Ug/L
Nickel	(Ni)	1000	--	--	--	2410	441	0	--	--	--	*3.5	<3	130	12	<5	<5	<5	<5	Ug/L
Silver	(Ag)	5.0	--	50	--	2408	202	111	--	0	--	*1.2	<2	31	4	<3	<3	<3	<3	Ug/L
Zinc	(Zn)	1000	--	5000	5000	2407	193	21	--	3	3	*57.4	<5	16000	160	<50	<50	<50	<50	Ug/L
Nitrate Nitrite	(NO2) (NO3)	10	--	--	--	2417	679	22	--	--	--	*.8	<.01	88.4	5	.12	<.10	<.10	<.10	Mg/L

Footnotes:

---

* - Value is estimated by using a log-probability regression to predict the values below the detection limit.
GU - General Use Criteria, 35 IL. Adm. Code, 302.208
FPF - Public And Food Processing Criteria, 35 Il. Adm. Code 302.304
MAC - Maximum Allowable Concentration, 35 Il. Adm. Code, 604.203
SEC - Secondary Water Criteria, 35 Il. Adm. Code, 654.403
Mg/L - Milligrams Per Liter
Ug/L - Micrograms Per Liter

RC:jmm/sp0284K/1

PARAMETER	STORET NUMBER	NUMBER OF DETECTIONS (N)	NUMBER OF WELLS ANALYZED (N*)	MEAN	MEDIAN	TRMEAN	STANDARD DEVIATION (STDEV)	SEMEAN	Minimum Value (MIN)	Maximum Value (MAX)	Confidence Intervals 95% (Q1)	Confidence Intervals 75% (Q3)
1,1-Dichloroethylene	34501	6	2624	8.47	2.40	8.47	13.23	5.40	1.00	35.00	1.75	14.75
1,1-Dichloroethane	34496	15	2615	2.900	2.000	2.731	1.851	0.478	1.000	7.000	1.300	4.000
Trans 1,2-Dichloroethylene	34546	20	2610	15.28	4.10	8.04	34.90	7.80	1.00	160.00	2.00	15.25
1,2-Dichloroethane	32103	4	2626	3.62	3.50	3.62	2.56	1.28	1.00	6.50	1.25	6.12
1,1,1-Trichloroethane	34506	38	2592	4.98	1.90	2.62	12.83	2.08	1.00	79.00	1.00	4.25
Bromodichloromethane	32102	3	2627	4.40	5.20	4.40	3.08	1.78	1.00	7.00	1.00	7.00
Trichloroethylene	39180	33	2597	45.4	6.0	13.4	171.8	29.9	1.0	990.0	2.2	18.0
Tetrachloroethylene	34475	31	2599	12.36	3.40	8.71	20.84	3.74	1.00	113.00	2.00	16.00
Chlorobenzene	34301	5	2625	0.900	1.000	0.900	0.224	0.100	0.500	1.000	0.750	1.000
Benzene	34030	5	2625	7.18	1.50	7.18	12.24	5.47	1.00	29.00	1.00	16.20
Toluene	34010	5	2625	3.18	1.00	3.18	4.39	1.97	0.90	11.00	0.95	6.50
Ethylbenzene	34371	1	2629	0.50000	0.50000	0.50000	*	*	0.50000	0.50000	*	*
Xylene	81551	2	2628	26.5	26.5	26.5	36.1	25.5	1.0	52.0	*	*
Carbon Tetrachloride	32102	1	2629	?	?	?	?	?	1.00	5.0	?	?
Total Volatiles	TVOC	90	2540	27.6	5.0	9.3	112.9	11.9	1.0	998.0	2.0	13.5
Total Aromatics	TVOA	17	2613	7.24	1.90	4.67	13.44	3.26	1.00	52.00	1.00	6.10

RC:jmm/sp0284K/3

General Statistical Summary
of VOC/VOA's

Appendix B

SECTION: GROUND WATER MONITORING
REPORT: PWGWP045
MODULE: PWGWM025

Federal VOC/VOA Report

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF PUBLIC WATER SUPPLIES
FEDERAL VOC REPORT

DATE: 12/21/88

SAMPLE SUMMARY COUNTS

	-- CALENDAR YR 85 --					-- CALENDAR YR 86 --					-- CALENDAR YR 87 --					-- CALENDAR YR 88 --					-- GRAND TOTAL FOR YRS --		
	Q1	Q2	Q3	Q4	TOTL	Q1	Q2	Q3	Q4	TOTL	Q1	Q2	Q3	Q4	TOTL	Q1	Q2	Q3	Q4	TOTL	85,86	85,86,87	ALL 4 YR
ANALYZED																							
FACL REPRSNTD	73	58	101	77	262	124	129	144	143	499	165	129	61	175	492	170	103	77	0	248	670	1031	1142
WELLS	77	82	177	146	464	256	260	283	253	1006	324	209	97	287	892	313	162	122	0	451	1413	2216	2533
RTN/RPLCMNT	0	0	0	0	0	0	0	0	0	0	0	0	5	5	10	1	3	2	0	6	0	10	16
SPECIAL	77	82	177	146	464	256	260	283	253	1006	324	209	74	212	814	242	56	27	0	322	1413	2195	2507
CHECK	0	0	0	0	0	0	0	0	0	0	0	0	10	1	11	3	0	2	0	5	0	11	16
VAR - SCHED	0	0	0	0	0	0	0	0	0	0	0	0	8	72	78	69	103	91	0	131	0	78	134
NEW CONSTR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DETECTION																							
FACL REPRSNTD	5	8	7	12	25	16	14	24	16	53	11	11	6	38	60	28	31	26	0	43	67	102	107
WELLS	5	11	8	30	48	25	21	33	21	75	13	14	8	48	76	42	47	40	0	68	108	152	165
RTN/RPLCMNT	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1
SPECIAL	5	11	8	30	48	25	21	33	21	75	13	14	3	12	41	8	2	1	0	11	108	144	153
CHECK	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	2	2
VAR - SCHED	0	0	0	0	0	0	0	0	0	0	0	0	3	36	38	35	45	39	0	60	0	38	68
NEW CONSTR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXCEED STANDARD																							
FACL REPRSNTD	1	2	3	5	9	2	5	2	3	10	1	1	1	10	13	10	7	7	0	13	14	19	21
WELLS	1	4	3	8	14	2	7	5	5	15	1	1	1	11	14	12	8	9	0	16	26	31	35
RTN/RPLCMNT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SPECIAL	1	4	3	8	14	2	7	5	5	15	1	1	0	0	2	1	0	1	0	2	26	27	29
CHECK	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1
VAR - SCHED	0	0	0	0	0	0	0	0	0	0	0	0	0	11	11	11	8	8	0	15	0	11	16
NEW CONSTR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix C

APPENDIX C. ILLINOIS ENVIRONMENTAL PROTECTION AGENCY REMEDIAL ACTION SUMMARY IN RESPONSE TO CONTAMINATED COMMUNITY WATER SUPPLY WELLS AND LISTING OF MAJOR PROBLEMS WITH COMMUNITY WATER SUPPLY WELLS

In the spring of 1987 the Illinois Environmental Protection Agency, Division of Public Water Supplies, referred to the Division of Land Pollution Control's Pre-remedial Program a total of fourty-three contaminated public well sites. Table C.1 displays the status of remedial response actions.

The initial step in their investigation process involved the completion of a preliminary assessment. The preliminary assessment (PA) is an initial screening tool which utilizes existing documented information to determine if a site will receive further study. All public water supply assessments were completed by the spring of 1988.

The second step in the pre-remedial process involves the completion of a screening site inspection (SSI) report. During this phase, the investigative team tours the site, develops an inspection work plan, and may conduct a limited hydrologic investigation (for the purpose of determining natural groundwater movement patterns and delineate the public wells area of influence).

Information obtained during the hydro-investigation can also be used to identify and/or eliminate potential sources of contamination. Sometimes tentatively identified responsible parties can be identified during the screening site inspection. As of April 30, 1989, screening site inspections have been undertaken at fifteen contaminated well sites.

The third and final stage of the pre-remedial process is the listing inspection and site scoring. During this phase, additional information can be obtained about the site and potential responsible parties. A much more detailed hydrologic investigation can be undertaken, and tentative investigative findings can be either confirmed or disapproved.

As more information is obtained and sources of contamination identified the public well site will be removed from CERCLIS and the responsible party added. This new site will then be scored and possibly entered on either the National Priorities List or the State Priorities List.

In addition, Table C.2 of Appendix C displays a summary of the major problems with community water supply wells tested to date, a summary of action taken, and preliminary well site survey information.

TABLE C.1 REMEDIAL RESPONSE SUMMARY
FOR COMMUNITY WELL SITES

	Preliminary Assessment (PA) Completed	Screening Site Inspection (SSI) Underway	Potential Site ID'ed	LSI Underway
Mill Creek Public Well #1	X	X	X	
Belvidere Public Wells #2&3	X	X		
Arenzeville Public Well #2	X	X	X	
Chandlerville Public Well #2	X	X	X	
Kemmerer Village Public Well #6	X			
Sandwich Public Wells #1&2	X	X	X	
Carol Stream Public Well #1	X			
Downers Grove Public Wells #6&8	X			
Naperville Public Well #8	X			
Momence Public Well #3	X			
Plano Public Well #4	X	X		
Edwardsville Public Well #8	X	X		
Hartford Public Wells #2,3&4	X			
Fox River Grove Public Well #2	X	X	X	
Harvard Public Well #6	X			
Woodstock Public Well #1	X			
Petersburg Public Wells #1&5	X	X		
Nokomis Public Well #6	X	X		
Priceville Public WEll #1	X			
Freeport Public Wells	X			
Il. American Water Co. WElls #1&3	X	X		
Mackinaw Public Well #4	X	X	X	
Albion Public Well #1	X	Dropped		
Morrison Public #1&3	X		X	
New Lenox Public WEll #4	X	X		
Barretts MHP Public Wells	X	X		
GEM Suburban MHP Public #3	X			
GEM Suburban MHP Public #4	X			
Goldie Floberg CNTR Wells	X	X		
Morristown MHP Public WElls #1&2	X			
Rockford Public Well #12	X			
Rockford Public Well #13	X			
Rockford Public Well #15	X			
Rockford Public Well #19	X			
Rockford Public Well #23	X			
Rockford Public Well #24	X			
Rockford Public Well #33	X			
Rockford Public Well #4	X			
Rockford Public Well #6	X			
Rockford Public Well #7A	X			
Rockford Public Well #8&8A	X			
Rockford Public Well #11&38	X			
Rockford Public Wells GW2,GW3&GW5	X			

TABLE C.2

MAJOR CHEMICAL CONTAMINATION OF PWS PROBLEM SITES
IDENTIFIED FROM ANALYSES CONDUCTED FROM 1985 TO 1989 AND WELL SITE SURVEYS
PERFORMED FROM JANUARY 1, 1988 - PRESENT *Preliminary Assessment (CERCLIS).

NAME OF IL COMMUNITY AND WELLS AFFECTED	RANGE OF CONCENTRATION (PPB)	RESPONSE/ACTION
		CONFIRMED PESTICIDE (SOC) CONTAMINATION
0170050 *Arenzville Well #1 (52027) Well #2 (52028) Cass Co.	.007-.53 3.0-10.0 0.5	A) Resampled and confirmed the presence of pesticides, with a concentration of 0.007-0.53 ppb, and nitrate contamination levels above drinking water standards. B) IEPA detailed wellsite survey found within 1000 feet of each wellhead: (52027) 3 possible problem sites at 950, 340, and 200 feet from the wellhead. Well (52028) 3 possible problem sites at 900, 300, and 160 feet from the wellhead. C) Wells sampled quarterly for extractables from 5/87 - 10/89. D) PASI E) Potential site identified.
		CONFIRMED VOLATILE ORGANIC AND AROMATIC CONSTITUENTS (VOC/VOA) CONTAMINATION
0894070 Aurora Well #8 (21127) Kane Co.	2.0-4.0	A) Initial sample indicated presence of 1 organic solvent, resample confirmed and detected 2nd organic solvent. B) 2 possible problem sites within 500' and 8 additional within 1000' of the wellhead. C) Well sampled quarterly for VOC/VOA from 9/86 1/89. D) Referred for remedial investigation.
		CONFIRMED VOC/VOA CONTAMINATION
2015235 *Barretts MHP Winnebago Co. Well #1, (11123) #2 (11124)	1-19	A) Resampled and confirmed the presence of organic solvents. B) IEPA detailed wellsite survey found: #11123 There are 16 possible problem sites within 1,000' of the wellhead at 300, 320, 460, 475, 540, 600, 740, 750, 760, 810, 820, 900, 950, 1000 feet. #11124 There are 16 possible problem sites within 1,000' of the wellhead at 150, 220, 275, 300, 400, 450, 590, 600, 620, 630, 710, 780, 825, 925, 950 feet. C) Wells sampled quarterly. VOC/VOA from 1/89-12/88. D) Part of Winnebago County Groundwater Study conducted by IEPA. E) PASI

PA = means the IEPA Division of Land Pollution Control (DLPC) performed a preliminary assessment
SI = means DLPC prepared a screening site inspection
PPB = means parts per billion or micrograms per liter

NAME OF IL COMMUNITY AND WELLS AFFECTED	RANGE OF CONCENTRATION (PPB)	RESPONSE/ACTION
		CONFIRMED VOC/VOA CONTAMINATION SITE
0070050 Belvidere Well #2 (11300) Well #3 (11301) Well #4 (11302) Well #5 (11303) Well #6 (11304) Boone Co.	1-49	A) Resampled and confirmed contamination in wells #2 and 3. B) IEPA detailed well site survey indicated the following within 1000 feet of each well: (11300) There is one potential secondary source at 210 feet, and 20 possible problem sites at 550, 630, 670, 800, 975, 775, 700, 1000, 250, 500, 300, 60, 1000, 800, 425, 950, 700, 925, 130, 900, 280 feet from the well head. (11301) There are 19 possible problem sites at 200, 50, 600, 200, 375, 700, 350, 825, 400, 700, 800, 700, 650, 625, 600, 900, 480, 900 & 950 feet from the wellhead. (11302) There are 7 possible problem sites at 1000, 950, 700, 700, 750 & 750 feet from the wellhead. (11303) There are no visible potential sources, routes, or possible problem sites. (11304) There are 2 IEPA hazardous waste generators at 375 & 850 feet, and 3 possible problem sites at 500, 750 & 750 feet from the wellhead. C) Wells sampled quarterly for VOC/VOA from 11/85-1/89. D) PASI
		CONFIRMED VOC/VOA CONTAMINATION
2015345 Bil Mar MHP Well #2, (11127) #3(11128) Winnebago	1.0-3.0	A) Initial samples for wells #2 and #3 indicate presence of VOC's 6/24/86. B) Wells sampled quarterly for VOC/VOA from 6/86-8/88. C) Well 2# possible problem sites include (2) within 264' and (7) within 1056'. Well 3# has (9) possible problem sites within 1056'-2376' of wellhead.
		CONFIRMED VOC/VOA CONTAMINATION SITE
1410100 *Byron Well #1(11776) Well #2 (11777) Ogle Co.	3.0-11.0	A) Initial sample indicated presence of VOC's. B) 2nd resample confirmed, but 3rd resample did not confirm. C) IEPA detailed wellsite survey found: #11776 There are 2 potential secondary sources 100 and 250 ft from the wellhead and there are 10 possible problem sites within 1,000' of the wellhead at 160, 200, 290, 470, 590, 745, 800, 810, 1000 ft respectively. #11777 There are 2 potential secondary sources 100 and 250 ft from the wellhead and there are 10 possible problem sites within 1,000' of wellhead at 150, 210, 280, 300, 460, 580, 735, 800, 1000 ft respectively. D) Wells #1 and #2 sampled quarterly VOC/VOA 6/86-1/89. E) Submitted for remedial investigation.

NAME OF IL COMMUNITY AND WELLS AFFECTED	RANGE OF CONCENTRATION (PPB)	RESPONSE/ACTION
		CONFIRMED SOC CONTAMINATION SITE
0170200 *Chandlerville Well #2(52132) Cass Co.	2.5 12.0	A) Resampled and confirmed the presence of pesticides B) IEPA detailed wellsite survey indicates 1 possible problem site (agricultural chemical storage site) 760' from the wellhead and ag activity in area, and one potential route (inactive public water supply well) located 25' from the wellhead. C) Wells sampled quarterly for extractables from 3/86-10/88. D) PASI E) Consultant hired by City to find an alternate source of water. F) Pesticides detected in distribution sample. G) Drilling of monitoring wells underway (8-17-87) H) Potential contamination site identified.
		CONFIRMED VOC/VOA CONTAMINATION SITE
1970250 Crest Hill Well #1(20447) Well #6(20450) Will Co.	3.0 8.0	A) Initial sample indicates low levels of VOC's. Resample shows evidence of 1,1,1,TCA. C) Wellsite survey and resample in progress. D) Initial sample from Well #6 indicated the presence of 3.0 ppb of 1,1,1-TCA and t 1,2 DCE on 7/13/87. E) On quarterly sampling schedule from 8/85-1/89.
		CONFIRMED VOC/VOA CONTAMINATION SITE
0430300 *Downers Grove Well #6(20707) Well #8 (20709) Well #10 (20711) DuPage Co.	1-12	A) Resampled and confirmed the presence of organic solvents. B) IEPA detailed wellsite survey indicates within 1,000 ft of the wellheads; 20707 has one cleanup site located 100 ft from the wellhead, 20709 has fourteen possible problem sites located 30, 100, 170, 400, 350, 460, 500, 520, 740, 770, 780, 860, 940 and 940 ft from the wellhead and 20711 has thirteen possible problem sites located 140, 160, 240, 280, 300, 340, 420, 460, 520, 600, 720, 740 from the Wellhead. C) Wells sampled quarterly. VOC/VOA, from 12/86 1/89. D) PA E) Samples collected by facility from nearby St. Francis Crk., contract lab analysis indicates TCE at 29.0 ppb 8/21/87.

NAME OF IL COMMUNITY AND WELLS AFFECTED	RANGE OF CONCENTRATION (PPB)	RESPONSE/ACTION
		CONFIRMED VOC/VOA CONTAMINATION SITE
1790200 East Peoria Well #24(50359) Well #27(50364) Well #29(50366) Tazewell Co.	1.0-30	A) Well #24 - Initial sample indicates TCE. #27 initial sample indicates PCE. #29 initial sample indicates TCE levels high. B) IEPA detailed wellsite survey indicated the following within 1000 feet of each well: 50364 has 4 possible problem sites located 300, 300, 325, and 400 feet from the wellhead. 50366 has 4 possible problem sites located approximately 250, 600, 700, and 950 feet from the wellhead. 50359 has one possible problem site located within 950' of the wellhead. C) Wells sampled quarterly for VOC/VOA from 3/87-10/88.
		CONFIRMED VOC/VOA CONTAMINATION SITE
1190250 *Edwardsville Well #8(60065) Madison Co.	1-13	A) Resampled and confirmed the presence of organic solvents with a concentration of 1-13 ppb. B) The detailed wellsite survey by southwestern Illinois Planning Commission indicated a possible problem site located 280' from wellhead. C) Well sampled quarterly. VOC/VOA D) Land Pollution Control investigation indicates private well contamination and possible source. E) PASI F) DLPC monitoring of nearby private wells sampled and found TCE at 358-377 ppb 4/30/87.
		CONFIRMED VOC/VOA CONTAMINATION SITES
1110200 *Fox River Grove Well #1 (20154) Well #2 (20155)	1-15	A) Resampled and confirmed the presence of organic solvents. B) IEPA detailed wellsite indicated the following within 1000 feet of each well: (20154) There are two possible problem sites at 550 and 800 feet from the wellhead. (20155) There are 7 possible problem sites at 380, 860, 730, 920, 960, 1000 & 1000 feet from the wellhead. C) Well sampled quarterly from 7/85-1/89. D) City hired consultant. E) PASI F) Potential contamination site identified.

NAME OF IL COMMUNITY AND WELLS AFFECTED	RANGE OF CONCENTRATION (PPB)	RESPONSE/ACTION
		CONFIRMED VOC/VOA CONTAMINATION SITE
1770200 *Freeport Well #2 (11858) #3(11859) #4 (11860) #5 (11861) #6 (11862) #7 (11863) DIST. Stephenson Co.	1-61	A) Resampled and confirmed the presence of organic solvents and gasoline related compounds with a concentration of 1-50 ppb. B) Distribution system sampled and confirmed the presence of VOC/VOA's. C) IEPA detailed wellsite survey indicated the following within 1000 feet of each well: #11858 - There are 7 possible problem sites at 600, 720, 200, 800, 980, 870 & 750 feet away from the wellhead. #11859 - There are 9 possible problem sites within 1000 feet of the wellhead area, at 200, 120, 400, 550, 900, 550, 600, 700 & 900 feet away from the wellhead. #11860 - There are 7 possible problem sites within 1000 feet of the wellhead area at 100, 270, 700, 800, 900, 900 & 750 feet away from the wellhead. #11861 There are 2 possible problem sites within 1000 feet of the wellhead area at 500 & 1000 feet away from the wellhead. #11862 - There are 2 possible problem sites within 1000 feet of the wellhead area at 500 & 1000 feet away from the wellhead. #11863 - There are 4 possible problem sites within 1000 feet of the wellhead area, at 950, 500, 950 & 1000 feet away from the wellhead. D) Removed buried fuel storage tank 100 400' from the well(s). E) Gasoline related compounds were not present in tests conducted after removal of buried tank, however, organic solvents are still present. F) Wells sampled quarterly from 11/86 1/89 for VOC/VOA. G) PA
		CONFIRMED VOC/VOA CONTAMINATION SITE
2015495 *Gem Suburban MHP Well #1 (11135) Well #2 (11136) Well #3 (11137)(B) Well #4 (11138)(B) Well #5 (00121) Winnebago Co.	16-44	A) Resampled and confirmed the presence of organic solvents. B) Sampled distribution system. C) IEPA preliminary investigation indicates 3 possible problem sites of contamination within 200' of the wells. D) New bedrock well #5 drilled on 4/19/87 to a depth of 772'. E) Wells sampled quarterly from 6/86 10/87. VOC/VOA F) Part of Winnebago County Groundwater Study conducted by IEPA. G) PA H) Wells #3 and #4 have been taken off quarterly, abandoned by city no longer in service.

NAME OF IL COMMUNITY AND WELLS AFFECTED	RANGE OF CONCENTRATION (PPB)	RESPONSE/ACTION
	CONFIRMED VOC/VOA CONTAMINATION SITE	
2015439 *Goldie Floberg Children's Hm. Well #1, (11139) #2 (11140)Winnebago Co.	1-6.0 .20 .4-1.0	A) Resampled and confirmed the presence of organic solvents. B) Wells sampled quarterly. VOC/VOA from 10/85-1/89. C) IEPA detailed wellsite survey indicated one possible problem site located 230 and 270 feet from wells 11139 and 11140 respectively. D) Part of Winnebago County Groundwater Study conducted by IEPA. E) PASI
	CONFIRMED VOC/VOA CONTAMINATION SITE	
1190500 *Hartford Well #2(60104) Well #3(60105) Well #4(60106) Madison Co.	1.0 27 2.0-4.0	A) Resampled and confirmed the presence of organic solvents, and gasoline related compounds. B) Sampled distribution system. C) IEPA detailed wellsite survey indicates the following within 1000 feet of each well: 60104 has 3 possible problem sites located at 300', 500', and 1000' ft from wellhead; 60105 has 3 possible problem sites located at 450', 500' and 1000 ft from wellhead. 60106 has 3 possible problem sites located at 500', 600' and 1000 ft. from wellhead. D) Wells sampled quarterly. VOC/VOA E) Regional study between Southwestern Illinois Metropolitan and Regional Planning Commission and Agency. F) Historical petroleum related problems, for example; exploding home basements. G) PA
	CONFIRMED VOC/VOA CONTAMINATION SITE	
1110250 *Harvard Well #3(20199) Well #4 (20200) Well #5 (20201) McHenry Co.	10-53 1.0 Trace	A) Resampled and confirmed the presence of organic solvents. B) Wells taken out of service by the City. C) Follow-up engineering visit and preliminary investigation conducted by the Agency indicating 2 possible problem sites within 1000' and 19 within 4700' of wells. D) Drilled a new well with $250,000 from state funding (Environmental Trust Fund). E) The community is conducting a special investigation to determine the source of contamination. F) PA

NAME OF IL COMMUNITY AND WELLS AFFECTED	RANGE OF CONCENTRATION (PPB)	RESPONSE/ACTION
		CONFIRMED VOC/VOA CONTAMINATION SITE
1110300 Hebron Well #3(20186) Well #4(20187) McHenry Co.	1.0-3.4 1-143	A) Initial samples indicated presence of organic solvents. B) Resamples confirm presence of TCE for both wells. C) Three possible problem sites within 100' and (15) within 800' of wells 3 & 4. D) Wells sampled quarterly for extractables and VOC/VOA from 11/86-1/89. E) Referred to DLPC for remedial investigation.
		CONFIRMED UNKNOWN CONTAMINATION SITE
1230050 Henry Well #3(31301) Marshall Co.	2.0 145 18 36	A) Initial sample indicates presences of VOC's. B) (2) possible problem sites within 500' of wellhead (7) other possible problem sites within 500-'1200' of wellhead. C) Wells sampled quarterly for VOC/VOA from 2/86-1/89. D) Referred to DLPC for remedial investigation.
		CONFIRMED VOC/VOA CONTAMINATION SITE (VARIABLE)
1435030 IL AM Wtr. Co. Peoria Dodge St. Well #4(52156) Well #3 (52155) Well #1 (52153) Peoria Co.	1.0-5.0 2.0	A) Initial sample shows presences of VOC's, resample confirms (t,1,2,DCE). B) Well sampled quarterly for VOC/VOA C) Initial sample for IL. Am Peoria (Dodge St.) Well #3 indicates the presence of 2.0 PCE on 1/27/88.
		CONFIRMED VOC/VOA CONTAMINATION SITE
0215189 *Kemmerer Vlg. Christian Children's Hm. Well #6(00148) Christian Co.	1.0-36	A) Resampled and confirmed the presence of organic solvents with a concentration of 10 36 ppb. B) Well sampled quarterly for VOC/VOA from 10/86-1/89. C) IEPA detailed well site survey indicates that within 1000 feet of the well; 1 potential route is located 100 ft. from well and 3 other possible problem sites are located at 250 ft, 430 ft, and 840 ft from wellhead. D) PA E) Old buried refuse site located about 250' from well #6 via select interview with water supply operation on 10/8/87.

NAME OF IL COMMUNITY AND WELLS AFFECTED	RANGE OF CONCENTRATION (PPB)	RESPONSE/ACTION
		CONFIRMED VOC/VOA CONTAMINATION SITE
2010150 *Loves Park Well #1 (11613) Well #2 (11614) Winnebago Co.	1.0-49.0 1.0-6.0 1.0 1.0-5.1 1.0 2.1 1.0	A) Resampled and confirmed the presence of organic solvents. B) IEPA follow-up, engineering visit and preliminary investigation indicates 7 possible problem sites within 300' from the wells. C) Wells sampled quarterly for VOC/VOA from 5/85-1/89. D) Part of Winnebago County Groundwater Study conducted by the IEPA. VOC/VOA E) PA
		CONFIRMED SOC CONTAMINATION SITE
1790350st. 2.0 *Mackinaw Well #4 (58053) Tazewell Co.	.078-.23	A) Resampled and confirmed the presence of pesticides with a concentration of 0.23 ppb. B) IEPA detailed wellsite survey indicated well 58053 has 1 potential primary source located 125 ft. from wellhead, 1 potential secondary source located 125 ft. from the well, 2 possible problem sites located 675 ft. and 810 ft. from wellhead, and 1 well, assumed properly abandoned, located 50 ft. from well inside W.T.P. C) Water Pollution Control tested nearby pit approximately 675' from well #4 containing surface runoff from a nearby abandoned agricultural chemical storage site (120 ppb Atrazine, 44 ppb Lasso, 88 ppb Dual). D) PASI E) Wells sampled quarterly. Extractables from 12/85-11/88
		CONFIRMED VOC/VOA CONTAMINATION SITE
1610400 Milan Well #3(31860) Rock Island Co.	1.0 11.0	A) Preliminary analysis indicates presence of organic solvents. B) Well sampled quarterly for VOC/VOA from 9/87 1/89. C) Quarterly sample 4/88 confirms PCE 2 ppb.
		CONFIRMED VOC/VOA CONTAMINATION SITE
0015300 *Mill Creek Well #1 (52013) Well #2(52014) Adams Co.	1.0-5.0 1.0	A) Resampled and confirmed the presence or organic solvents. B) Follow-up engineering visit and preliminary investigations indicate 4 potential sources 1,000' from the wellhead. C) Sampled distribution system. D) Well sampled quarterly. VOC/VOA from 4/86-1/89. E) PASI F) Potential contamination site identified.

NAME OF IL COMMUNITY AND WELLS AFFECTED	RANGE OF CONCENTRATION (PPB)	RESPONSE/ACTION
	CONFIRMED VOC/VOA CONTAMINATION SITE	
0910650 *Momence Dist. Syst., Well #1 (22087) Well #2 (22088) Well #3 (22089) Well #4 (22090) Kankakee Co.	1.0-202.0	A) Resampled and confirmed the presence of organic solvents and gasoline related compounds. B) Confirmed nearby gas leak. C) Wells taken out of routine service. D) PA LUST investigation in progress. 5 potential sources within 1000', 1 additional within 1100'.
	CONFIRMED VOC/VOA CONTAMINATION SITE	
0894690 Montgomery Well #2(20067) Kane Co.	1.0-5.0 .8 .5	A) Initial sample indicated organic solvents. Confirmed by resample. B) 3 possible problem sites within 500' and 9 within 500-1000' of wellhead. C) Wells sampled quarterly VOC/VOA from 4/85-1/89. D) Referred to DLPC for remedial investigation.
	CONFIRMED VOC/VOA CONTAMINATION SITE	
1950350 *Morrison Well #1, 3(11907) Well #2(11908) DIST. Well #3 (11909) Well #4 (11910) Whiteside Co.	4-952 2.0 6.0	A) Resampled and confirmed the presence of organic solvents. B) Wells sampled quarterly for VOC/VOA from 1/86-1/89. C) Preliminary investigation conducted by the Agency indicates the presence of (2) possible problem sites of contamination within 1100'. D) Wells taken out of routine service. E) Distribution system tested. F) Supply using well #4 only. G) Land Pollution investigation underway, consulting engineer hired. H) PA I) Potential contamination site identified.
	CONFIRMED VOC/VOA CONTAMINATION SITE	
2015545 *Morristown MHP Well #1 (11687) Well #2 (11688) Winnebago Co.	3-21.4	A) Resampled and confirmed the presence of organic solvents. B) Wells sampled quarterly for VOC/VOA. C) IEPA preliminary investigation indicates 1 possible problem site within 1000' from the wellhead. D) Part of Winnebago County Groundwater Study E) PA

NAME OF IL COMMUNITY AND WELLS AFFECTED	RANGE OF CONCENTRATION (PPB)	RESPONSE/ACTION
		CONFIRMED VOC/VOA CONTAMINATION SITE
1970700 *New Lenox Well #4(20410) Will Co.	4-105	A) Resampled and confirmed the presence of organic solvents. B) Well taken out of routine service. C) Wells sampled quarterly for VOC/VOA from 10/86-1/89. D) Village hired consultant to evaluate the problem. E) Agency preliminary investigation indicates the presence of 11 possible problem sites within 1000' of the well and 1 additional within 1100'. F) PASI
		CONFIRMED VOC/VOA CONTAMINATION SITE
1350450 *Nokomis Well #6(52110) DIST. Montgomery Co.	1.9-21 4.0 2.0	A) Resampled and confirmed the presence of organic solvents with a concentration of 5-15 ppb. B) Sampled distribution system. C) Well sampled quarterly for VOC/VOA. D) IEPA detailed well site survey indicates that well 52110 has 2 potential primary sources located 200' and 250', 2 potential secondary sources located at 290' and 440', and one possible problem site located 340' from the wellhead. E) PASI
		CONFIRMED VOC/VOA CONTAMINATION SITE
1795040 *Pekin Il. American Wtr. Co Well #1 (50056) Well #3 (50058) Tazewell Co.	E1.0-24 4-5	A) Resampled and confirmed the presence of organic solvents. B) Wells sampled quarterly for VOC/VOA from 1/86-1/89. C) IEPA detailed well site survey indicates within 1000 ft of the wellheads; 50056 has one potential route 50 ft and five possible problem sites located 800, 1000, 650, 850, 175 ft from the Wellhead and 50058 has one potential route 100 ft and six possible problem sites 700, 875, 1000, 775, 1000, 50 ft from the wellhead, additionally there are several areas of concern which lie outside the 1000 ft survey area of both wells. D) PASI

NAME OF IL COMMUNITY AND WELLS AFFECTED	RANGE OF CONCENTRATION (PPB)	RESPONSE/ACTION
		CONFIRMED VOC/VOA CONTAMINATION SITE
1290200 *Petersburg Well #1 (50154) Well #4 (50156) Well #6 (50157) DIST. Menard Co.	1.0-2820	A) Resampled and confirmed the presence of organic solvents. B) Well 4 taken out of routine service by the city. C) IEPA detailed wellsite survey indicates the following within 1000 feet of each wellhead: Well 50154 has 4 possible problem sites located at 170ft., 730 ft., 900 ft. and 900 ft from wellhead. Well 50156 has 4 possible problem sites located at 300 ft. 580 ft, 900 ft, and 1000 ft from wellhead. Well 50157 has one potential route located 280 ft. from wellhead. D) Wells sampled quarterly. VOC/VOA from 2/86-1/89. E) Sampled distribution system. F) Using wells 6 & 7 only. G) City removed well #1 from permanent service. H) City hired consulting engineer to address issues. I) PASI J) Installation of the first phase of monitoring wells 11/10/87.
		CONFIRMED SOC CONTAMINATION SITE
0010600 Plainville Well #4 (50150) Adams Co.	.012 .840	A) Initial sample taken 3/9/88 indicates the presence of low level SOC's. B) Well sampled quarterly extractables. C) Quarterly analysis confirms presence of low levels of Atrazine. D) Referred DLPC.
		CONFIRMED VOC/VOA CONTAMINATION SITE
0930200 *Plano Well #4(20128) Kendall Co.	1.0-13	A) Resampled and confirmed the presence of organic solvents. B) IEPA detailed wellsite survey indicated that well (20128) has one potential primary source at 400 feet, and two possible problem sites at 700 & 800 feet from the wellhead. C) Well sampled quarterly for VOC/VOA from 1/86-1/89. D) PASI

NAME OF IL COMMUNITY AND WELLS AFFECTED	RANGE OF CONCENTRATION (PPB)	RESPONSE/ACTION
		CONFIRMED VOC/VOA CONTAMINATION SITE
1430750 *Princeville Well #1 (50136) Peoria Co.	3-15	A) Resampled, and confirmed initial analyses. B) IEPA detailed wellsite survey indicated the following within 1,000 ft of the wellhead: eight possible problem sites located 300, 630, 740, 200, 550, 250, 400 and 700 feet from the wellhead. C) PA D) Well sampled quarterly for VOC/VOA from 7/85-1/89.
		CONFIRMED VOC/VOA CONTAMINATION SITE
2010300 Rockford G. Well #2 (11622) G. Well #5 (11624) G. Well #6 (11625) Well #4 (11627) Well #6 (11630) Well #7A (11632) Well #8 (11633) Well #8A (11634) Well #11 (11638) Well #12 (11639) Well #15 (11642) Well #19 (11647) Well #20 (11648) Well #23 (11651) Well #24 (11652) Well #28 (11656) Well #33 (11661) Well #35 (11662) Well #38 (11664)	Trace-840.	A) Preliminary analysis indicates the widespread occurrence of VOC's. B) Resampled and confirmed persistent trends in VOC levels. Presently, the Rockford School of Medicine is conducting quarterly samples. C) Agency hired contractors (Manhiem) to evaluate the problem areas. In general, wells that have shown confirmed levels of VOC contamination also had numerous possible problem sites and/or sources near them, and wells that have not shown VOC contamination did not have apparent hazards near them. D) The Agency has conducted and referenced a study of Winnebago County water supply wells. E) S.E. Rockford site currently under PASI investigation.
		CONFIRMED VOC/VOA CONTAMINATION SITE
0374850 Sandwich Well #1 (11430) Well #2 (11431) DeKalb Co.	5-113.0	A) Resampled and confirmed the presence of organic solvents. B) Wells taken out of routine service. C) Follow-up engineering visit and preliminary investigation indicates 2-3 potential sources of contamination within 1000' from the wells and 20 from 1000'-3800' from wellhead. D) Sampled distribution system. E) Wells sampled quarterly for VOC/VOA. F) PASI

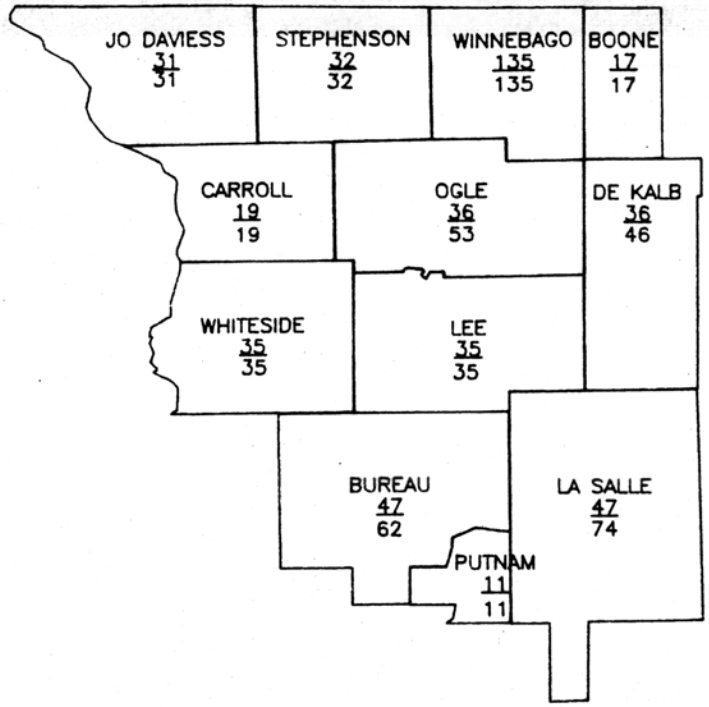
NAME OF IL COMMUNITY AND WELLS AFFECTED	RANGE OF CONCENTRATION (PPB)	RESPONSE/ACTION
		CONFIRMED VOC/VOA CONTAMINATION SITE
2015685 *Six Oaks Mobile Home Pk. Well #1(11151) Winnebago Co.	2 200	A) Resampled and confirmed the presence of organic solvents. B) Distribution system sampled. C) Wells sampled quarterly for VOC/VOA D) Carbon filtration installed. E) Land Pollution Control investigation and superfund immediate removal underway. F) Agency investigations indicate several possible problem sites within 200-300' from the well.
		CONFIRMED VOC/VOA CONTAMINATION SITE
0312940 *S. Chicago Heights Well #2 (20576) Well #3 (20577) Well #4 ( ) DIST. Cook Co.	2-4 1 97 5.0 7.0 9.0	A) Resampled and confirmed the presence of organic solvents. B) IEPA preliminary investigations indicated 8 possible problem sites within 1000' of wellhead and 7 additional within 1600' of wellhead. C) LPC investigation of landfill monitoring wells sampled and analyzed confirmed vinyl chloride at 140 ppb 240 ppb. D) Consultants tasked to determine the nature and extent of the groundwater contamination. E) Wells sampled quarterly for VOC/VOA from 1/87-1/89.
		CONFIRMED SOC CONTAMINATION SITE
1790650 S. Pekin Well #4 (50098) Well #5 (50099) Tazewell Co.	.038-2.2	A) Initial samples did not indicate the presence of SOC's. B) Well #4 resampled 6/10/87 #5 resampled 8/7/87 indicate presence of SOC's. C) IEPA detailed well site survey indicates that within 1,000 ft of the wellhead: 50098 there is one potential secondary source at 250 ft and two possible problem sites at 950 and 200 ft. 50099 one potential secondary source at 400 ft and one possible problem site at 50 ft. D) Wells #4 and #5 sampled quarterly extractables from 1/87 10/88. E) PASI F) Identified potential contamination site.

RC:jmm/sp0838K/1-16

Appendix D

Geographic Well Site Survey
Progress Report by IEPA Regions

REGION I SURVEYS



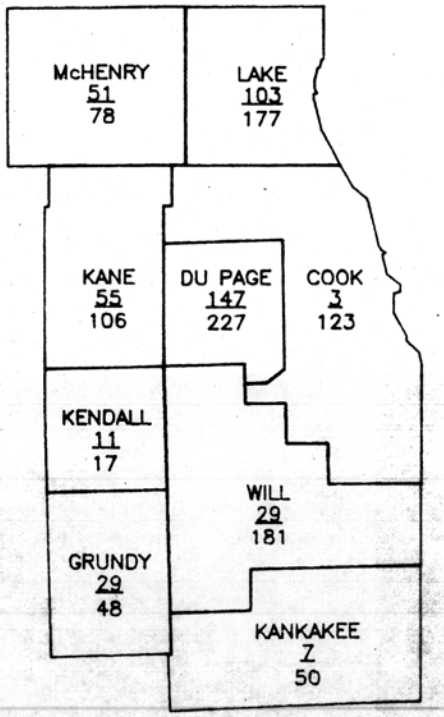
SUMMARY

Total Wells 550

Surveys Completed 482

% Completed 89

REGION II SURVEYS



SUMMARY

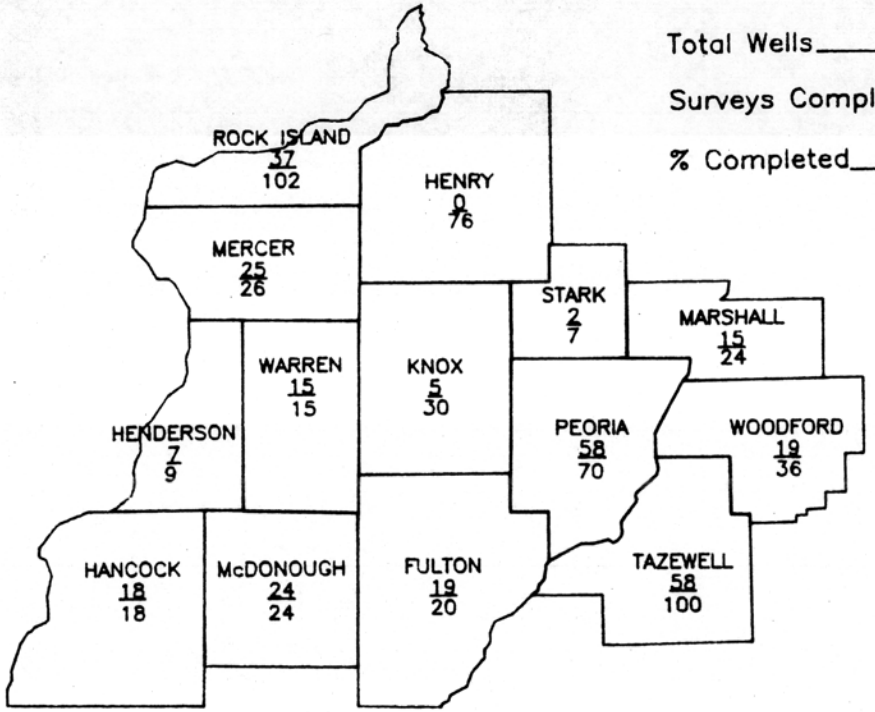
Total Wells 1051

Surveys Completed 435

% Completed 41

Geographic Well Site Survey
Progress Report by IEPA Regions

REGION III SURVEYS



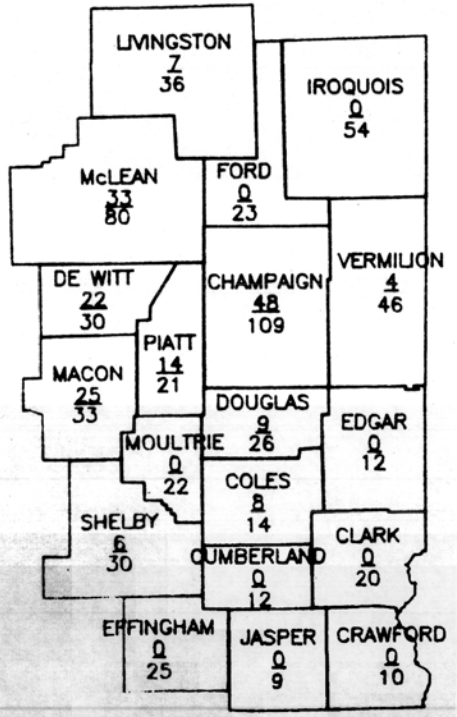
SUMMARY

Total Wells 556

Surveys Completed 302

% Completed 54

REGION IV SURVEYS



SUMMARY

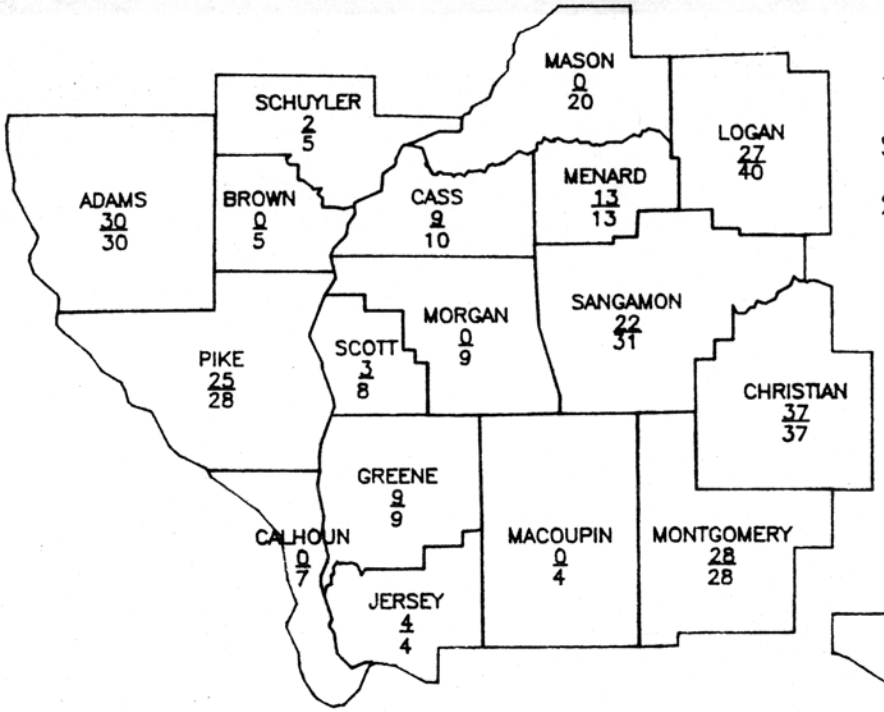
Total Wells 610

Surveys Completed 176

% Completed 29

Geographic Well Site Survey
Progress Report by IEPA Regions

REGION V SURVEYS



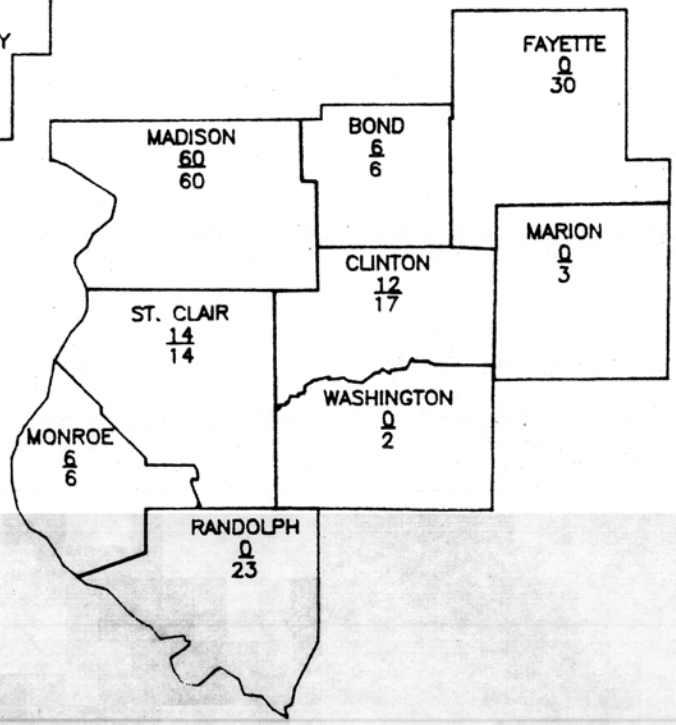
SUMMARY

Total Wells 289

Surveys Completed 209

% Completed 72

REGION VI SURVEYS



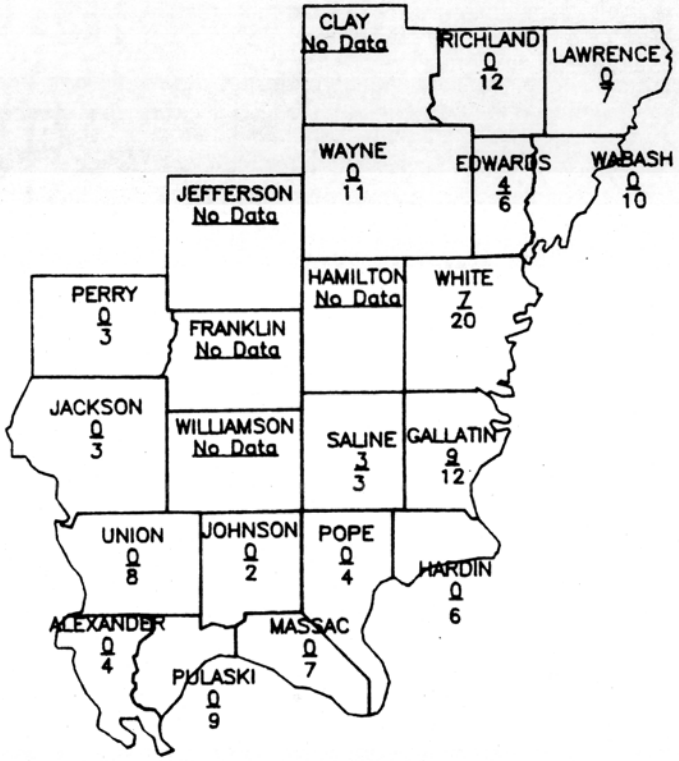
SUMMARY

Total Wells 161

Surveys Completed 98

% Completed 62

REGION VII
SURVEYS



SUMMARY

Total Wells	127
Surveys Completed	23
% Completed	18

Geographic Well Site Survey
Progress Report by IEPA Regions