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# Annual Groundwater and Drinking Water Program Review



Calendar Year 2015

Illinois Environmental Protection Agency



**Annual Groundwater and Drinking Water Program  
Review  
Calendar Year 2015**

**June 1, 2016**

**Illinois Environmental Protection Agency  
Bureau of Water  
Division of Public Water Supplies**

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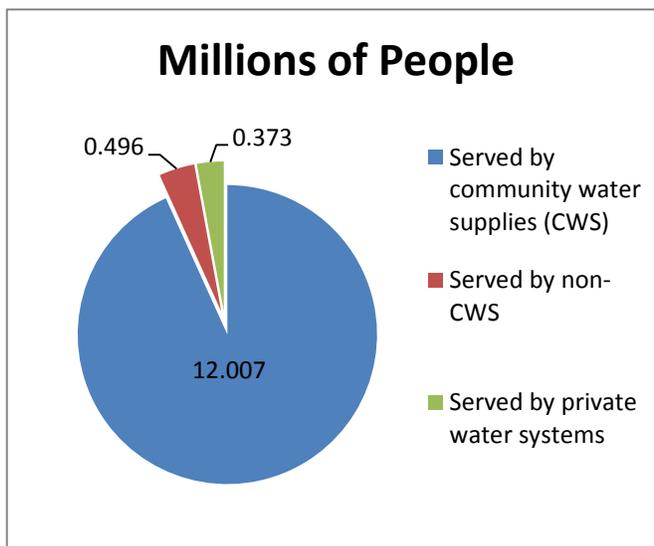
## Acronyms and Abbreviations

|                |   |
|----------------|---|
| Act            | Illinois Environmental Protection Act             |
| BOW            | Bureau of Water                                   |
| CAS            | Compliance Assurance Section                      |
| CCA            | Compliance Commitment Agreement                   |
| CCCDI          | Cross-Connection Control Device Inspector         |
| CWS            | Community Water Supply                            |
| DPH            | Department of Public Health                       |
| DPWS           | Division of Public Water Supplies                 |
| EDG            | Enforcement Decision Group                        |
| EPA            | Environmental Protection Agency                   |
| FOS            | Field Operations Section                          |
| GAC            | Groundwater Advisory Council                      |
| GWS            | Ground Water Section                              |
| HAB            | Harmful Algal Bloom                               |
| ICCG           | Interagency Coordinating Committee on Groundwater |
| IFAS           | Infrastructure and Financial Assistance Section   |
| IGPA           | Illinois Groundwater Protection Act               |
| ILCS           | Illinois Compiled Statutes                        |
| Ill. Adm. Code | Illinois Administrative Code                      |
| IPCB           | Illinois Pollution Control Board                  |
| JCAR           | Joint Committee on Administrative Rules           |
| LHD            | Local Health Department                           |
| MCL            | Maximum Contaminant Level                         |
| M&R            | Monitoring and Reporting                          |
| MRDL           | Maximum Residual Disinfectant Levels              |
| NCA            | Non-Compliance Advisory                           |
| NCPWS          | Non-Community Public Water Supply                 |
| NTNC           | Non-Transient, Non-Community                      |
| PS             | Permit Section                                    |
| PWS            | Public Water Supply                               |
| PWSS           | Public Water System Supervision                   |
| RO             | Regional Office                                   |
| RTC            | Returned to Compliance                            |
| RTCR           | Revised Total Coliform Rule                       |
| SDWA           | Safe Drinking Water Act                           |
| SDWIS          | Safe Drinking Water Information System            |
| TNC            | Transient Non-Community                           |
| VN             | Violation Notice                                  |

## Executive Summary

This report provides information on the efficacy of existing programs to protect and support public water purveyors and groundwater resources in Illinois. In addition, this document is intended to meet the reporting requirements of the Safe Drinking Water Act Amendments of 1996 and the Illinois Groundwater Protection Act.

The Illinois Environmental Protection Agency (EPA) regulates 1,740 community water supplies (e.g., municipalities, privately owned utilities, etc.) that serve 12,007,441 individuals. The Illinois Department of Public Health (DPH) regulates 3,815 non-community water supplies (e.g., schools, factories, campgrounds, rest areas, etc.) that serve approximately 496,345 customers. The mission of these two state agencies is to assure that all persons served by public water supplies receive water that is safe and adequate in quantity.



The Illinois EPA, Illinois DPH, and U.S. EPA recognize the importance of an ongoing program to evaluate the sanitary conditions of all public water supplies in Illinois. For the 2013-2015 calendar year timeframe, the Illinois EPA conducted sanitary surveys at approximately 93.8 percent of the community water supplies and the Illinois DPH conducted sanitary surveys at approximately 97.3 percent of the non-community water supplies in the state. Similarly, the Agencies understand the importance of an ongoing program to protect ground and surface water sources of public water supplies. In calendar year 2014, 71 percent of the population served by community water systems in Illinois had source water that was substantially protected by their respective water systems, exceeding the U.S. EPA established measure for source water protection programs.

The Governor and General Assembly further understand the importance of well credentialed and properly certified public water supply operators in protecting water consumers. For Calendar Year 2015, there were 3,779 certified community water supply operators (not including 83 operators in training) and 520 certified non-transient non-community water supply (day care centers, schools and factories) operators in Illinois. While these numbers were down slightly from 2014, the program appears to remain stable at this time. Expansion of the State's technical capacity (such as the operator in training certification process and revisions to the Public Water Supply Operations Act) remains one of the hallmarks of the drinking water protection program. Further, the Illinois EPA and DPH continue to support the development of financial, managerial capacity in water systems. We continue to look for opportunities to enhance these important elements in the stability of water supplies. Such initiatives as the water loss accounting pilot program will continue to be given priority to ensure the continued viability of our water systems. Recognizing the *mission* of the Illinois EPA and DPH, for calendar year 2015, 98.3 percent of

the population served by community water supplies and 94.6 percent of the non-community water supplies in Illinois received drinking water that met all applicable health-based drinking water standards.

The following activities outline the priorities for the Illinois EPA and DPH for Calendar Year 2016:

- Continue efforts to update and streamline Illinois drinking water regulations and legislation to enhance drinking water protection in Illinois.
- Continue to support statutorily established committees, councils and boards charged with assisting the Illinois EPA and DPH in improving program activities in support of the Agencies' mission.
- Continue to use, support and improve technology, such as the Safe Drinking Water Information System, to track the efficacy of water treatment facilities in protecting water consumers.
- Continue to initiate efforts to enhance the technical, financial and managerial capacity of public water supplies. This priority includes ensuring that the Permitting, Operator Certification, Cross-Connection Control and Source Water Protection Programs remain high priorities in protecting public health and ensuring water system viability.
- Continue to place priority on maintaining current inspection goals and provide emergency and technical assistance to water systems as necessary to maintain Illinois' high public health protection goals.
- Continue to conduct the prevention-oriented programs to protect groundwater required by the Illinois Groundwater and Environmental Protection Acts and recommended by the Interagency Coordinating Committee on Groundwater, Groundwater Advisory Council, and the Priority Groundwater Protection Planning Committees.

Unplanned Initiatives in Illinois that significantly impacted both Illinois EPA and DPH resources include:

- Efforts to enhance the Lead in Drinking Water program in Illinois, and
- Efforts to mitigate a *legionella* outbreak at a Veteran's Home.

## **PURPOSE OF THIS REPORT**

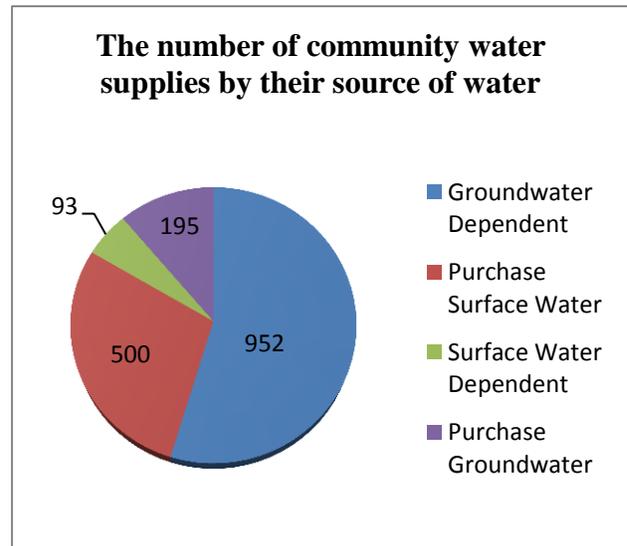
The Illinois EPA respectfully submits this report to document the efficacy of existing programs to protect and support public water purveyors in Illinois. This document is intended to identify program stresses and future directions in overcoming these existing insufficiencies. Further this report attempts to provide information on anticipated future shortfalls in the regulatory oversight and technical assistance to drinking water systems in Illinois.

The Illinois EPA and Illinois DPH hopes that making this living document available to the public for review and digestion will provide a better understanding of drinking water quality concerns in Illinois. While this report is not entirely comprehensive, it should provide important insight to Illinois citizens and Federal stakeholders in the direction of regulatory programs from calendar year to year.

## **INTRODUCTION**

In Illinois, regulatory oversight of public water systems (PWS)<sup>1</sup> is shared by the Illinois EPA and DPH. The Illinois EPA was designated as Illinois' primary enforcement authority by the U.S. EPA on August 29, 1979. The Illinois EPA, through an Intergovernmental Funding Agreement<sup>2</sup> has empowered the Illinois DPH to administer the Non-Community PWS Program while the Illinois EPA retains regulatory authority over Community PWS<sup>3</sup>.

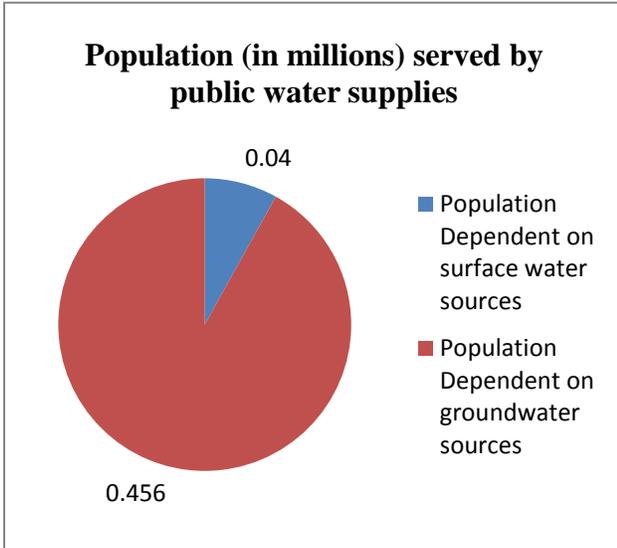
The Illinois EPA regulates 1,740 community water supplies (CWS). These water supplies utilize groundwater and surface water sources of potable water. At this time, 1,147 CWS use groundwater sources, 593 use surface water sources or groundwater sources under the direct influence of surface water (seven use both ground and surface water sources), and 697 supplies purchase water from other CWS. A total of 12,007,441 persons are served by those systems; 39 percent of that population is directly served from surface water systems. 34 percent of the population is served by purchased surface water, two percent by purchased ground water, and 25 percent by ground water systems. It is worth noting that although only 27 percent of the population is served by groundwater (including purchased ground water); groundwater dependent systems comprise almost 66 percent of the total number of community water systems.



<sup>1</sup> PWS serve 15 service connections or 25 residents.

<sup>2</sup> U.S. EPA commented that the Non-community primacy program was not discussed in the previous report. This footnote indicates the contrary.

<sup>3</sup> CWS serve 15 or more year round service connections or 25 or more year round residents.



The Illinois DPH regulates 3,815 Non-Community Public Water Supplies (NCPWS) that serve approximately 496,345 customers. NCPWS are subdivided into non-transient, non-community (NTNC) PWS<sup>4</sup> (e.g., day care centers, schools and factories) and transient non-community (TNC) PWS<sup>5</sup> (e.g., campgrounds and highway rest areas). During 2015, there were 438 NTNC and 3,377 TNC PWS.

The TNC PWS served a population of 343,698 in 2015, while NTNC PWS served a population of 152,647. A total of 456,028 persons are served by systems using ground water, while only 40,317 persons are served by surface water. These numbers reflect the areas where NCPWS

are located predominantly in rural or non-incorporated areas where ground water is generally available as a source of potable water.

**STATUTORY BACKGROUND**

The program to protect PWS in Illinois began in 1915 and has undergone considerable legal and regulatory restructuring over the years. In 1970, the General Assembly formulated the Illinois Environmental Protection Act (Act), 415 ILCS 5/1 *et seq.* They found that “state supervision of public water supplies is necessary in order to protect the public from disease and to assure an adequate source of pure water for all beneficial uses.” Sections 4(c), (d), and (e) of the Act authorizes the Illinois EPA to have a program of “continuing surveillance of regular or periodic inspection.” While this program began under the Illinois Board of Health many years before the Illinois EPA was created, the Division of Public Water Supplies (DPWS) within the Bureau of Water (BOW) has continued surveillance/inspection programs described in the Act and 35 Ill. Adm. Code, Subpart F.

The “core mission” of the DPWS is to ***assure that all persons served by community public water supplies receive water which is safe in quality, clean, adequate in quantity of satisfactory mineral character for ordinary domestic consumption.*** To accomplish this goal, the DPWS oversees the design, construction and operation of CWS in Illinois. More specifically, the Illinois EPA must review the safety and protection of drinking water source water, implement a permitting program for the design, construction and operation of PWS treatment facilities, and maintain a surveillance program of water systems’ untreated and treated waters.

To support these activities, the DPWS has been staffed by a diverse contingent of engineers, geologist and scientist that comprise the Compliance Assurance (CAS), Field Operations (FOS), Groundwater (GWS), and Permit (PS) Sections. The DPWS is further supported by the Infrastructure and Financial Assistance Section (IFAS) of the BOW, the Division of Information

<sup>4</sup> NTNC systems that serve 25 or more of the same non-residents at least 180 days out of the year.  
<sup>5</sup> TNC systems that serve 25 or more different nonresidents at least 60 days out of the year.

Services, the Division of Legal Counsel, the Division of Laboratories, and the State of Illinois' Central Management Services.

As mentioned previously, the Illinois DPH supports the Non-Community PWS program through a series of rules including, but not limited to: the Illinois Plumbing Code (77 Ill. Adm. Code 890); the Illinois Water Well Construction Code (415 ILCS 30); the Surface Source Water Treatment Code (77 Ill. Adm. Code 930) and the Drinking Water Systems Code (77 Ill. Adm. Code 900). The Illinois DPH's Division of Environmental Health works to reduce the incidence of disease and injury related to environmental factors that fall within five major areas of responsibility: rulemaking; plan reviews and construction permits; inspections; vocational and facility licensing; and engineering and toxicological reports.

To support these areas of responsibility within the Non-Community PWS, Illinois DPH has field staff located in the Department's six Regional Offices (RO) and leverages the resources of Local Health Departments (LHD). Compliance assurance and engineering services are generally conducted by staff located in the Central Office in Springfield. Consistent with the requirements of the Safe Drinking Water Act (SDWA) program activities include: sanitary surveys, water analysis and reporting; plan review; technical assistance; and training and education.

The U.S. EPA also assists Illinois with implementation and enforcement of National Primary Drinking Water Regulations with the Public Water System Supervision (PWSS) Grant Program. The U.S. EPA established the PWSS Grant Program under the authority of the 1974 SDWA. Pursuant to Section 1452 of the SDWA the U.S. EPA shall "make capitalization grants, including letters of credit to States ... to further the health protection objectives of [SDWA], promote the efficient use of fund resources, and for other purposes as are specified in this title."

Under the SDWA and subsequent amendments, the U.S. EPA sets national limits on contaminant levels in drinking water to ensure that the water is safe for human consumption. These limits are known as Maximum Contaminant Levels (MCL) and Maximum Residual Disinfectant Levels (MRDL). For some regulations, treatment techniques are established in lieu of an MCL to control unacceptable levels of contaminants in water. The U.S. EPA, through the 1996 Amendments to the SDWA (PL 104-182, August 6, 1996, Title XIV, Section 1420), also requires PWS to notify their consumers when they have violated these regulations. The consumer notifications must provide an understandable explanation of the nature of the violation, its potential adverse health effects, steps that the PWS is undertaking to correct the violation and the possibility of using alternative water supplies during the violation.

Through the ongoing review of Illinois EPA's programs, the U.S. EPA has granted the Illinois EPA primary enforcement authority to determine the frequency that CWS monitor and report on the contaminants present in their water. (Generally, the larger the population served by a water system, the larger the number of samples collected and the more frequent the monitoring and reporting (M&R) requirements.) Additionally, the U.S. EPA supports the development of new MCLs by requiring CWS to monitor and report on currently unregulated contaminants. As data are acquired for these contaminants, scientific analyses are conducted to determine the need for development of new MCLs.

In 1998, the Illinois EPA began making CWS revolving loans through a partnership with the U.S. EPA and the Federal Government. Since this time, the Illinois EPA has made more than \$1.1 billion in revolving loans to water systems. This money has gone to resolving MCL issues and improving the state's aging infrastructure.

### **REPORTING REQUIREMENTS**

In addition to the previously described purpose of this report, this document is also intended to meet several independent reporting requirements of the SDWA Amendments of 1996, serve as the annual self-assessment for the PWSS Grant (which should aid the U.S. EPA Region 5 in oversight of Illinois' primacy programs), as well as reporting requirements of the Act.

First, Section 1414(c)(3) of the SDWA requires States with national primary enforcement authority to prepare, make readily available to the public, and submit to the Administrator of the U.S. EPA by July 1 of each year, an annual report on violations of national primary drinking water regulations by public water systems.

Second, this report is intended to meet the Capacity Development Program reporting requirements of Section 1420 of the SDWA. The SDWA requires annual documentation to the U.S. EPA and triennial reporting to the Governor on the efficacy of Illinois' program with emphasis on improving technical, managerial and financial capacity of public water systems in Illinois. The Capacity Development report is also to be made available to the public and must be posted on the Illinois EPA web site.

Third, States are required to adopt and implement for CWS and NCPWS an Operator Certification Program per Section 1419(b) of the SDWA to avoid a 20 percent withholding. The Guidelines pursuant to Section 1419(b) of the SDWA require the Illinois EPA to provide information to U.S. EPA annually for the purpose of program review.

In addition to the reports required by the SDWA, each quarter, the Illinois EPA submits data to the Federal Safe Drinking Water Information System (SDWIS), an automated database maintained by the U.S. EPA. The data submitted by Illinois include, but are not limited to the following:

- PWS inventory information;
- incidences of violations of MCLs, MRDLs, monitoring, and Treatment Technique violations;
- information on enforcement activity related to these violations; and
- source water protection information.

ILCS 5/7.6(3) requires that starting January 1, 2014, the Illinois EPA shall publish a report on its web site which contains information on permits issued for the previous year. The report must summarize the CWS construction and operating permit process including milestones that measure program efficacy.

Finally, the ILCS 55/4 Section (b)(8) requires that, beginning on January 1, 1990, the Interagency Coordinating Committee on Groundwater shall report biennially to the Governor and the General Assembly on groundwater quality, quantity, and the State's enforcement efforts.

## OVERVIEW OF THE PWS PROGRAMS IN ILLINOIS

### Community Public Water Supply Surveillance Program

To sustain compliance with regulatory requirements and ensure the safety of Illinois CWS consumers, the Illinois EPA is committed to completing engineering evaluations (sanitary surveys) as frequently as possible. Through the DPWS' institutional knowledge, the more frequent the contact between the Illinois EPA and CWS, the higher the percentage of compliant water systems.

The focus of the Illinois EPA's inspections of CWS continues to be an evaluation of the general operation and maintenance practices at the respective systems. Inspectors are expected to provide a detailed review of rules and regulations for which the U.S. EPA has granted Illinois primary enforcement authority. Furthermore, inspectors evaluate state regulations under 35 Ill. Adm. Code and various ancillary programs that affect the CWS, such as the regulations under the *Public Health Security & Bioterrorism Preparedness & Response Act of 2002*. Fundamental aspects of these inspections also revolve around the provision of technical assistance including DPWS permit requirements and support of other BOW and Illinois EPA program areas (e.g., the BOW IFAS on the Drinking Water State Revolving Fund Loan Program). The DPWS conducts surveillance and inspections at CWS from six regional offices located in Rockford, Elgin, Champaign, Springfield, Collinsville and Marion.

| <b>Field Operations Section</b>         |                                     |
|---|-------------------------------------|
| <b>Springfield Central Office</b>       | <b>Champaign Regional Office</b>    |
| <i>David McMillan, Division Manager</i> | Steve Johnson, Manager              |
| Rick Cobb, Deputy Division Manager      | Matt Talbert                        |
| Vacant, Manager                         | Vacant (Env. Protection Engineer)   |
| <b>Rockford Regional Office</b>         | <b>Springfield Regional Office</b>  |
| Brett Hanson, Manager                   | David Cook, Manager                 |
| Joey Bliton                             | John Bartolomucci                   |
| Gene Forster                            | Steve Vance                         |
|   | Vacant (Env. Protection Engineer)   |
| <b>Elgin Regional Office</b>            | <b>Collinsville Regional Office</b> |
| Segundo Nallatan, Manager               | Gayle Battas, Manager               |
| Dwayne Booker                           | James Blessman                      |
| Grover Hopkins                          | Regan Taylor                        |
| Dharmishtha Patel                       |                                     |
| Jeff Peca                               | <b>Marion Regional Office</b>       |
| Shibu Vazha                             | Jon Lam, Manager                    |
| Marlene Diamond (Admn. Support)         | John Kinder                         |
|   | Chris Johnston                      |

Non-Community Public Water Supply Surveillance Program

The NCPWS surveillance Program shares many commonalities with the CWS surveillance activities. Sanitary surveys are intended to review the adequacy of the water system’s source of water, facilities, equipment, operation and maintenance to ensure the production and distribution of safe drinking water. Sanitary surveys for NCPWS are conducted once every two years by the Illinois DPH or LHD field staff. Illinois DPH Field Offices are located in Rockford, Peoria, Champaign, Marion, Edwardsville and West Chicago. There are 93 LHDs throughout the State that help conduct NCPWS surveillance and perform sanitary surveys. Illinois DPH RO staff and LHD staff that perform sanitary surveys generally work in several Public Health Surveillance Programs and many times conduct multiple program inspections while visiting a NCPWS.

Community Public Water Supply Compliance Assurance Program

To ensure Illinois CWS are in compliance with state and federal statutes and regulations, the Illinois Pollution Control Board (IPCB) adopts identical in substance regulatory provisions per, Section 5/7.2 of the Act. Ensuring that CWS are in compliance with these regulations, which include MCLs in drinking water, is substantially the core mission of the CAS. Additionally, CAS coordinates technical outreach to water systems to assure proactive compliance measures are taken ahead of formal enforcement. The DPWS conducts compliance efforts for CWS from the Central Office in Springfield.

| <b>Compliance Assurance Section</b>          |
|--|
| Vacant, Manager                              |
| Mark Britton                                 |
| Shirley Leonard (Office Coordinator)         |
| <b>Chemical Monitoring Unit</b>              |
| Jeri Long, Manager                           |
| Mary Reed                                    |
| Paul Connelly                                |
| Andrea Rhodes                                |
| Vacant (Environmental Protection Specialist) |
| Vacant (Environmental Protection Specialist) |

Non-Community Public Water Supply Compliance Assurance Program

Similar to the CWS compliance program, the Illinois DPH tracks water system compliance with state and federal statutes and regulations. All NCPWS are tested at least annually for total coliform bacteria and nitrate. NTNC PWS are also tested for contaminants, such as pesticides, solvents, lead and copper, arsenic, metals and disinfection byproducts. Responsibility for tracking water system compliance is shared by Regional and Central Office staff. Data tracking activities are conducted by Central Office Staff.

| <b>Personnel</b>                                |
|---|
| Eric Portz, Safe Drinking Water Program Manager |
| Jamie Tosetti, Environmental Health Specialist  |

### Community Public Water Supply Operator Certification Program

The Illinois Drinking Water Operator Certification Program was approved by the U.S. EPA on February 8, 2001. In 2014, the Illinois EPA and PWS Advisory Board sponsored legislative changes to the Illinois Public Water Supply Operations Act (415 ILCS 45/). The primary purpose of this legislation was to facilitate compliance with the existing requirements of the Public Water Supply Operations Act by establishing a reliable mechanism for Illinois EPA communications with CWS, ensuring that Responsible Operators in Charge supervise the portions of the CWS for which they are accountable, and requiring the timely submittal of information that the Illinois EPA relies upon to protect drinking water quality. The focus of this initiative included making statutory and regulatory definitions consistent, clarifying statutory requirements and implementing administrative citation authority for reporting violations of Illinois regulation (e.g., consumer confidence reports, monthly operating reports, and drinking water compliance monitoring results).

Additionally, in 2014, the Joint Committee on Administrative Rules (JCAR) adopted 35 Ill. Adm. Code 681 at the recommendation of the Illinois EPA. At that time, they also repealed 35 Ill. Adm. Code 680. These regulatory changes clarified the Drinking Water Operator Certification Program regulations. The regulations include procedures for approval of contractual operations agreements between properly credentialed operators and CWS; detail an “Operator in Training” certificate status; and finally, establish maximum limits on certain types of training for certificate renewal credit which will become effective on July 1, 2017. At the time of this report, an additional regulatory proposal is being reviewed by Senior Managers at Illinois EPA. This proposal will ask JCAR to further modify 35 Ill. Adm. Code 681. The primary emphasis of this proposal centers on further defining the experience requirement to become a licensed water supply operator in Illinois.

The Illinois EPA would also like to make note of our training partners. The operator training opportunities provided by the Environmental Resources Training Center at Southern Illinois University-Edwardsville, the Illinois Potable Water Supply Operators Association, Illinois Rural Water Association, Illinois Section of the American Water Works Association and two-year colleges are a huge factor in the successful treatment of potable water in Illinois. Whether large conferences, webinars, semester long classes, regional forums or water system specific curricula these educators, associations and individuals have afforded opportunities to water professionals in Illinois that is unparalleled across the country.

In past reviews of Illinois’ program, the U.S. EPA strongly encouraged the Illinois EPA to fill the position that oversees the implementation of the Operator Certification Program to ensure critical oversight of the program. The Illinois EPA’s CWS Operator Certification Program is administered by the CAS of the DPWS. The Illinois EPA estimates that this program requires approximately two full time staff. While these positions are vacant at this time, they are being covered by the staff described above in the CAS.

### Non-Community Public Water Supply Operator Certification Program

The Illinois DPH NCPWS program administers a program to properly credential NTNC PWS from the Central Office in Springfield. The Illinois DPH uses the services of the Water Quality Association to conduct initial Operator Certification Training and administer certification

examinations. The following Illinois DPH Environmental Health Services staff is actively involved in the administration of the program:

| Personnel                                       |
|---|
| Eric Portz, Safe Drinking Water Program Manager |
| Elaine Beard, Administrative Assistant          |

### Capacity Development Program

As reported in previous reporting cycles, Illinois' Capacity Development Program has been implemented in two parts:

- First, all new PWS that became active after October 1, 1999, are required to complete a capacity development demonstration. To support this effort, the Illinois EPA introduced regulations to implement this requirement.<sup>6</sup>
- Second, Illinois was required to develop a Capacity Development Strategy by September 30, 2000. This Strategy was approved by U.S. EPA on September 27, 2000. The purpose of this Strategy was to structure a work plan that Illinois could implement to encourage public water supplies to become sustainable and have the capacity to achieve compliance, and continue to operate in compliance with all existing and future drinking water program standards and requirements.<sup>7</sup>

The Illinois EPA and DPH continue to support the Capacity Development Program and are convinced that maintaining PWS capacity is essential in operating a safe drinking water system. The original premises presented in the Illinois Capacity Development Strategy have proven accurate. Technical assistance remains the cornerstone in developing capacity in PWS that are in distress. Although the resource demands of capacity assistance are significant, Illinois continues to believe that capacity development is an integral element of the working relationship between regulatory staff and PWS officials. As such, capacity demonstration elements will continue to be integrated into the routine activities of both Agencies in order to ensure continued progress. It is difficult to estimate the full time equivalents devoted to this program as it is integrated into all aspects of the drinking water program. However, the Capacity Development and Cross-Connection Control Programs Coordinator position remains vacant at this time. In the most recent U.S. EPA valuations of the Illinois Capacity Development Program, U.S. EPA has expressed concerns that this program is understaffed.

### Cross-Connection Control Program

The Cross-Connection Control Program in Illinois is one of several tools intended to protect water consumers in the state. Section 18 of the Act and 35 Ill. Adm. Code 607.104 provides the Illinois EPA direction from both the Illinois legislature and IPCB. These statutes establish that no person can threaten a water supply and that water supply officials are responsible for protecting their water mains from connections that have the potential to allow the backflow of contaminants into their respective distribution systems. Further, 35 Ill. Adm. Code 602.115 gives the Illinois EPA authority to develop and modify "Agency" regulations regarding cross-

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<sup>6</sup> Failure to meet this deadline would have resulted in a loss of up to 20 percent of the State Revolving Loan Fund monies allocated to Illinois each year.

<sup>7</sup> Failure to meet this deadline would also have resulted in a loss of up to 20 percent of the State Revolving Loan Fund monies allocated to Illinois each year.

connection control at CWS. These regulations have been developed and modified under 35 Ill. Adm. Code 653.802 and 653.803. These “Agency” regulations outline what comprises a viable Cross-Connection Control Program.

Water supplies in Illinois have significant partners in the implementation of their Cross-Connection Control Program. While it is up to the Illinois EPA to ensure that CWS have viable programs through physical inspection of water treatment facilities and documentation reviews, the Illinois DPH deals with the plumbing aspects of the program. Specifically, 77 Ill. Adm. Code 890 provides regulatory requirements for backflow prevention devices and 225 ILCS 320 provides the Illinois Plumbing License Law. Furthermore, the Environmental Resources Training Center located at Southern Illinois University-Edwardsville provides for the training of licensed plumbers who wish to become certified Cross-Connection Control Device Inspectors (CCCDI). While any Illinois licensed plumber can inspect plumbing or install a backflow device or assembly, only an Illinois CCCDI can test that device or assembly. Additionally, the Illinois EPA relies upon the Environmental Resources Training Center to track and properly credential CCCDIs.

It is difficult to estimate the full time equivalents devoted to this program as it is integrated into all aspects of the DPWS’s programs. However, the Capacity Development and Cross-Connection Control Program Coordinator Position remain vacant at this time.

Source Water Protection Program

The Source Water Protection Program in Illinois is framed by Public Acts 83-1268 and 85-063, and the SDWA Section 1453. These laws amended the Act, created the Illinois Groundwater Protection Act (IGPA), and led to the development of IPCB regulations for groundwater quality standards and protection requirements. Further, the IGPA requires stakeholder input from the Interagency Coordinating Committee on Groundwater (ICCG) and Groundwater Advisory Committee (GAC) on the development of groundwater protection programs, laws and policies. The Act was amended to require the development and implementation of a “priority” Regional Groundwater Protection Planning Program comprised of local stakeholders. In addition, the IGPA requires the ICCG to undertake a comprehensive evaluation of progress being made under these laws with biennial reporting to the Governor and General Assembly. The DPWS source water protection initiatives are generally managed from the Central Office in Springfield and the Rockford Office by the GWS of the DPWS.

| Personnel                  |                                  |
|----------------------------|----------------------------------|
| Groundwater Section        | Source Water Protection Unit     |
| Rick Cobb Manager          | Anthony Dulka, Manager           |
| Vacant, Office Associate   | Joe Konczyk (Springfield Office) |
|                            | Laurie Moyer (Rockford Office)   |
|                            | Greg White (Rockford Office)     |
| Geographical Analysis Unit | Hydrogeology and Compliance Unit |
| Vacant, Manager            | Bill Buscher, Manager            |
| Ryan Bennett               | Lynn Dunaway                     |
| Alan Fuhrman               | Carl Kamp                        |
| Ed Wagner                  | Amy Zimmer                       |

### Permitting Program

Correct construction and operation of a PWS is essential for providing a safe and adequate supply of drinking water. The “core mission” of the PS is primarily defined in the statutes that were adopted under the Act, SDWA, and 35 Ill. Adm. Code Subpart F. The DPWS conducts all permitting function for CWS from the Central Office in Springfield.

| Personnel                  |                                 |
|----------------------------|---------------------------------|
| Permit Section             |                                 |
| David Cook, Acting Manager | Chris Kohrman                   |
| Vacant, Lead Engineer      | Gerard Zimmer                   |
| Ed Augspurger              | Vacant, Office Associate        |
| Mike Hayes                 | Charita Banks, Office Associate |

### Public Water Supply Revolving Loan Program

The PWS revolving loan program is administered by the BOW-IFAS. IFAS also administers the Water Pollution Control revolving loan program. IFAS manages all aspects of the funding process with input from the DPWS. Detailed program information is available on the Illinois EPA web site at <http://www.epa.illinois.gov/topics/grants-loans/water-financial-assistance/state-revolving-fund/index>.

Generally, the first step toward the Illinois EPA working with an applicant to fund a project is the submittal of a planning report, called a “Project Plan” in Illinois’ Administrative Loan Rules. An applicant must also complete a Project Planning Submittal Checklist which identifies the location of other necessary information for application processing. Once a scope of work is identified in a “Project Plan,” IFAS staff will distribute the planning report to the PS and FOS for review and approval. The CAS is also consulted to ensure funding is provided to address the loan applicant’s most pressing needs. Once comments from each of these Sections are received, IFAS sends a review letter requesting any additional information that is needed or answers to any questions the Illinois EPA may have. IFAS then produces a Project Summary document and the loan applicant will be required to either hold a public hearing (if the potential for environmental issues exists or if financial impacts to the loan applicants residents are significant), or simply place an ad in the local newspaper announcing the proposed project and request for funding. The public hearing, or placement of an ad in the local newspaper, is followed by a 10-day public comment period allowing for the submission of written comments concerning the proposed project. Once the public comment period is over and IFAS receives proof of the public notification in the newspaper and any responses to any public comments, the Illinois EPA will issue Planning Approval. Planning Approval is good for five years. Therefore, once a scope of work has been identified and approved, the loan applicant can pursue funding for any portion(s) of that scope within the following five years.

The Illinois EPA’s revolving loan funding process is unlike that of a bank in the respect that the Illinois EPA does not offer the funding agreement until after the recipient has demonstrated a definitive need for the project, obtained Illinois EPA Planning Approval, obtained all necessary permits, demonstrated the means and ability to repay the funding, adopted all necessary ordinances to do so and then gone out to bid on the project. Once a “winning/low” bidder is identified, the Illinois EPA can issue the Loan Agreement followed by the loan applicant

entering into the contract for construction of the project. Currently, the Illinois EPA can fund the construction costs as well as design engineering and construction engineering/oversight. At the present time, loan applicants are anticipating funding being provided as a 20-year loan at an interest rate of approximately 1.8 percent for FY 2017. Interest rates are established each July 1

The U.S. EPA has determined that lead service line replacement is an eligible loan expense. The Illinois EPA anticipates processing its first lead service line replacement project in 2016.

for the wastewater loan program, and October 1 for the drinking water loan program, for the following 12-month period based upon one-half of the previous 12-month mean interest rate of the 20 General Obligation Bond Buyer Index.

The IFAS conducts all revolving loan functions for CWS from the Central Office in Springfield. The BOW estimates that this program currently utilizes 15 full-time staff with approximately 8 vacancies.

## MEASURING RESULTS

Numerous tools are used to measure program effectiveness. The SDWIS is a key component in the tracking of overall program effectiveness. Quarterly uploads of data by the DPWS CAS and the Illinois EPA Division of Information Service to U.S. EPA is the foundation by which the Illinois EPA and CWS are evaluated with regard to primacy requirements and program measures. Beyond these federal requirements, SDWIS is used by the DPWS to ensure that routine inspections of CWS are occurring, proper permits are obtained and safe water is being supplied to Illinois' water consumers. Additionally, the PS utilizes a permit tracking data system to ensure that construction and operating permits are issued in a timely fashion (currently, well under the 90 day statutory requirements). This tracking system is reliant upon the SDWIS as a framework as is the Groundwater Section's PROTEUS system. PROTEUS is a database designed using web-based development tools. Groundwater, source water, and PWS engineering evaluation data and SDWIS continue to be integrated into the PROTEUS database.

### Community Water Supply Surveillance Program

To highlight the need for frequent inspections, the U.S. EPA has recognized the importance of an ongoing program to evaluate the sanitary conditions of all PWS subject to the regulatory requirements of the SDWA.<sup>8</sup> As such, a national environmental output measure<sup>9</sup> has been established to assist in measuring the effectiveness of state surveillance programs.<sup>10</sup> With assistance of national stakeholder groups, the U.S. EPA has established that over the next two-year reporting cycle (Calendar Years 2014 and 2015) state primary enforcement programs should complete sanitary surveys at a minimum of 79.5 percent of the CWS in their state on a 3-year frequency. For the 2013-2015 calendar year timeframe, the Illinois EPA has conducted sanitary surveys at approximately 93.8 percent (1,637 of 1,744) of the CWS under its regulatory authority.

Impediments to the surveillance program during 2015 included completing the U.S. EPA Drinking Water Infrastructure Needs Survey and a significant *legionella* outbreak at a Veteran's Home in Central Illinois.

### Non-Community Water Supply Surveillance Program

For the 2013-2015 calendar year time-frame, the Illinois DPH has conducted sanitary surveys at approximately 97.3 percent of the NCPWS under its regulatory authority.

### Community Water Supply Compliance Assurance Program

The U.S. EPA has recognized the importance of an ongoing program to evaluate the water quality conditions of all PWS subject to the regulatory requirements of the SDWA. As such, two national environmental outcome measures have been established to assist in measuring the effectiveness of state programs. With assistance of national stakeholder groups, the U.S. EPA has established that over the next two-year reporting cycle (Calendar Years 2014 and 2015) 90 percent of the population served by CWS will receive drinking water that meets all applicable

<sup>8</sup> 40 CFR 142.16(b)(3)(i) requires all surface water supplies and supplies that use a groundwater source under the direct influence of surface water to have a sanitary survey every 3 years. Section 142.16(o)(2)(i)-(iii) requires GW sanitary surveys every 3 years except under certain circumstances it is every 5 years.

<sup>9</sup> Strategic Goal 2: Protecting America's Waters, Strategic Objective 2.1.1: Water Safe to Drink, Grant Code SDW-01a.

<sup>10</sup> Regulations required by the 1996 Safe Drinking Water Act Amendments are promulgated and adopted at the State level pursuant to the identical in substance rulemaking process.

health-based drinking water standards through approaches including effective treatment and source water protection. Additionally, U.S. EPA has further indicated that their expectation is that, 90 percent of CWS will meet all applicable health-based standards through approaches that include effective treatment and source water protection. For calendar year 2015, 98.3 percent (11,799,885 of 12,007,441) of the population served by CWS in Illinois receive drinking water that meets all applicable health-based drinking water standards. Also, for calendar year 2015, 95.4 percent (1,660 of 1,740) of CWS in Illinois meet all applicable health-based drinking water standards.

Each quarter, the Illinois EPA submits data to the SDWIS/Federal. The data submitted include, but are not limited to: PWS inventory information; the incidences of violations of Maximum Contaminant Levels; Maximum Residual Disinfectant Levels; monitoring, and treatment technique violations; and information on enforcement activity related to these violations. This report provides the numbers of violations in each of six categories:

- 1) Maximum Contaminant Level violations,
- 2) Maximum Residual Disinfectant Level violations,
- 3) Treatment Technique requirement violations,
- 4) Significant violations of Monitoring and Reporting requirement violations,
- 5) Significant violations of the Consumer Notification requirements,
- 6) and Violations of Variances and Exemptions.

Attached to this report as Appendix A is a listing for each contaminant regulated by the SDWA, which includes the numbers of MCL, MRDL, Treatment Technique and M&R requirement violations for each compliance period during calendar year 2015, the number of violations that were returned to compliance (RTC), and the number of systems incurring violations. Appendix B and Appendix C contain a detailed listing of PWS with MCL, MRDL, or Treatment Technique violations.

***Variances and Exemptions*** - A PWS can be granted a “variance” from a primary drinking water regulation if the characteristics of the raw water sources reasonably available to the PWS do not allow the system to meet the MCL. To obtain a variance, the system must agree to install the best available technology, treatment techniques, or other means of limiting drinking water contamination that the Administrator finds are available (taking costs into account), and the state must find that the variance will not result in an unreasonable risk to public health. The variance shall be reviewed not less than every five years to determine if the system remains eligible for the variance. During 2015, Illinois did not grant any variances.

A water system may also petition the state for an “exemption.” An exemption is permission not to meet a MCL or a treatment technique under certain conditions for a period of time. An exemption may be granted to give a water system additional time to make complicated and expensive modifications and improvements to the water treatment process so that compliance may be achieved in the shortest period of time. During 2015, Illinois did not grant any exemptions.

**Acute vs. Chronic Indicators** - It is important that safe drinking water be free of contamination which has the potential to cause either short-term or long-term health effects. Contaminants fall into two groups according to the health effects that they cause:

**ACUTE**

Acute effects occur within hours or days of the time that a person consumes a contaminant. People can suffer acute health effects from almost any contaminant if they are exposed to extraordinarily high levels (as in the case of a spill). In drinking water, microbes, such as bacteria and viruses, are the contaminants with the greatest chance of reaching levels high enough to cause acute health effects. Most people's bodies can fight off these microbial contaminants the way they fight off germs; and these acute contaminants typically do not have permanent effects. Nonetheless, when high enough levels occur, they can make people ill, and can be dangerous or deadly for infants, the elderly and persons whose immune systems are already weak due to HIV/AIDS, chemotherapy, steroid use, or another reason.

**CHRONIC**

Chronic effects occur after people consume a contaminant at levels over EPA's safety standards for many years. U.S. EPA develops the standards for chronic MCLs on the basis that a person may have an adverse health effect after consuming two liters of water daily over a 70-year lifetime. The drinking water contaminants that can have chronic effects are chemicals (such as disinfection by-products, solvents, and pesticides), radionuclides (such as radium), and minerals (such as arsenic). Examples of the chronic effects of drinking water contaminants are cancer, liver or kidney problems, or reproductive difficulties.

As described previously, over 98 percent of the population served by Illinois CWS received drinking water in compliance with acute (short-term) health requirements, and 99 percent were in compliance with chronic (long-term) health requirements. It is important to note that most non-compliance was short in duration, and the potential for health risk was minimized through prompt corrective action by the water supplies. Supplies with microbial problems (bacterial or turbidity non-compliance) are required to issue boil orders when the violation occurs. Community water systems with acute MCLs were limited to two water systems.

**Lead and Copper Compliance** - Lead and copper are regulated by a Treatment Technique that requires systems to control the corrosiveness of their water. The lead action level (15 parts per billion), when exceeded in more than ten percent of the water samples collected in consumers' homes, requires the water supply to implement optimal corrosion control treatment plans or procedures which would prevent anticipated adverse health effects and ensure that lead or copper is controlled in the drinking water.

In 2015, 1,735 CWS, or approximately 99.7 percent of CWS, were below the lead action level. These water supplies serve over 99 percent of the population.

Beyond the regulatory requirements of the Lead and Copper Rule, the Illinois EPA:

- Made revisions to sampling instructions and education materials to CWSs based upon information supplied by U.S. EPA, including deletion of any mention of “pre-flushing” lead service lines the night before sample collection and removing faucet aerators; and
- Expedited the path from lab analysis of samples to consumers, in that CWSs now notify consumer/volunteer sample collectors of results greater than 15 ppb within 10 days of becoming aware of lab results.

***Consumer Awareness for CWS*** - Every CWS must provide an annual report (sometimes called a Consumer Confidence Report or CCR) to its customers. The report provides information on local drinking water quality, including the water's source, the contaminants found in the water, and how consumers can get involved in protecting drinking water. If the consumers have been looking for specific information about their drinking water, this annual report will provide them with the information they need. In 2015, 96 percent of the CWS issued a satisfactory Consumer Confidence Report by the annual July 1 deadline.

In conjunction with each violation described in the previous sections, public notification is required to be issued. Public notification provides a means to protect public health, build trust with consumers through open and honest sharing of information, and establishes an ongoing, positive relationship with the community. Public notice can also be used to help consumers understand rate increases and support increased funding for drinking water treatment and protection. Properly done, the notices can work for the benefit of the water supplier as well as the public. In the event that a problem occurs, educated consumers are more likely to understand the problem and support the actions a water utility must take. Many deadlines for public notice issuance depend upon prompt contact and discussion between the water system and Illinois EPA. Efficient communication with prompt reporting is the cornerstone for compliance. In 2015, less than two percent of the community water systems failed to meet all public notice requirements.

CWS must also provide lead public education materials to their customers if the CWS exceeds the lead action level in their most current round of monitoring. As mentioned previously, approximately 99.5 percent of CWS were below the lead action level in their most recent round of sampling and therefore public education was not required. During 2015, only one public education violation was issued.

***Monitoring and Reporting Compliance for CWS*** - The U.S. EPA has established contaminant-specific minimum testing schedules for public water systems. Water systems typically monitor for bacteria, protozoa and viruses, nitrate and nitrite, volatile organic compounds (e.g., benzene), synthetic organic compounds (e.g., pesticides), inorganics (e.g., arsenic), lead and copper, and radionuclides. Although failure to monitor does not necessarily suggest safety problems, conducting the required M&R is critical to ensure that problems will be detected. In 2015, 89 percent of community supplies were compliant with M&R requirements.

***Illinois EPA Enforcement Strategy*** - The Illinois EPA has enforcement authority over CWS in Illinois. Illinois EPA has a standardized protocol for all enforcement matters to ensure unilateral, consistent treatment of enforcement cases. For any violation outlined in the previous pages, a failure to take corrective action could result in the water system being considered for

enforcement under Section 31 of the Act. Enforcement normally begins with the identification of a significant unresolved violation by technical staff. Information about the violator/violations is forwarded to the Compliance Group (composed of Section Managers). If the Compliance Group determines a Violation Notice (VN) is warranted, the VN recommendation is sent to the Agency's Compliance Management Panel for review. After review by the Panel, the CAS prepares and issues the VN. After the VN is sent, the violator will have a set time period (45 days or 60 days depending on whether a meeting is requested) to respond in writing with a proposed Compliance Commitment Agreement (CCA). Enforcement activities are suspended if the proposed CCA is accepted by the Agency. If at a later point in time, the violator does not follow the CCA agreement, enforcement may resume.

If the proposed CCA is not accepted or the violator fails to respond to the VN, the case is brought before the Enforcement Decision Group (EDG), composed of senior BOW and Division of Legal Counsel management. The EDG determines the next course of action such as recommending a case for formal enforcement. Formal enforcement normally consists of referring the water system to the Illinois Attorney General or the U.S. EPA for filing with a court to direct corrective actions, which may include imposition of penalties.

***Violation Summary*** - Current and historical violation data<sup>11</sup> and follow-up enforcement actions can be found at the following web site: <http://www.epa.illinois.gov/topics/drinking-water/index>

The following tables summarize the number of CWS in violation with aspects of the drinking water compliance program during 2015.

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<sup>11</sup> The data for this reporting originates and is maintained in the Illinois Safe Drinking Water Act Information System.

| Violations during Calendar Year 2015<br>COMMUNITY Water Systems |   |                    |   |                    |   |                    |
|---|---|--------------------|---|--------------------|---|--------------------|
| Total Number of Regulated Systems                               |   |                    |   |                    | 1740                                      |                    |
| Total Number of Systems in Violation                            |   |                    |   |                    | 278                                       |                    |
| Total Number of Violations                                      |   |                    |   |                    | 376                                       |                    |
| Rule Subtotal by Violation Type                                 |   |                    |   |                    |   |                    |
| Rule Category   | MCLs                                      |                    | Treatment Techniques                      |                    | Significant Monitoring Reporting          |                    |
|   | Number of Violations                      | Number of Systems* | Number of Violations                      | Number of Systems* | Number of Violations                      | Number of Systems* |
| Radiological  | 29  | 9                  | NA  | NA                 | 6   | 5                  |
| IOCs  | 26  | 10                 | NA  | NA                 | 0   | 0                  |
| SOCs  | 0   | 0                  | NA  | NA                 | 1   | 1                  |
| VOCs  | 0   | 0                  | NA  | NA                 | 8   | 7                  |
| Coliform  | 30  | 22                 | NA  | NA                 | 42  | 36                 |
| Ground Water Rule   | NA  | NA                 | 0   | 0                  | 2   | 2                  |
| All SWTR  | NA  | NA                 | 16  | 4                  | 0   | 0                  |
| DBPR (Stage 1)  | 1   | 1                  | 0   | 0                  | 43  | 40                 |
| DBPR (Stage 2)  | 23  | 14                 | 0   | 0                  | 4   | 2                  |
| Lead & Copper   | NA  | NA                 | 7   | 5                  | 15  | 13                 |
| Consumer Awareness  | NA  | NA                 | NA  | NA                 | 135                                       | 106                |
| <b>TOTALS</b>   | <b>109</b>                                | <b>56</b>          | <b>23</b>                                 | <b>9</b>           | <b>256</b>                                | <b>212</b>         |
|   | Percentage of Systems In Compliance = 97% |                    | Percentage of Systems In Compliance = 99% |                    | Percentage of Systems In Compliance = 88% |                    |

\* Although a CWS may be out of compliance with more than one contaminant or violation type, when calculating totals, it is counted no more than once within the population being totaled. So, the sum of NUMBER OF CWS IN VIOLATION, over the various violation types or contaminants, may not add up to the total.

#### Non-Community Water Supply Compliance Assurance Program

Both NTNC and TNC are required to monitor for contaminants like CWS and issue public notification if in violation. However, TNC only monitor for nitrates, coliform bacteria, and are subject to some requirements of the surface water treatment rule (if they use surface water). NTNC monitors the same contaminants as CWS, but are not required to monitor radionuclides or issue/publish a consumer confidence report.

The Illinois DPH has enforcement authority over NCPWS in Illinois. Illinois DPH has a standard protocol for enforcement matters to ensure consistent treatment of enforcement cases. For any violation outlined in the previous pages, a failure to take corrective action could result in the water system being considered for enforcement under Section 9 of the Illinois Groundwater Protection Act. Enforcement normally begins with identification of a significant unresolved violation by technical staff. The Illinois DPH RO or LHD determines an appropriate amount of time to perform corrective action and send a VN to the water supply requesting corrective action within the time frame allowed. If corrective action is not performed within this time frame, information is forwarded to the Illinois DPH Central Office to initiate formal enforcement action.

A letter is then sent to the State's Attorney, the Attorney General or U.S. EPA requesting enforcement action which may include imposition of penalties.

During calendar year 2015, the percentage of persons served by Illinois NCPWS that were compliant with all health requirements, treatment techniques, or health advisories was 94.6 percent.\* The following tables summarize the number of NCPWS in violation with aspects of the drinking water compliance program.<sup>12</sup>

| <b>Violations during Calendar Year 2014<br/>NON-COMMUNITY Water Systems</b> |  |                   |  |                   |  |                   |
|---|--|-------------------|--|-------------------|--|-------------------|
| <b>Total Number of Regulated Systems</b>                                    |  |                   |  |                   | <b>3,815</b>                                   |                   |
| <b>Total Number of Systems in Violation</b>                                 |  |                   |  |                   | <b>232**</b>                                   |                   |
| <b>Total Number of Violations</b>   |  |                   |  |                   | <b>2,372**</b>                                 |                   |
| <b>Rule Subtotal by Violation Type</b>                                      |  |                   |  |                   |  |                   |
| <b>Rule Category</b>  | <b>MCLs</b>                                  |                   | <b>Treatment Techniques</b>                |                   | <b>Significant Monitoring Reporting</b>        |                   |
|   | Number of Violations                         | Number of Systems | Number of Violations                       | Number of Systems | Number of Violations                           | Number of Systems |
| Radiological  | NA   | NA                | NA   | NA                | NA   | NA                |
| IOCs  | 9*   | 6                 | NA   | NA                | 44*  | 24*               |
| SOCs  | 0  | 0                 | NA   | NA                | 753  | 19                |
| VOCs  | 4  | 1                 | NA   | NA                | 1,281  | 37                |
| Coliform  | 121*   | 112*              | NA   | NA                | 67*  | 54*               |
| Ground Water Rule   | NA   | NA                | 0  | 0                 | 30*  | 26*               |
| SWTRs   | NA   | NA                | 0  | 0                 | 0  | 0                 |
| DBPR (Stage 1)  | 3  | 3                 | 0  | 0                 | 16   | 8                 |
| Lead & Copper   | NA   | NA                | 0  | 0                 | 44   | 41                |
| Consumer Awareness  | NA   | NA                | NA   | NA                | 0  | 0***              |
| <b>TOTALS</b>   | <b>137*</b>                                  | <b>120</b>        | <b>0</b>                                   | <b>0</b>          | <b>2,235**</b>                                 | <b>138**</b>      |
|   | Percentage of Systems In Compliance = 96.9%* |                   | Percentage of Systems In Compliance = 100% |                   | Percentage of Systems In Compliance = 96.4%*** |                   |

*Although a NCPWS may be out of compliance with more than one contaminant or violation type, when calculating totals, it is counted no more than once within the population being totaled. So, the sum of NUMBER OF NCPWS IN VIOLATION, over the various violation types or contaminants, may not add up to the total.*

*\*These figures have not been verified with local health department staff which has direct oversight for these water systems.*

*\*\* This data is incomplete at this time.*

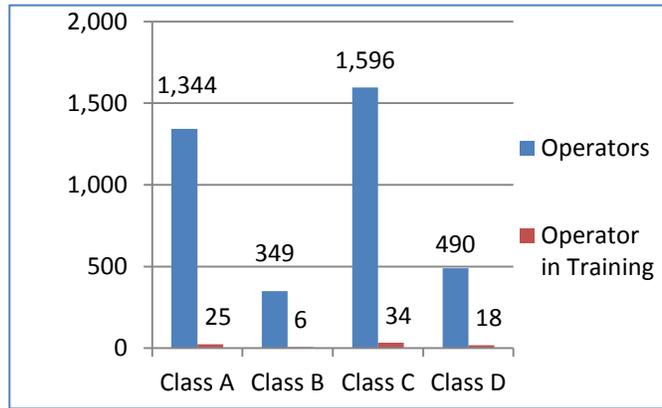
*\*\*\* Public notice for monitoring violations is not included in the compliance rate.*

<sup>12</sup> These figures have not been verified with local health department (LHD) staff, which has direct oversight for these water systems.

## Community Water Supply Operator Certification Program

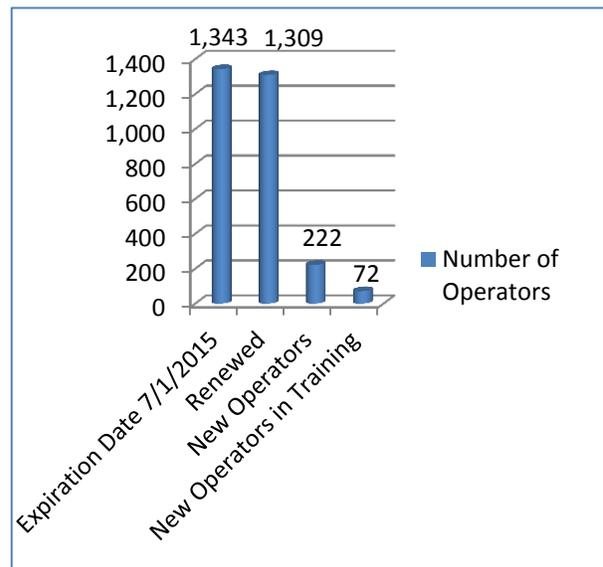
All major program elements for the CWS drinking water Operator Certification Program have been implemented. The total number of active certified CWS drinking water operators for Calendar Year 2015 is 3,779.

Currently, CWS facilities are divided into a four class system. Class D facilities are generally CWS with limited pumpage, storage and distribution systems. At this time, there are 419 Class D CWS and all systems have properly credentialed operators. Class C facilities are generally CWS whose treatment facilities are limited to chemical addition. At this time there are 760 Class C CWS and all but 1 system (99.9 percent compliance) have properly credentialed operators. Class B facilities are CWS whose treatment facilities generally include filtration, aeration, advanced filtration or ion exchange. At this time there are 425 Class B CWS and all systems have properly credentialed operators. Finally, Class A CWS are water treatment facilities that generally employ surface water treatment techniques, including coagulation, lime softening or sedimentation. At this time there are 140 Class A CWS and all systems have properly credentialed operators.



The Illinois EPA through statutory authorization administers a fee program to recover a portion of the cost of administering the Operator Certification Program. Certification fees are processed by the CAS and sent to the Illinois EPA's Division of Fiscal Services. These fees are tracked on monthly reports of the fees collected for application, renewal, and reinstatement. The Illinois EPA continues to emphasize the importance of the Operator Certification Program and utilizes several funding mechanisms to overcome shortfalls in the existing fee structure.

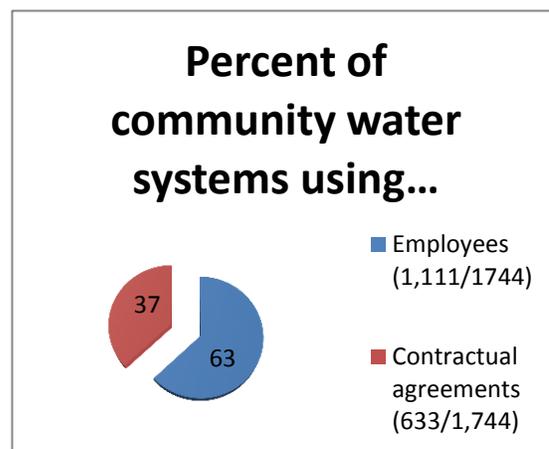
The Illinois EPA phased in the renewal training requirement with approximately one-third of the operators renewing their expiring certificates each year. After July 1, 2003, all Illinois drinking water operators were required to have training as a prerequisite for their certificate renewals. In March of the year that their certificate is set to expire, operators are sent Renewal Application Forms and Training Summary Reports to advise them of their remaining hours required for certificate renewal. The Illinois EPA provides an *Approved Drinking Water Training Course Catalog* to operators upon request. The *Approved Drinking Water Training Course Catalog* is also available



on the Illinois EPA web site. In this reporting period, 1,309 operators have successfully completed the required training and have renewed their certificates. Additionally, 222 new operators were certified, including: 36 Class A; 23 Class B, 115 Class C; and 48 Class D.

Procedurally, non-compliant CWS are immediately advised, via a Non-Compliance Advisory (NCA) of the serious nature of not having a properly certified responsible operator and options for achieving compliance. (In the past, some of these concerns may not have entered the enforcement management and tracking system as quickly). These advisories are often issued because the Illinois EPA has not received documentation that delineates the properly credentialed individual(s) at the water system. In most cases, these NCAs can be viewed as a “paper work” violation with the water system returning to compliance almost immediately. However, when necessary, these advisories are followed by formal VNs consistent with Section 31 of the Act that in turn can be followed by a Notice of Intent to Pursue Legal Action. The culmination of this process is a referral to the Attorney General’s Office to ensure compliance and to seek a monetary penalty. The Illinois EPA generally feels this process has been effective as documented by the high compliance values described subsequently.

During this reporting period, the Illinois EPA sent 56 NCAs and 10 VNs to water systems to address their lack of properly credentialed operational staff<sup>13</sup>. Currently, the overall certification compliance rate is 99.9 percent. The Illinois EPA believes that this high compliance rate can be attributed to the implementation of monthly certification compliance tracking that identifies those facilities in need of a properly certified responsible operator. The success of the program also relies on both internal and external reviews of the CWS Operator Certification Program. In March 2013, the certification data system modifications were completed and released to the public. Drinking water operators can now use the data system (via web site) to review their certification/personal records and enter their own renewal training credit hours at <http://dataservices.epa.illinois.gov/operatorcertification/opcertwelcome.aspx>.



The Illinois EPA meets with the Public Water Supply Operator Certification Advisory Board at least two times per year. For meeting times, minutes and agendas see <http://www.epa.illinois.gov/topics/drinking-water/operator-certification/index>. During these meetings, the Advisory Board reviews renewal/examination statistics, reports from Exam Committee Report, reciprocity data, application/applicant approval process for testing, and training criteria. At these meetings, the Illinois EPA is also provided direction for Operator Certification Program enhancements.

<sup>13</sup> In the previous reporting cycle the U.S. EPA questioned whether the Illinois EPA could begin inputting a type 12 violation to track operator noncompliance concerns. Upon research, this code has very limited application and would not supply the intended information.

The Illinois EPA also meets at least annually with the Examination Committee. This Committee is supported by the Environmental Resources Training Center through contractual agreement with the Illinois EPA. In 2015, new examinations for Class A were released with a great deal of resources devoted to the question database. It is important to note that the Environmental Resources Training Center is also the location of one of the state's leading water and waste water training facilities and has been integral in assisting the Illinois EPA in the development of the certified operator database, use of modernized testing software and development of technical assistance documents.

#### Non-Transient Non-Community Water Supply Operator Certification Program

All major program elements for the NTNC Water Operator Certification Program have been implemented. (As previously described NTNC are PWS serving at least 25 of the same non-residents for 6 months per year.) Currently there are 438 of these systems in Illinois. Over the reporting period, 395 (90.2 percent compliance) of these have properly certified responsible operators. For the 109 NTNC systems that have some type of chlorine disinfection installed, approximately 102 (94 percent) have a certified operator. (Note: The number of systems chlorinating was nearly doubled last year. The Illinois DPH believes that there may be a discrepancy in the data query used in the 2014 report.)

520 NTNC water supply operators are currently trained and certified in Illinois (484 are certified by the Illinois DPH and 36 are certified by the Illinois EPA). Initially, NTNC operators must pass a 12-hour course consisting of eight sections with an exam at the end of the course. Periodically, a review of the course's eight sections is done to evaluate the effectiveness of the training, ensure quality, and compliance with U.S. EPA's guidelines. The eight sections of the course include: 1) workplace safety; 2) source water characteristics; 3) equipment maintenance; 4) sampling requirements and procedures; 5) system disinfection; 6) emergency procedures; 7) administration for water supply operations; and 8) mathematics. Currently, no fewer than two initial courses are held annually allowing systems to maintain operator compliance.

After the initial training, operators must meet training requirements for subsequent certificate renewals. Certification renewals began in the fall of 2005. Illinois DPH phased-in the renewal-training requirement as approximately one-third of the operators renew their expiring certificates each year. All NTNC operators must complete an approved renewal course as a prerequisite for their certificate renewals. Operators who renew are required to submit documentation to the Illinois DPH that they have taken the required training.

Renewal course guidelines were reviewed with several industry-wide water education organizations. After this review was complete, computer based training, meeting renewal-training requirements was chosen as the most effective option available. The Illinois DPH selected the Operator Basics 2005 Program developed by the Montana Water Center in cooperation with U.S. EPA as the renewal course.

In June of each year, operators are sent a letter advising them of their expiring certificates. This letter provides instructions on how to download and complete the course or how to order the CD version from the National Environmental Services Center. As of April 30, 2008, the availability to complete the Operator Basics 2005 Course online was discontinued by the Montana Water

Center. The Illinois DPH acquired a supply of CDs from National Environmental Services Center and, in the letters mailed, informed operators a CD could be obtained directly from the Department. Feedback on the course remains positive.

In August of each year, all NTNC PWS are sent “Operator Summary” letters informing them of the operators registered with Illinois DPH. These letters notify each system of any operators with expiring certificates and the importance of having a properly certified responsible operator. In 2015, 42 new operators were certified and 86 current operators renewed their certifications.

Non-compliant, NTNC water supplies are immediately advised of the serious nature of not having a properly certified responsible operator and options for achieving compliance. Formal enforcement is evaluated for systems that are significantly non-complaint. Enforcement actions are conducted similar to water quality or monitoring violations. A VN is sent and formal enforcement follows if the water system does not take action. Some LHDs are issuing violations for operator compliance, but the Illinois DPH has not been inputting those in SDWIS in the last three years due to resource limitations. Also, the Illinois DPH is not able to query the significant deficiencies in the sanitary surveys. However, the percentage of supplies achieving compliance is currently 90.2 percent and supplies requiring enforcement action has decreased over time.

In the past, U.S. EPA has expressed concern regarding the status of NCPWS that chlorinate. Only seven of these systems (six percent) are out of compliance with operator requirements. The Illinois DPH believes this relatively high compliance rate is due to increased efforts to make contact with these systems. Overall the compliance rate, particularly for chlorinating water systems, is encouraging. The Illinois DPH will continue with the efforts that brought about this increase. The Department continues to consult with the Water Quality Association regarding the content of the initial certification course. Illinois DPH is concerned that the Montana 2005 Basics Course is no longer available for download from the Montana web site. This course has been the Illinois DPH standby for operator recertification. This being the case, the Illinois DPH is getting help from technical providers for class room sessions. Rural Community Assistance Program has agreed in 2016 to provide some class room recertification courses as an option to the Montana Course. Illinois DPH will continue to review other options for recertification opportunities. The number of NTNC PWS on the U.S. EPA ERP non-compliance list is decreasing. This success is, in-part, attributable to the Operator Certification Program providing qualified operators for NCPWS.

Further, the Illinois DPH has instructed ROs and LHDs to increase efforts to contact systems without a certified operator to increase compliance rates. Indications are that this strategy is having success. The final compliance rate for 2015 improved to 90.2 percent.

Procedurally, the Illinois DPH sends an annual letter to each NTNC PWS with the certification status of all operators on file. The dates of new operator classes are also sent to all NTNC PWS prior to each class. In June of each year, a letter goes out to all certified operators that are due for re-certification by the end of the year. Each time these letters are sent out a list of systems in non-compliance is sent to the ROs and LHDs instructing them to contact these water systems. ROs and LHDs are instructed to cite operator non-compliance as a significant deficiency in sanitary surveys. Some LHDs are issuing VNs for operator non-compliance outside of sanitary

surveys. The Illinois DPH Central Office Program staff are closely monitoring any schools that chlorinate and contacting these systems directly if operator non-compliance persists. Currently, 100 percent of the schools that chlorinate have certified operators.

As reported previously, the Illinois DPH continues to place emphasis on the eight TNC PWS that use surface water as their source. The Department will continue providing training to these facilities on a periodic (as needed) basis. Since these systems receive annual sanitary surveys by RO staff, technical assistance opportunities are conducted at least once per year.

The Illinois DPH will take the opportunity to train operators during the development and implementation of the Revised Total Coliform Rule (RTCR). While stakeholder involvement has been limited in 2015, the Department expects that in late 2016 this will increase. To this point, the focus on the RTCR has been in the rulemaking process being covered primarily by Illinois DPH and LHD personnel.

#### Capacity Development Program

A review of SDWIS data indicates that 108 new CWS have been activated since October of 1999 with 66 of these systems activated subsequent to October 2003. As described in the *ILLINOIS ANNUAL REPORT ON THE EFFICACY OF CAPACITY DEVELOPMENT, September 30, 2005*, Illinois' program has been implemented in two parts:

- First, all new public water supplies that became active after October 1, 1999, were required to complete a capacity development demonstration. Illinois adopted regulations to implement this requirement. Failure to meet this deadline would have resulted in a loss of up to 20 percent of the State Revolving Loan Fund monies allocated to Illinois each year.
- Second, Illinois was required to develop a Capacity Development Strategy by September 30, 2000. The purpose of this Strategy is to structure a work plan that Illinois will implement to ensure that existing public water supplies have the capacity to achieve compliance, and continue to operate in compliance with all existing and future drinking water program standards and requirements. Failure to meet this deadline would have resulted in a loss of up to 20 percent of the State Revolving Loan Fund monies allocated to Illinois each year. The Illinois Capacity Development Strategy was approved by U.S. EPA on September 27, 2000.

Over the reporting period, the DPWS initiated a pilot water loss accounting program to assist communities in financial and managerial capacity development. The Illinois Water Loss Accounting Program Steering Committee partnered with Environmental Resources Training Center, Illinois Rural Water Association, and the Illinois Section American Water Works Association to offer water utilities free one-day training workshops on the basics of water loss control auditing. The training workshops were held at more than 55 locations statewide. These training workshops gave utilities the information they need to conduct desktop audits using existing utility-specific records and American Water Works Association's M-36 free online software to get an overall picture of water losses. Over 900 individuals were trained from 383 community water supplies.

The first part of this strategy has proven effective. As documented in Appendix D, none of these new systems have had significant compliance issues even though most would be considered small systems. Arguably, the second portion of this strategy has not been quite as successful as described in the compliance figures in the Background portion of this document.

The Illinois DPH administers the NCPWS Capacity Development Program (see Appendix E, for a summary of new systems and compliance issues). This program is unique because these systems are not in the business of producing water for resale; therefore, the treatment and monitoring of the water system has not traditionally been a routine function of management. The water supply at these facilities is used for drinking, sanitation and, in some cases, manufacturing processes. Demonstrating capacity for these types of NCPWS is, for the most part, a small part of the overall management, budget and operating plan for a specific PWS. Illinois DPH uses existing field survey and visit opportunities to identify NCPWS which need or may benefit from capacity development assistance. However, Illinois DPH approaches the water supply compliance issues from a somewhat unique perspective of a side benefit activity rather than a primary activity, and must work within the framework of the entire operation to best assist the supply in developing capacity. Central office staff coordinates the dissemination of information and education of NCPWS personnel for all new or amended regulations and requirements. When capacity assistance is needed on-site, central office staff accompanies field staff or LHD staff to provide training or technical assistance.

The Illinois EPA and DPH would like to make special note of the leadership shown by Illinois associations, education institutions and operator groups in the development of Financial, Managerial and Technical Capacity. The Illinois EPA especially thanks the Illinois Rural Water Association for their partnership. The Illinois Rural Water Association routinely meets with the Illinois EPA to discuss emerging education needs in all three areas of capacity development. Additionally, the Illinois EPA is appreciative of the efforts of the Illinois Section of the American Water Works Association and the Illinois Potable Water Supply Operator's Association. All three Associations, as well as local operator groups, routinely invite Illinois EPA staff to speak at their conferences (four separate multi-day annual conferences between the three Statewide Associations). These collaborations are highly effective in educating water supply officials. Over the reporting period, technical assistance has focused on revision to the Total Coliform Rule, revisions to operator regulations, revisions to state regulations (including, but not limited to Permit Regulations), *legionella* and micro-biological control, lead in drinking water, water loss accounting, as well as a myriad of other regulatory concerns. Finally, the Illinois EPA expresses thanks to the efforts of the Southern Illinois University-Edwardsville's Environmental Resources Training Center. The Environmental Resources Training Center is unique to Illinois and their collaboration on the Operator Certification Program, including their hands-on operator training program and assistance in operator test preparation, is invaluable to the citizens of Illinois.

The following documentation provides the reporting criteria for the annual State Capacity Development Program Implementation Report as required by U.S. EPA through guidance from Cynthia Dougherty in her June 1, 2005, Memorandum. The Illinois EPA and Illinois DPH anticipate this information fulfills the annual reporting requirements for Illinois' approved strategy.

***New Systems Program Annual Reporting Criteria -***

- There have been no modifications to Illinois’ legal authority to implement New System Programs.<sup>14</sup>
- There have not been any modifications to Illinois’ control points.<sup>15</sup>
- The following data summarizes the Annual new system data for the Capacity Development Program.<sup>16</sup>

| <b>Annual Report on New Systems Capacity Development Program<br/>January 1, 2015 – December 31, 2015</b>  |   |
|---|---|
| <b>Method(s) used to evaluate and verify program implementation</b>   | <b>Construction and Operating Permits</b> |
| Number of proposed new CWS  | 3   |
| Number of proposed new Non-Transient Non-Community Water Supplies (NTNC PWS)  | 4   |
| Number of approved new CWS  | 6   |
| Number of approved new NTNC PWS   | 4   |
| Number of new CWS (commenced operation after October 1, 1999)   | 108                                       |
| Number of new CWS (commenced operation after October 1, 2003)   | 66 <sup>17</sup>                          |
| Number of new CWS activated since October 1, 2003 considered to be in “significant non-compliance <sup>18</sup> ”   | 0   |
| Number of new NTNC PWS (commenced operation after October 1, 1999)  | 169                                       |
| Number of new NTNC PWS (commenced operation after January 1, 2004)  | 129 <sup>19</sup>                         |
| Number of new NTNC PWS activated since January 1, 2004 considered to in “significant non-compliance”  | 0   |
| Number of new CWS that are not in compliance,<br>Reason for non-compliance:   | 0   |
| Number of new NTNC PWS that are not in compliance,<br><i>(These are mostly Phase II/V and Lead and Copper Rule (LCR) monitoring violations. Owner/Operators are generally new to the Drinking Water Regulations and have difficulty keeping up with the testing schedule and their other job duties.)</i> | 26  |

<sup>14</sup> See *ILLINOIS ANNUAL REPORT ON THE EFFICACY OF CAPACITY DEVELOPMENT*, September 30, 2005 at: <http://www.epa.state.il.us/water/field-ops/drinking-water/capacity-development/index.html>. U.S. EPA believes this information will help identify whether States have maintained the necessary authority to implement the new systems program.

<sup>15</sup> See *ILLINOIS ANNUAL REPORT ON THE EFFICACY OF CAPACITY DEVELOPMENT*, September 30, 2005. Each State's New Systems Program identified a set of Control Points, which is an integrated feature of a State's program. A control point identifies a place where the Primacy Agency (or other unit of government) can exercise its authority to ensure the demonstration of new system capacity. States should provide a discussion or a list that explains the modification(s) of control points for new systems, followed by an explanation of how and why the modification(s) have been identified. The explanation should include how the modification(s) is projected to affect the new systems program.

<sup>16</sup> U.S. EPA believes that compilation of compliance data is intended to identify whether there are noncompliance patterns during the first three years of a new system's operation.

<sup>17</sup> U.S. EPA has requested the list provided in Appendix D to this Report.

<sup>18</sup> For the purpose of this report significant noncompliance corresponds to an Enforcement Tracking Tool score greater than or equal to 11.

<sup>19</sup> U.S. EPA has requested the list provided in Appendix E to this Report.

### ***Existing System Strategy -***

- There have been no modifications to Illinois' existing systems strategy. Both the Illinois EPA and the Illinois DPH utilized existing programs, tools and activities as described in the *ILLINOIS ANNUAL REPORT ON THE EFFICACY OF CAPACITY DEVELOPMENT, September 30, 2005*.
- Illinois has continued to identify systems in need of technical, financial and managerial capacity development, as described in the *ILLINOIS ANNUAL REPORT ON THE EFFICACY OF CAPACITY DEVELOPMENT, September 30, 2005*, and its Attachments 3 and 4.
- During the reporting period, no statewide PWS capacity concerns or capacity development needs were identified. Over the reporting period, Illinois EPA conducted over 650 Engineering Evaluations (Sanitary Surveys) at CWS and Illinois DPH conducted approximately 213 sanitary surveys at NTNC PWS. Public water system capacity concerns were evaluated during each of these evaluations. The Illinois EPA and DPH find that each system has to be handled on an individual basis and no common trends not previously noted were identified.
- During the reporting period, no revisions or modifications to the implementation strategy for existing system strategy were made.
- The Illinois EPA will continue the current capacity outreach process in Illinois. Generally, groups like the Illinois Rural Water Association, Illinois Section of the American Water Works Association, Illinois Potable Water Supply Operators Association and local operator associations request technical assistance from the Illinois EPA. These requests come in throughout the year and generally focus on areas of concern as they arise or are perceived by the particular interest group. For the Illinois EPA to track this level of detail, we would need to institute a separate tracking system with no purpose other than reporting. At this time, the Illinois EPA-DPWS does not have the resources to institute such a process and is not convinced that doing so would be in the best interest of the State.
- While the Illinois EPA will continue to evaluate the use of various programs to assist CWS in developing capacity, the Agency will continue to work with the training providers mentioned in the previous bullet on these programs, including the Check Up Program for Small Systems. In the future, Illinois training providers may modify the Check Up Program for Small Systems to accommodate the very small systems that struggle most to achieve compliance.
- The Illinois EPA and the Public Water Supply Operator Advisory Board remain concerned that the technical capacity of water systems will be affected by staff attrition resulting from the aging workforce in Illinois. In light of this impending issue, the Illinois EPA has devoted a large resource investment in working with the Board. This effort has resulted in the statutory changes described in the Operator Certification Program description within this chapter.
- In previous program reviews, U.S. EPA has noted that Illinois' Capacity Development Program would benefit from an enhancement to address these financial and managerial capacity issues such as promoting more realistic user rates and budget planning for current and long term needs. While the Illinois EPA agrees with this conceptually, it can be difficult influencing water supplies with respect to financial capacity. Further, very few water systems are subject to statutory rate setting in Illinois (only privately owned

utilities are subject to the Illinois Commerce Commission). Therefore, other than encouraging water systems to act progressively, the Illinois EPA has no authority to require actions beyond our current program.

### Cross-Connection Control Program

The DPWS evaluates community water supply cross-connection control programs during routine engineering evaluations of each system. A viable program consists of an ordinance, an ongoing survey of the distribution system service connections, identification of at risk service connections, mitigation of recognized risks via a plumber/CCCDI, and documentation. To verify the effectiveness of each water system's Cross-Connection Control Program the DPWS FOS normally evaluates the following questions:

- 1) Does the system have a Cross-Connection Control Ordinance?
- 2) Does the system survey the service connections on its distribution system and at what frequency?
- 3) Does the system receive reduced pressure backflow preventer annual test reports?
- 4) Does the system have an adequate tracking procedure whereby test reports and high risk service connections are tracked?
- 5) Does the system ensure that devices within its water treatment facility are properly tested on an annual basis?
- 6) Are there any locations within the water treatment facility that should have backflow protection that do not?

In terms of corrective action, if a system does not have an ordinance, has no information on file relative to a survey of its distribution system, cannot produce reports on reduced pressure backflow devices, or cannot show that devices within its facility have been tested annually, it is safe to say that the system does not have an active and effective program. These situations are normally cited in either a NCA letter or a VN to the water supply as violation(s) of 35 Ill. Adm. Code 607.104(a) and (b). While the Illinois EPA does not track VNs to the level of specificity needed to quantitatively evaluate CWS compliance with this requirement, the Agency can say that compliance has increase dramatically over the past decade and the program is reaching a level of maturity where almost 100 percent of CWS have ordinances and evaluate high risk activities. The bulk of the noncompliance occurs in tracking routine surveillance of the distribution system. The Illinois EPA believes that these activities are even seeing great improvements.

### Source Water Protection Program

To highlight the need for frequent source water protection efforts, U.S. EPA has recognized the importance of an ongoing program to protect ground and surface water sources of PWS subject to the regulatory requirements of the SDWA. As such, two national environmental

During 2015, the Illinois EPA expanded the Ambient Lake Monitoring Program to include a subset of PWS intakes to be monitored for Harmful Algal Blooms (HAB). Twelve public water supplies were selected for the expanded HAB monitoring program. Illinois EPA biologists collected one HAB sample during the months of June, July, August and October 2015 at each of the selected PWS intakes. Samples collected as part of the HAB monitoring program were sent to the Illinois EPA Division of Laboratories for analysis of total microcystins by "Enzyme-Linked Immunosorbent Assay" testing methodology. A review of these monitoring results indicates that low levels of total microcystins were detected in most of the reservoirs monitored.

output measures<sup>20</sup> have been established to assist in measuring the effectiveness of state source water protection programs. With assistance of national stakeholder groups, U.S. EPA has established that over the next two-year reporting cycle (Calendar Years 2014 and 2015) state primary enforcement programs should minimize risk to public health through source water protection for 50 percent of CWS (i.e. “minimized risk” achieved by substantial implementation, as determined by the State, of actions in a source water protection strategy). Additionally, risk to public health should be minimized through source water protection for 42 percent of the population served by CWS (i.e. “minimized risk” achieved by substantial implementation, as determined by the state, of actions in a source water protection strategy). For the calendar year 2015, 48.7 percent (851 of 1,744) of CWS have minimized risks to public health through substantial implementation of source water protection programs. Additionally, 71.0 percent (8,581,092 of 12,093,167) of the population served by community water systems have source water that has been substantially protected by their respective water systems.

Further, the IGPA responds to groundwater management by emphasizing a prevention-oriented process that relies upon state and local partnerships. The IGPA establishes a unified groundwater protection policy by: establishing groundwater quality standards; requiring technology control regulations; establishing a groundwater education program; establishing water well protection zones; providing for surveys, mapping, and assessments; monitoring ambient groundwater quality; establishing a regional groundwater protection-planning program; and establishing authority for recharge area protection.

Every two years, ambient groundwater monitoring is reported as part of the Integrated Water Quality Report submitted to U.S. EPA under Section 305(b) of the Clean Water Act. The 2016 Report was just prepared for submission to U.S. EPA and is available at: <http://www.epa.illinois.gov/Assets/iepa/water-quality/watershed-management/tmdls/2016/303-d-list/iwq-report-ground-water.pdf>

Additionally, the IGPA established the ICCG in 1988, which is comprised of various state agencies<sup>21</sup> and is chaired by the Director of Illinois EPA. The ICCG considers diverse stakeholder input from the GAC and the four priority regional groundwater protection planning committees in developing and implementing groundwater protection policies and programs. The GAC, also established by the IGPA, is comprised of nine members appointed by the Governor to represent various stakeholders and interest groups.<sup>22</sup>

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<sup>20</sup> Strategic Goal 2: Protecting America’s Waters, Strategic Objective 2.1.1: Water Safe to Drink, Grant Code SDW-SP4a and SDW-SP4b.

<sup>21</sup> The ICCG is made up of the Environmental Protection Agency (Chair); Department of Natural Resources-Office of Water Resources and Office of Mines and Minerals; Department of Public Health; Office of the State Fire Marshal; Department of Agriculture; Emergency Management Agency, Division of Nuclear Safety; Department of Commerce and Economic Opportunity.

<sup>22</sup> The GAC is made up of two representatives from industrial/commercial interests; two representatives from environmental interests; one regional planning agency representative; one representative from agricultural interests; one public water supply representative; one water well drilling industry representative; and one local/county government representative.

A total of four joint ICCG/GAC meetings were held during the 2015 reporting period. These meetings included discussions on the review and development of recommendations pertaining to draft rules for coal combustion waste surface impoundments at power generating facilities; draft Closed-Loop Heat Pump Well rules with the Illinois DPH; and updates on regional water supply planning efforts with the Department of Natural Resources. (See Appendix F and G for a list of publications since the last reporting period.)

Permitting Program

The following table summarizes the DPWS permit activity for Calendar Year 2015. It is noteworthy that all permits were issued well within statutory deadlines.

| <b>Permits Issued by Illinois EPA's Division of Public Water Supplies for CWS</b> |                  |                                |                               |                           |                |                                 |
|---|------------------|--------------------------------|-------------------------------|---------------------------|----------------|---------------------------------|
| <b>Permit Types</b>   | <b>Deadlines</b> | <b>Public Hearing Required</b> | <b>Public Notice Required</b> | <b>Calendar Year 2015</b> |                |                                 |
|   |                  |                                |                               | Applications Received     | Permits Issued | Approx. Turn-around time (days) |
| Construction permits  | 45/90 Days       | No                             | No                            | 1259                      | 1218           | 25                              |
| Operating permits   | 90 Days          | No                             | No                            | 1088                      | 1109           | 11                              |
| Emergency permits   | n/a              | No                             | No                            | 31                        | 29             | 11                              |
| As-built approvals  | none             | No                             | No                            | 26                        | 20             | 35                              |
| Aquatic Pesticide/<br>Algaecide   | 90 Days          | No                             | No                            | 25                        | 24             | 10                              |

The PS has also taken the following actions in response to the need for enhanced health protection from lead in drinking water:

- The PS now requires three, six-month rounds of initial lead and copper monitoring following an operating permit that involves a change in source or significant change in treatment. This is an increase above the current requirement of two rounds.
- The PS began placing a special condition on all water main replacement permits that require notice to each service connection regarding precautions that can be taken to minimize the effects of “disturbances” to water consumers.

## FUTURE DIRECTION FOR CALENDAR YEAR 2016

### **Illinois Environmental Protection Agency**

#### Division of Public Water Supplies (DPWS) Manager's Initiatives

The DPWS has initiated a comprehensive review of current regulations promulgated by the IPCB and JCAR. This process has led to additional revisions of administrative regulations governing the operator certification regulations. Further, the DPWS is hopeful that, with the support of the Illinois EPA's Division of Legal Counsel, a regulatory proposal will be submitted to IPCB in the fall of 2016 regarding Community Water Supply Design, Operation and Maintenance Standards.

The DPWS will continue to support and review legislative proposals to enhance drinking water protection in Illinois. In 2016, the Illinois Legislature has focused on the issue of lead in drinking water in response to the crisis in Flint, Michigan.

Additionally, the DPWS will continue to support statutorily established committees, councils and boards. These include, but are not limited to the ICCG, the GAC, four Regional Groundwater Protection Committees and the PWS Operator's Advisory Board.

During 2016, the Illinois EPA will continue to implement the expanded HAB monitoring effort. Additional reservoirs used as PWS sources will be assessed by the Ambient Lake Monitoring Program.

#### Field Operations Section

FOS helps achieve the DPWS key outcome measure of *percent population served with good quality drinking water from CWS*, in addition to the output measure of *conduct engineering evaluations every 3 years at CWS*. Attrition and budget constraints have resulted in three staff vacancies. These vacancies include the Section Manager and two regional office engineers.

**2016 Objectives:** The FOS will also work to maintain current inspection goals and provide emergency and technical assistance to CWS as necessary. Additionally, FOS will continue to support other BOW and DPWS programs including, but not limited to the Operator Certification, Capacity Development and Cross-Connection Control Programs.

As part of routine engineering evaluations/sanitary surveys of water systems, field engineers will begin initiating a process to verify that the water quality parameter ranges are being met on a daily basis. The Illinois EPA recognizes that water treatment operation is just as important as design when it comes to maintaining water quality. Additionally, inspectors will begin evaluating water service line materials inventories in preparation for revisions to the Lead and Copper Rule and advise by U.S. EPA.

#### Compliance Assurance Section

The CAS helps achieve the Division's key outcome measure of *percent population served with good quality drinking water from CWS* and *percent of CWS serving good quality drinking water*. The CAS has necessarily used a strategic planning approach for implementation of programs for the past 10 years. This process includes cross-training of all staff for rule

implementation and programmatic corrective actions. Currently, CAS is down three staff (two vacancies and one individual on loan to the wastewater Operator Certification Program). Additionally, the CAS has assisted the Division Manager since the Cross-Connection Control and Capacity Development Program Coordinator vacancy has existed for an extended time. This has essentially created a fourth vacancy in the CAS program area.

**2016 Objectives:** The CAS will continue integration of the Operator Certification, Capacity Development and Cross-Connection Control Programs into base activities to optimize staff resources. Additionally, CAS is in the process of working with IT staff on several data systems including the operator certification data system, updating a web service to track operator certification status, the transition of the existing state and federal SDWIS to SDWIS Prime (supported by the “cloud”) and local data systems.

In response to the concern for lead in drinking water the CAS is evaluating processes to:

- Follow up with water supplies on all individual user results above 15 ug/L and encourage either lead service line replacement, replacement of premise plumbing that contains lead, or improved corrosion control treatment at the water treatment plant.
- Explore financing opportunities to encourage lead service line replacement including, but not limited to, replacement of lead service as an eligible expense under the drinking water revolving loan fund.

#### Permit Section

The PS continues to assist the Division in achieving the key outcome measure of *percent population served with good quality drinking water from CWS*. The PS currently has two staff vacancies that are high priority backfills. The two positions include licensed professional engineers needed to lead the Section. Because of the current economic downturn, modernization of the Permit Database and streamlining strategies, the PS has been able to meet current work-loads. However, as the economy recovers, work-loads are expected to outpace staff resources.

**2016 Objectives:** The PS will continue to evaluate the business processes to further streamline and automate certain functions to maintain current work activities to issue construction and operating permits. Furthermore, they will continue to support other BOW and DPWS programs including, but not limited to the Operator Certification, Capacity Development and Cross-Connection Control Programs.

In response to the concern for lead in drinking water the PS is evaluating processes to:

- Initiate a review of corrosion control treatment practices at water systems with highest vulnerability to lead corrosion and with greatest populations served.
- A Schedule D form will be developed for any construction permit involving a change in source or treatment. This form is under development; however, training is needed to review and analyze information sent in to Agency.
- Audit of lead sampling design (Tier I sites): The Illinois EPA intends to begin a process to audit sites as resources allow. The Agency is currently considering use of Geographical Information System technology to aid in this process.

## Groundwater Section

As with the FOS and PS, the GWS assists the Division in achieving the key outcome measure of *percent population served with good quality drinking water from CWS*, in addition to the output measures associated with *enhancing source water protection programs at CWS*. The GWS continues to use the strategic planning approach for implementation of various program activities. These strategic plans are developed with input from the ICCG, GAC, and priority groundwater protection planning committees. Starting with the *Illinois Groundwater Protection Act Biennial Report* published 1998, the DPWS began setting objectives and implementing tactical plans based on a self-assessment of metrics.

**2016 Objectives:** The GWS will continue the measured outcome metric of *good quality groundwater*, from previous planning cycles. Further the Section will continue groundwater monitoring efforts in 2016 with emphasis on assessment of nitrate contamination in groundwater. The GWS will also continue support of BOW programs including, but not limited to the Mine Pollution Control Program and Water Pollution Control Permit Program.

The following groundwater protection efforts are recommended for the next two years (2016 and 2017) based on the results of the self-assessment and environmental indicators. In some tasks, the priority may be shifted due to funding constraints.

### Interagency Coordinating Committee on Groundwater Operations

- Continue to review and update the Implementation Plan and Regulatory Agenda.
- Continue to assist the Groundwater Advisory Council in the review and development of recommendations pertaining to groundwater quality and quantity issues.
- Continue the policy discussion concerning the integration of wellhead protection areas with Tiered Approach for Corrective Action Objectives.
- Continue geothermal and closed loop well regulation.
- Continue investigation into the ability of Illinois Department of Public Health to track and register groundwater monitoring wells.
- Continue coordinating on regional groundwater quantity planning and climate resiliency.

### Groundwater Advisory Council Operations

- Conduct policy-related meetings in order to review and make recommendations regarding groundwater issues and policies.
- Provide input to programs, plans, regulatory proposals, and reports, as appropriate.

### Education Program for Groundwater Protection

- Conduct source water protection workshops.
- Integrate groundwater education efforts (including geothermal and closed loop wells) into other state environmental planning and protection programs.

### Groundwater Evaluation Program

- Continue to conduct basic and applied groundwater research programs that allow decisions to be made on sound scientific principles.
- Continue to update source water assessment fact sheets with information from Right-to-Know, Groundwater Rule evaluations, and field inspections.

- Continue ambient groundwater monitoring programs at Illinois EPA and Illinois Department of Agriculture pursuant to the Act, IGPA and State Pesticide Management Plan, respectively.
- Assess nitrates in groundwater in relation to Illinois Nutrient Loss Reduction Strategy.

#### Groundwater Enforcement Cases

- Provide expertise in groundwater water related enforcement cases.

#### Right-to-Know Initiatives

- Continue efforts of providing notification for potable resource groundwater users threatened by groundwater contamination.
- Continue efforts of implementing the carcinogenic Volatile Organic Compound Maximum Contaminant Level prevention law.
- Continue efforts of providing notification for potable resource groundwater users threatened by groundwater contamination.

#### Groundwater Quality Regulations

- Continue with proposed changes to the groundwater quality standards and continue efforts of protecting future beneficial uses of drinking water.

#### Coal Ash Regulations

- Provide amendments to 35 Ill. Adm. Code 841.

#### Wellhead Protection Program

- Continue to amend rules to require the development of source water protection planning.
- Continue to integrate groundwater into watershed plans.

#### Regional Groundwater Protection Planning Program

- Continue to assist and advocate local groundwater protection, education, and marketing.

#### Groundwater Technical Review of Bureau of Water Permits

- Provide input on protective design and appropriate groundwater monitoring systems.

#### Groundwater Management Zones - Bureau of Water Permits

- Review and approve corrective action and closure under a GMZ.

#### Non-Community and Private Well Program

- Continue to implement the Wellhead Protection Program and assist with implementing the technology control and groundwater quality standards regulations.
- Continue the source water assessments for new non-community public water supplies.
- Continue GIS coverage for all new non-community public water supplies.
- Continue certification training of non-transient non-community public water supply operators.
- Continue to inspect and perform laboratory analyses on water samples collected from non-community public water supplies.
- Continue to issue permits for the construction, modification or extension of existing non-community public water supplies.
- Continue the issuance of permits for all types of water wells with the exception of community water supply wells.

- Continue to update the Illinois Water Well and Pump Installation Codes to reflect new technology, industry, and public health standards.
- Continue supporting education training sessions for licensed water well and pump installation contractors.
- Continue the certification and registration of closed loop well contractors.
- Continue the permitting and inspection of the construction of close loop well systems.
- Continue supporting education training sessions for licensed water well and pump installation contractors.
- Continue to conduct training sessions pertaining to both the non-community public water supply and private-water program for local health department and Illinois Department of Public Health water program staff.
- Continue implementation of Public Notification for Private Water Supply Potential Contamination.
- Continue implementation of the Safe Drinking Water Information System database for compliance monitoring of non-community public water supplies.

#### Administrative Support Unit

The role of this small unit cannot be underestimated. The group assists all aspects of the Division. Through attrition, the Division is down to two full time staff. At this time, the Division is unsure how this functionality will continue.

**2016 Objectives:** The DPWS will have to develop a continuity of operation plan to address what may be a large shortage of administrative support in 2016 and beyond.

## Illinois Department of Public Health

### Illinois DPH

The Illinois DPH continues to administer the NCPWS Program, protecting public health of the 496,345 population served by NCPWS. The Illinois DPH is performing this work despite some very challenging resource limitations as detailed below.

Currently, Illinois DPH has only two full time employees doing program work in the Central Office. These employees do Plan Review, Federal Reporting, Compliance Assurance for all Non-Transient Systems with IOCs, VOCs, SOCs, Lead and Copper Rule, Arsenic, Disinfection/Disinfection Byproducts Rule and Surface Water Rule (T and NT). Additional duties include SDWIS administration including data migration and compliance decision support checks. These two positions further provide training of local health department staff, adopt new rules and develop program policies.

### **2016 Objectives:**

Resources: Two vacancies exist in the NCPWS Program. Efforts will be made to fill these vacancies as Division of Environmental Health priorities and funding opportunities allow. The Program cannot be properly administered long-term without filling these vacancies. This would constitute a fully staffed program under current established positions.

Reporting of Coliform and Nitrate Violations: As noted in on-going discussions with U.S. EPA, reporting of coliform and nitrate violations fell off in 2012 and 2013 due to loss of a staff position. However, some gains were made in 2014 and 2015 with the help of some contractor support and re-prioritization of duties. Efforts to restore contractor help were successful for 2016. Illinois DPH will make every effort to run Total Coliform Rule and Nitrate compliance determination in SDWIS/State. It should be noted Illinois DPH ROs and LHDs are monitoring for compliance and protecting public health when MCLs are exceeded. Central office program staff currently have not had the resources to run the compliance determination through SDWIS/State to verify the work performed in the field and completely report all violations, particularly all monitoring violations.

Revised Total Coliform Rule Adoption: The Illinois DPH is adopting an alternative RTCR for NCPWS in 77 Ill. Admin. Code Part 900 of the Public Health Rules. Illinois DPH is working closely with U.S. EPA Region V program staff on this proposed rule. This rule is more stringent than the federal rule and makes more efficient use of State and LHD resources. Along with rule adoption, program policies and reporting forms will be revised and updated to provide more consistency in the NCPWS Program. Illinois DPH has made changes to the draft rule requested by Region V and has submitted Special Primacy Requirements to Region V as requested via letter dated February 19, 2016. Illinois DPH awaits approval of these Special Primacy Requirements to begin the formal rule-making process to adopt the alternative RTCR for NCPWS. As of April 1, 2016 Illinois NCPWS are subject to the federal RTCR as adopted in 35 Ill. Admin. Code Part 611 of the Illinois Pollution Control Board Rules until the Part 900 rules are adopted.

**2016 Objectives:** (Cont'd)

Lead and Copper Rule: The Illinois DPH conducts a thorough review of sample results at NTNC PWS with special emphasis on schools and daycares. The Illinois DPH has reviewed and revised sample site selection criteria and sampling protocol. These revised guides were disseminated in April 2016 to private laboratories that provide sample kits for lead and copper testing. These documents were revised based on the recent sampling protocol recommendations from U.S. EPA and ensure sample site locations represent the highest level of health protection based on the criteria of human consumption and “worst case” risk for lead leaching. Illinois DPH will include these documents in a quarterly sample schedule letter that is sent to all NTNC PWS in June 2016 and is requesting that all systems re-submit a sample site plan prior to their next Lead/Copper sampling event.

**Appendix A**  
*Illinois EPA Annual Compliance Report*  
*Calendar Year 2015*  
*SDWA Contaminant Listing*

| <b>Contaminant Code</b> | <b>Contaminant</b>              | <b>Rule Family</b> | <b>Violation Category</b>            | <b># of Violations</b> | <b># of Resolved Violations</b> | <b># of CWS in Violation</b> |
|-------------------------|---------------------------------|--------------------|--------------------------------------|------------------------|---------------------------------|------------------------------|
| 3014                    | E. COLI                         | GWR                | Monitoring and Reporting             | 2                      | 1                               | 2                            |
| 1005                    | Arsenic                         | IOC                | Maximum Contaminant Level Violation  | 20                     | 4                               | 6                            |
| 1040                    | Nitrate                         | IOC                | Maximum Contaminant Level Violation  | 5                      | 2                               | 3                            |
| 1041                    | Nitrite                         | IOC                | Maximum Contaminant Level Violation  | 1                      | 1                               | 1                            |
| 5000                    | Lead and Copper Rule            | LCR                | Monitoring and Reporting             | 15                     | 10                              | 13                           |
| 5000                    | Lead and Copper Rule            | LCR                | Treatment Technique Violation        | 7                      | 4                               | 5                            |
| 4000                    | Gross Alpha, Excl. Radon and U  | Rads               | Maximum Contaminant Level Violation  | 3                      | 0                               | 1                            |
| 4010                    | Combined Radium (-226 and -228) | Rads               | Maximum Contaminant Level Violation  | 26                     | 5                               | 9                            |
| 4010                    | Combined Radium (-226 and -228) | Rads               | Monitoring and Reporting             | 5                      | 2                               | 5                            |
| 0999                    | Chlorine                        | St2 DBP            | Monitoring and Reporting             | 33                     | 30                              | 31                           |
| 0999                    | Chlorine                        | St2 DBP            | Maximum Disinfectant Level Violation | 1                      | 1                               | 1                            |
| 1006                    | Chloramine                      | St2 DBP            | Monitoring and Reporting             | 10                     | 8                               | 9                            |

| Contaminant Code | Contaminant                   | Rule Family | Violation Category                  | # of Violations | # of Resolved Violations | # of CWS in Violation |
|------------------|-------------------------------|-------------|-------------------------------------|-----------------|--------------------------|-----------------------|
| 2456             | Total Haloacetic Acids (HAA5) | St2 DBP     | Maximum Contaminant Level Violation | 10              | 4                        | 7                     |
| 2456             | Total Haloacetic Acids (HAA5) | St2 DBP     | Monitoring and Reporting            | 2               | 1                        | 2                     |
| 2950             | TTHM                          | St2 DBP     | Maximum Contaminant Level Violation | 13              | 9                        | 7                     |
| 2950             | TTHM                          | St2 DBP     | Monitoring and Reporting            | 2               | 1                        | 2                     |
| 0300             | IESWTR                        | SWTRules    | Treatment Technique Violation       | 16              | 16                       | 4                     |
| 3100             | Coliform (TCR)                | TCR         | Maximum Contaminant Level Violation | 30              | 24                       | 22                    |
| 3100             | Coliform (TCR)                | TCR         | Monitoring and Reporting            | 42              | 36                       | 36                    |
| 7500             | Public Notice (PN)            | PN          | Consumer Awareness                  | 47              | 18                       | 28                    |
| 7000             | Consumer Confidence Report    | CCR         | Consumer Awareness                  | 88              | 70                       | 84                    |
| 2946             | Ethylene Dibromide            | SOC         | Monitoring and Reporting            | 1               | 1                        | 1                     |
| 2955             | Xylenes, Total                | VOC         | Monitoring and Reporting            | 6               | 4                        | 6                     |
| 2979             | trans-1,2-Dichloroethylene    | VOC         | Monitoring and Reporting            | 1               | 0                        | 1                     |
| 2976             | Vinyl chloride                | VOC         | Monitoring and Reporting            | 1               | 0                        | 1                     |

*Illinois DPH Annual Compliance Report  
Calendar Year 2015  
Summary NCPWS*

| <b>Volatile Organic Chemicals (VOCs)</b> |                                      |                       |                            |                                |                                   |                            |                                |                                   |
|--|--------------------------------------|-----------------------|----------------------------|--------------------------------|-----------------------------------|----------------------------|--------------------------------|-----------------------------------|
| <b>Code</b>                              | <b>Name</b>                          | <b>MCL<br/>(mg/l)</b> | <b>MCLs</b>                |                                |                                   | <b>Monitoring</b>          |                                |                                   |
|  |                                      |                       | <b># of<br/>Violations</b> | <b># of RTC<br/>Violations</b> | <b># of PWSs<br/>In Violation</b> | <b># of<br/>Violations</b> | <b># of RTC<br/>Violations</b> | <b># of PWSs<br/>In Violation</b> |
| 2977                                     | 1,1-Dichloroethylene                 | 0.007                 | 0                          | 0                              | 0                                 | 61                         | 14                             | 37                                |
| 2981                                     | 1,1,1-Trichloroethane                | 0.2                   | 0                          | 0                              | 0                                 | 61                         | 14                             | 37                                |
| 2985                                     | 1,1,2-Trichloroethane                | 0.005                 | 0                          | 0                              | 0                                 | 61                         | 14                             | 37                                |
| 2980                                     | 1,2-Dichloroethane                   | 0.005                 | 0                          | 0                              | 0                                 | 61                         | 14                             | 37                                |
| 2983                                     | 1,2-Dichloropropane                  | 0.005                 | 0                          | 0                              | 0                                 | 61                         | 14                             | 37                                |
| 2378                                     | 1,2,4-Trichlorobenzene               | 0.07                  | 0                          | 0                              | 0                                 | 61                         | 14                             | 37                                |
| 2990                                     | Benzene                              | 0.005                 | 0                          | 0                              | 0                                 | 61                         | 14                             | 37                                |
| 2982                                     | Carbon Tetrachloride                 | 0.005                 | 0                          | 0                              | 0                                 | 61                         | 14                             | 37                                |
| 2380                                     | Cis-1,2-Dichloroethylene             | 0.07                  | 0                          | 0                              | 0                                 | 61                         | 14                             | 37                                |
| 2964                                     | Dichloromethane (Methylene Chloride) | 0.005                 | 0                          | 0                              | 0                                 | 61                         | 14                             | 37                                |
| 2992                                     | Ethylbenzene                         | 0.7                   | 0                          | 0                              | 0                                 | 61                         | 14                             | 37                                |
| 2989                                     | Monochlorobenzene (Chlorobenzene)    | 0.1                   | 0                          | 0                              | 0                                 | 61                         | 14                             | 37                                |
| 2968                                     | o-Dichlorobenzene                    | 0.6                   | 0                          | 0                              | 0                                 | 61                         | 14                             | 37                                |
| 2969                                     | p-Dichlorobenzene                    | 0.075                 | 0                          | 0                              | 0                                 | 61                         | 14                             | 37                                |
| 2996                                     | Styrene                              | 0.1                   | 0                          | 0                              | 0                                 | 61                         | 14                             | 37                                |
| 2987                                     | Tetrachloroethylene                  | 0.005                 | 0                          | 0                              | 0                                 | 61                         | 14                             | 37                                |
| 2991                                     | Toluene                              | 1                     | 0                          | 0                              | 0                                 | 61                         | 14                             | 37                                |
| 2979                                     | Trans-1,2-Dichloroethylene           | 0.1                   | 0                          | 0                              | 0                                 | 61                         | 14                             | 37                                |
| 2984                                     | Trichloroethylene                    | 0.005                 | 0                          | 0                              | 1                                 | 61                         | 14                             | 37                                |
| 2955                                     | Xylenes, Total                       | 10                    | 0                          | 0                              | 0                                 | 61                         | 14                             | 37                                |
| 2976                                     | Vinyl Chloride                       | 0.002                 | 4                          | 0                              | 1                                 | 61                         | 14                             | 37                                |
| <b>VOC Totals</b>                        |                                      |                       | <b>4</b>                   | <b>0</b>                       | <b>1</b>                          | <b>1,281</b>               | <b>294</b>                     | <b>37</b>                         |

| Synthetic Organic Chemicals (SOCs) |                                    |               |                    |                        |                           |                    |                        |                              |
|------------------------------------|------------------------------------|---------------|--------------------|------------------------|---------------------------|--------------------|------------------------|------------------------------|
| Code                               | Name                               | MCL<br>(mg/l) | MCLs               |                        |                           | Monitoring         |                        |                              |
|                                    |                                    |               | # of<br>Violations | # of RTC<br>Violations | # of PWSs<br>In Violation | # of<br>Violations | # of RTC<br>Violations | # of PWSs<br>In<br>Violation |
| 2931                               | 1,2 Dibromo-3-Chloropropane (DBCP) | 0.0002        | 0                  | 0                      | 0                         | 41                 | 12                     | 19                           |
| 2105                               | 2,4-D                              | 0.07          | 0                  | 0                      | 0                         | 42                 | 13                     | 19                           |
| 2063                               | 2,3,7,8-TCDD (Dioxin)              | 3x10-8        | -                  | -                      | -                         | -                  | -                      | -                            |
| 2110                               | 2,4,5-TP (Silvex)                  | 0.05          | 0                  | 0                      | 0                         | 41                 | 12                     | 19                           |
| 2051                               | Alachlor (Lasso)                   | 0.002         | 0                  | 0                      | 0                         | 41                 | 12                     | 19                           |
| 2047                               | Aldicarb                           | NA            | -                  | -                      | -                         | -                  | -                      | -                            |
| 2044                               | Aldicarb Sulfone                   | NA            | -                  | -                      | -                         | -                  | -                      | -                            |
| 2043                               | Aldicarb Sulfoxide                 | NA            | -                  | -                      | -                         | -                  | -                      | -                            |
| 2050                               | Atrazine                           | 0.003         | 0                  | 0                      | 0                         | 41                 | 12                     | 19                           |
| 2306                               | Benzo (A) Pyrene                   | 0.0002        | 0                  | 0                      | 0                         | 9                  | 9                      | 4                            |
| 2010                               | BHC-gamma (Lindane)                | 0.0002        | 0                  | 0                      | 0                         | 41                 | 12                     | 19                           |
| 2046                               | Carbofuran                         | 0.04          | 0                  | 0                      | 0                         | 41                 | 12                     | 19                           |
| 2959                               | Chlordane                          | 0.002         | 0                  | 0                      | 0                         | 41                 | 12                     | 19                           |
| 2031                               | Dalapon                            | 0.2           | 0                  | 0                      | 0                         | 9                  | 9                      | 4                            |
| 2035                               | Di(2-Ethylhexyl) Adipate           | 0.4           | 0                  | 0                      | 0                         | 10                 | 9                      | 5                            |
| 2039                               | Di(2-Ethylhexyl) Phthalate         | 0.006         | 0                  | 0                      | 0                         | 15                 | 9                      | 7                            |
| 2041                               | Dinoseb                            | 0.007         | 0                  | 0                      | 0                         | 9                  | 9                      | 4                            |
| 2032                               | Diquat                             | 0.02          | 0                  | 0                      | 0                         | 9                  | 9                      | 4                            |
| 2033                               | Endothall                          | 0.1           | 0                  | 0                      | 0                         | 9                  | 9                      | 4                            |
| 2005                               | Endrin                             | 0.002         | 0                  | 0                      | 0                         | 9                  | 9                      | 4                            |
| 2946                               | Ethylene Dibromide (EDB)           | 0.00005       | 0                  | 0                      | 0                         | 41                 | 12                     | 19                           |
| 2034                               | Glyphosate                         | 0.7           | 0                  | 0                      | 0                         | 10                 | 9                      | 5                            |
| 2065                               | Heptachlor                         | 0.0004        | 0                  | 0                      | 0                         | 41                 | 12                     | 19                           |
| 2067                               | Heptachlor Epoxide                 | 0.0002        | 0                  | 0                      | 0                         | 41                 | 12                     | 19                           |
| 2274                               | Hexachlorobenzene (HCB)            | 0.001         | 0                  | 0                      | 0                         | 9                  | 9                      | 4                            |
| 2042                               | Hexachlorocyclopentadiene          | 0.05          | 0                  | 0                      | 0                         | 9                  | 9                      | 4                            |
| 2015                               | Methoxychlor                       | 0.04          | 0                  | 0                      | 0                         | 41                 | 12                     | 19                           |
| 2036                               | Oxamyl (Vydate)                    | 0.2           | 0                  | 0                      | 0                         | 9                  | 9                      | 4                            |
| 2326                               | Pentachlorophenol                  | 0.001         | 0                  | 0                      | 0                         | 41                 | 12                     | 19                           |
| 2040                               | Picloram                           | 0.5           | 0                  | 0                      | 0                         | 9                  | 9                      | 4                            |

| <b>SOCs (cont'd)</b> |                                       |                   |                            |                            |                               |                        |                            |                               |
|----------------------|---------------------------------------|-------------------|----------------------------|----------------------------|-------------------------------|------------------------|----------------------------|-------------------------------|
| <b>Code</b>          | <b>Name</b>                           | <b>MCL (mg/l)</b> | <b>MCLs</b>                |                            |                               | <b>Monitoring</b>      |                            |                               |
|                      |                                       |                   | <b># of Violations</b>     | <b># of RTC Violations</b> | <b># of PWSs In Violation</b> | <b># of Violations</b> | <b># of RTC Violations</b> | <b># of PWSs In Violation</b> |
| 2037                 | Simazine                              | 0.004             | 0                          | 0                          | 0                             | 12                     | 9                          | 5                             |
| 2383                 | Total Polychlorinated Biphenyls (PCB) | 0.0005            | 0                          | 0                          | 0                             | 41                     | 12                         | 19                            |
| 2020                 | Toxaphene                             | 0.003             | 0                          | 0                          | 0                             | 41                     | 12                         | 19                            |
| <b>SOC Totals</b>    |                                       |                   | <b>0</b>                   | <b>0</b>                   | <b>0</b>                      | <b>753</b>             | <b>307</b>                 | <b>19</b>                     |
| <b>Code</b>          | <b>Name</b>                           | <b>MCL (mg/l)</b> | <b>Treatment Technique</b> |                            |                               | <b>Monitoring</b>      |                            |                               |
|                      |                                       |                   | <b># of Violations</b>     | <b># of RTC Violations</b> | <b># of PWSs In Violation</b> | <b># of Violations</b> | <b># of RTC Violations</b> | <b># of PWSs In Violation</b> |
| 2257                 | Epichlorohydrin                       | TT                | -                          | -                          | -                             | -                      | -                          | -                             |
| 2265                 | Acrylamide                            | TT                | -                          | -                          | -                             | -                      | -                          | -                             |
| <b>Totals</b>        |                                       |                   | <b>-</b>                   | <b>-</b>                   | <b>-</b>                      | <b>-</b>               | <b>-</b>                   | <b>-</b>                      |

| <b>Ground Water Rule (GWR)</b>    |  |                        |                            |                               |                            |                               |                               |
|-----------------------------------|--|------------------------|----------------------------|-------------------------------|----------------------------|-------------------------------|-------------------------------|
| <b>Violation Type (code)</b>      | <b>Violation Name</b>                        | <b># of Violations</b> | <b># of RTC Violations</b> |                               |                            | <b># of PWSs In Violation</b> |                               |
| 31 (0700) & 19 (3002, 3014, 3028) | Monitoring of Treatment (Major Monitoring)   | 0                      | 0                          |                               |                            | 0                             |                               |
| 34 (3014)                         | Monitoring of Source (Major Monitoring)      | 30                     | 3                          |                               |                            | 26                            |                               |
| 41 (0700)                         | Failure to Maintain Microbial Treatment - TT | 0                      | 0                          |                               |                            | 0                             |                               |
| 42 (0700)                         | Failure to Provide Treatment -TT             | 0                      | 0                          |                               |                            | 0                             |                               |
| 45, 48 (0700)                     | Failure to Address Deficiency – TT           | 0                      | 0                          |                               |                            | 0                             |                               |
|                                   |  | <b>Monitoring</b>      |                            |                               | <b>Treatment Technique</b> |                               |                               |
|                                   |  | <b># of Violations</b> | <b># of RTC Violations</b> | <b># of PWSs In Violation</b> | <b># of Violations</b>     | <b># of RTC Violations</b>    | <b># of PWSs In Violation</b> |
| <b>GWR Totals</b>                 |  | <b>30*</b>             | <b>3*</b>                  | <b>26*</b>                    | <b>0</b>                   | <b>0</b>                      | <b>0</b>                      |

| <b>Inorganic Chemicals (IOCs)</b> |                         |                       |                            |                                |                                   |                            |                                |                                   |
|-----------------------------------|-------------------------|-----------------------|----------------------------|--------------------------------|-----------------------------------|----------------------------|--------------------------------|-----------------------------------|
| <b>Code</b>                       | <b>Name</b>             | <b>MCL<br/>(mg/l)</b> | <b>MCLs</b>                |                                |                                   | <b>Monitoring</b>          |                                |                                   |
|                                   |                         |                       | <b># of<br/>Violations</b> | <b># of RTC<br/>Violations</b> | <b># of PWSs<br/>In Violation</b> | <b># of<br/>Violations</b> | <b># of RTC<br/>Violations</b> | <b># of PWSs<br/>In Violation</b> |
| 1074                              | Antimony, Total         | 0.006                 | 0                          | 0                              | 0                                 | 2                          | 2                              | 1                                 |
| 1005                              | Arsenic                 | 0.01                  | 5                          | 2                              | 2                                 | 10                         | 2                              | 7                                 |
| 1010                              | Barium                  | 2                     | 0                          | 0                              | 0                                 | 2                          | 2                              | 2                                 |
| 1075                              | Beryllium, Total        | 0.004                 | 0                          | 0                              | 0                                 | 2                          | 2                              | 1                                 |
| 1015                              | Cadmium                 | 0.005                 | 0                          | 0                              | 0                                 | 2                          | 2                              | 1                                 |
| 1020                              | Chromium                | 0.1                   | 0                          | 0                              | 0                                 | 2                          | 2                              | 1                                 |
| 1024                              | Cyanide                 | 0.2                   | 0                          | 0                              | 0                                 | 2                          | 2                              | 1                                 |
| 1025                              | Fluoride                | 4                     | -                          | -                              | -                                 | -                          | -                              | -                                 |
| 1035                              | Mercury                 | 0.002                 | 0                          | 0                              | 0                                 | 2                          | 2                              | 1                                 |
| 1040                              | Nitrate                 | 10                    | 3*                         | 1*                             | 3*                                | 13*                        | 3*                             | 13*                               |
| 1038                              | Total Nitrite & Nitrate | 10                    | 0*                         | 0*                             | 0*                                | 3*                         | 3*                             | 3*                                |
| 1041                              | Nitrite                 | 1                     | 1*                         | 1*                             | 1*                                | 0*                         | 0*                             | 0*                                |
| 1045                              | Selenium                | 0.05                  | 0                          | 0                              |                                   | 2                          | 2                              | 1                                 |
| 1085                              | Thallium, Total         | 0.002                 | 0                          | 0                              |                                   | 2                          | 2                              | 1                                 |
| 1094                              | Asbestos                | 7 MFL                 | -                          | -                              | -                                 | -                          | -                              | -                                 |
| <b>IOC Totals</b>                 |                         |                       | <b>9*</b>                  | <b>4*</b>                      | <b>6*</b>                         | <b>44*</b>                 | <b>26*</b>                     | <b>24*</b>                        |

| <b>Coliform (TCR)</b> |                                   |                        |                            |                               |                               |                            |                               |
|-----------------------|-----------------------------------|------------------------|----------------------------|-------------------------------|-------------------------------|----------------------------|-------------------------------|
| <b>Violation Type</b> | <b>Violation Name</b>             | <b># of Violations</b> |                            | <b># of RTC Violations</b>    | <b># of PWSs In Violation</b> |                            |                               |
| 21                    | MCL, Acute                        | 21*                    |                            | 12*                           | 20*                           |                            |                               |
| 22                    | MCL, Monthly                      | 100*                   |                            | 36*                           | 94*                           |                            |                               |
| 23, 25                | Monitoring Routine & Repeat Major | 67*                    |                            | 53*                           | 54*                           |                            |                               |
|                       |                                   |                        |                            |                               |                               |                            |                               |
|                       |                                   | <b>MCLs</b>            |                            |                               | <b>Monitoring</b>             |                            |                               |
|                       |                                   | <b># of Violations</b> | <b># of RTC Violations</b> | <b># of PWSs In Violation</b> | <b># of Violations</b>        | <b># of RTC Violations</b> | <b># of PWSs In Violation</b> |
| <b>TCR Totals</b>     |                                   | <b>121*</b>            | <b>48*</b>                 | <b>112*</b>                   | <b>67*</b>                    | <b>53*</b>                 | <b>54*</b>                    |

| <b>Lead and Copper Rule (LCR)</b> |  |                        |                            |                               |                               |                            |                               |
|-----------------------------------|--|------------------------|----------------------------|-------------------------------|-------------------------------|----------------------------|-------------------------------|
| <b>Violation Type</b>             | <b>Violation Name</b>                                  | <b># of Violations</b> |                            | <b># of RTC Violations</b>    | <b># of PWSs In Violation</b> |                            |                               |
| 51                                | Monitoring, Initial Tap Sampling for Pb/Cu             | 11                     |                            | 4                             | 9                             |                            |                               |
| 52                                | Monitoring, Follow-up & Routine Tap Sampling for Pb/Cu | 34                     |                            | 3                             | 33                            |                            |                               |
| 58                                | Treatment Installation                                 | 0                      |                            | 0                             | 0                             |                            |                               |
| 65                                | Public Education                                       | 0                      |                            | 0                             | 0                             |                            |                               |
|                                   |  |                        |                            |                               |                               |                            |                               |
|                                   |  | <b>Monitoring</b>      |                            |                               | <b>Treatment Technique</b>    |                            |                               |
|                                   |  | <b># of Violations</b> | <b># of RTC Violations</b> | <b># of PWSs In Violation</b> | <b># of Violations</b>        | <b># of RTC Violations</b> | <b># of PWSs In Violation</b> |
| <b>LCR Totals</b>                 |  | <b>44</b>              | <b>7</b>                   | <b>41</b>                     | <b>-</b>                      | <b>-</b>                   | <b>-</b>                      |

| <b>Surface Water Treatment Rules (SWTR)</b> |                        |   |                        |                            |                               |                        |                            |                               |                            |                            |                               |
|---|------------------------|---|------------------------|----------------------------|-------------------------------|------------------------|----------------------------|-------------------------------|----------------------------|----------------------------|-------------------------------|
| <b>Violation Type</b>                       | <b>Contam Code</b>     | <b>Violation Name</b>                         | <b># of Violations</b> | <b># of RTC Violations</b> | <b># of PWSs In Violation</b> |                        |                            |                               |                            |                            |                               |
| 41 SWTR                                     | 0200                   | SWTR Treatment Technique, Filtered            | 0                      | 0                          | 0                             |                        |                            |                               |                            |                            |                               |
| 42 SWTR                                     | 0200                   | SWTR Treatment Technique, Unfiltered          | 0                      | 0                          | 0                             |                        |                            |                               |                            |                            |                               |
| 31 and 36                                   | 0200                   | SWTR Major Monitoring, (M/R)                  | 0                      | 0                          | 0                             |                        |                            |                               |                            |                            |                               |
| 03 SWTR                                     | 0100                   | Turbidity Monitoring/Reporting                | 0                      | 0                          | 0                             |                        |                            |                               |                            |                            |                               |
| 32 LT2                                      | 0800,3025<br>3014,3015 | Monitoring, (M/R)                             | 0                      | 0                          | 0                             |                        |                            |                               |                            |                            |                               |
| 32 Turbidity                                | 0100                   | Monitoring, (M/R)                             | 0                      | 0                          | 0                             |                        |                            |                               |                            |                            |                               |
| 33 LT2                                      | 0800                   | LT2 Reporting                                 | 0                      | 0                          | 0                             |                        |                            |                               |                            |                            |                               |
| 37 IESWTR                                   | 0300                   | IESWTR Treatment Technique Failure to Profile | 0                      | 0                          | 0                             |                        |                            |                               |                            |                            |                               |
| 41, 42, 45 LT2                              | 0800                   | LT2 Treatment Technique                       | 0                      | 0                          | 0                             |                        |                            |                               |                            |                            |                               |
| 43, 44, and 47 IESWTR                       | 0300                   | IESWTR Treatment Technique                    | 2                      | 2                          | 1                             |                        |                            |                               |                            |                            |                               |
| 29 and 38 IESWTR                            | 0300                   | IESWTR Major Monitoring                       | 0                      | 0                          | 0                             |                        |                            |                               |                            |                            |                               |
| 09 IESWTR                                   | 0300                   | IESWTR Record Keeping                         | 0                      | 0                          | 0                             |                        |                            |                               |                            |                            |                               |
|   |                        |   |                        |                            |                               |                        |                            |                               |                            |                            |                               |
|   |                        |   | <b>MCLs</b>            |                            |                               | <b>Monitoring</b>      |                            |                               | <b>Treatment Technique</b> |                            |                               |
|   |                        |   | <b># of Violations</b> | <b># of RTC Violations</b> | <b># of PWSs In Violation</b> | <b># of Violations</b> | <b># of RTC Violations</b> | <b># of PWSs In Violation</b> | <b># of Violations</b>     | <b># of RTC Violations</b> | <b># of PWSs In Violation</b> |
| <b>SWTR/IESWTR Total</b>                    |                        |   | <b>0</b>               | <b>0</b>                   | <b>0</b>                      | <b>0</b>               | <b>0</b>                   | <b>0</b>                      | <b>2</b>                   | <b>2</b>                   | <b>1</b>                      |

| <b>Consumer Notification</b> |                              |                        |                            |                                  |
|------------------------------|------------------------------|------------------------|----------------------------|----------------------------------|
| <b>Violation Type</b>        | <b>Violation Name</b>        | <b># of Violations</b> | <b># of RTC Violations</b> | <b># of PWSs In Violation***</b> |
| 75                           | Public Notice Rule Reporting | 0                      | 0                          | 0                                |

| <b>Stage 1 Disinfectants and Disinfection Byproducts Rule (Stage 1 DBPR)</b> |                    |   |                        |                            |                               |
|--|--------------------|---|------------------------|----------------------------|-------------------------------|
| <b>Violation Type</b>  | <b>Contam Code</b> | <b>Violation Name</b>                                       | <b># of Violations</b> | <b># of RTC Violations</b> | <b># of PWSs In Violation</b> |
| 12 and 37  | 0400               | Qualified Operator Failure or Failure to Profile/Consult TT | 0                      | 0                          | 0                             |
| 46   | 2920               | Inadequate DBP Precursor Removal Treatment Technique        | 0                      | 0                          | 0                             |
| 02   | 1011               | Bromate MCL   | 0                      | 0                          | 0                             |
| 02   | 1009               | Chlorite MCL  | 0                      | 0                          | 0                             |
| 02   | 2456               | Total Haloacetic Acids (HAA) MCL                            | 0                      | 0                          | 0                             |
| 02   | 2950               | Total Trihalomethanes (TTHM) MCL                            | 3                      | 2                          | 3                             |
| 11   | 0999               | Chlorine Maximum Residual Disinfectant Level (MRDL)         | 0                      | 0                          | 0                             |
| 11   | 1006               | Chloramine MRDL   | 0                      | 0                          | 0                             |
| 11   | 1008               | Chlorine Dioxide MRDL                                       | 0                      | 0                          | 0                             |
| 11   | 1008               | Chlorine Dioxide Monitoring                                 | 0                      | 0                          | 0                             |
| 13   | 1008               | Chlorine Dioxide MRDL Acute                                 | 0                      | 0                          | 0                             |
| 27   | 0400               | No DBPR Monitoring Plan                                     | 0                      | 0                          | 0                             |
| 27   | 0999               | Chlorine Monitoring   | 0                      | 0                          | 0                             |
| 27   | 1004               | Bromide Monitoring  | 0                      | 0                          | 0                             |
| 27   | 1006               | Chloramine Residual Monitoring                              | 0                      | 0                          | 0                             |
| 27   | 1008               | Chlorine Dioxide Residual Monitoring                        | 0                      | 0                          | 0                             |
| 27   | 1009               | Chlorite Monitoring   | 0                      | 0                          | 0                             |
| 27   | 1011               | Bromate Monitoring  | 0                      | 0                          | 0                             |
| 27   | 2456               | Total Haloacetic Acids (HAA) Monitoring                     | 8                      | 3                          | 8                             |
| 27   | 2920               | TOC Monitoring  | 0                      | 0                          | 0                             |
| 27   | 2950               | Total Trihalomethanes (TTHM) Monitoring                     | 8                      | 3                          | 8                             |

|                            | <b>MCLs/MRDL</b>       |                            |                               | <b>Monitoring</b>      |                            |                               | <b>Treatment Technique</b> |                            |                               |
|----------------------------|------------------------|----------------------------|-------------------------------|------------------------|----------------------------|-------------------------------|----------------------------|----------------------------|-------------------------------|
|                            | <b># of Violations</b> | <b># of RTC Violations</b> | <b># of PWSs In Violation</b> | <b># of Violations</b> | <b># of RTC Violations</b> | <b># of PWSs In Violation</b> | <b># of Violations</b>     | <b># of RTC Violations</b> | <b># of PWSs In Violation</b> |
| <b>Stage 1 DBPR Totals</b> | <b>3</b>               | <b>2</b>                   | <b>3</b>                      | <b>16</b>              | <b>6</b>                   | <b>8</b>                      | <b>0</b>                   | <b>0</b>                   | <b>0</b>                      |

| <b>2015 State Summary – Non-Community Water Supplies (NCPWS)</b> |                           |                        |                            |   |                                |                            |                               |  |                            |                               |
|--|---------------------------|------------------------|----------------------------|---|--------------------------------|----------------------------|-------------------------------|--|----------------------------|-------------------------------|
| <b>Rule Group</b>  | <b>Chemical Sub-Group</b> | <b>MCLs</b>            |                            |   | <b>Monitoring/Notification</b> |                            |                               | <b>Treatment Technique</b>   |                            |                               |
|  |                           | <b># of Violations</b> | <b># of RTC Violations</b> | <b># of PWSs In Violation</b>   | <b># of Violations</b>         | <b># of RTC Violations</b> | <b># of PWSs In Violation</b> | <b># of Violations</b>   | <b># of RTC Violations</b> | <b># of PWSs In Violation</b> |
| CHEM   | VOC                       | 4                      | 0                          | 1   | 1,281                          | 294                        | 37                            |  |                            |                               |
|  | SOC                       | 0                      | 0                          | 0   | 753                            | 307                        | 19                            |  |                            |                               |
|  | IOC                       | 9*                     | 4*                         | 6*  | 44*                            | 26*                        | 24*                           |  |                            |                               |
| <b>CHEM Subtotal</b>   |                           | 13*                    | 4*                         | 7*  | 2,078*                         | 627*                       | 38**                          |  |                            |                               |
| <b>TCR Subtotal</b>  |                           | 121*                   | 48*                        | 112*  | 67*                            | 53*                        | 54*                           |  |                            |                               |
| <b>Stage 1 DBPR Subtotal</b>                                     |                           | 3                      | 2                          | 3   | 16                             | 6                          | 8                             | 0  | 0                          | 0                             |
| <b>All SWTRs Subtotal</b>  |                           |                        |                            |   | 0                              | 0                          | 0                             | 0  | 0                          | 0                             |
| <b>LCR Subtotal</b>  |                           |                        |                            |   | 44                             | 7                          | 41                            | 0  | 0                          | 0                             |
| <b>GWR</b>   |                           |                        |                            |   | 30                             | 3                          | 26                            | 0  | 0                          | 0                             |
| <b>Consumer Notification Subtotal</b>                            |                           |                        |                            |   | -                              | -                          | -                             |  |                            |                               |
| <b>TOTAL</b>   |                           | <b>137*</b>            | <b>54*</b>                 | <b>120*</b>   | <b>2,235**</b>                 | <b>696**</b>               | <b>138**</b>                  | <b>0</b>   | <b>0</b>                   | <b>0</b>                      |
| <b>Total Number of NCPWSs</b>                                    |                           |                        |                            | <b>Grand Total Number NCPWS Violations (MCL, Monitoring, and Treatment Technique)</b> |                                |                            |                               | <b>Grand Total of NCPWSs in Violation (MCL, Monitoring, and Treatment Technique)</b> |                            |                               |
| <b>3,815</b>   |                           |                        |                            | <b>2,372**</b>  |                                |                            |                               | <b>232**</b>   |                            |                               |

\* These figures have not been verified with Local health department staff that have direct oversight for these water systems.

\*\* This data is incomplete at this time.

\*\*\* Public notice for monitoring violations is not included in the compliance rate.

**Appendix B**  
*Illinois EPA 2015 Annual Compliance Report*  
*Maximum Contaminant Level and Treatment Technique Violations by CWS*  
*Sort by Contaminant*

| <b>Contaminant Name</b> | <b>ID</b> | <b>Community Water System Name</b>    | <b>Violation Category</b> | <b>Comment</b>         |
|-------------------------|-----------|---------------------------------------|---------------------------|------------------------|
| Arsenic                 | IL0195925 | TRIANGLE MHP                          | MCL                       | Under Enforcement      |
| Arsenic                 | IL0730080 | HICKORY HILLS 2ND ADDITION WATER ASSN | MCL                       | Under Enforcement      |
| Arsenic                 | IL0735280 | LYNWOOD 3RD ADDITION                  | MCL                       | Under Enforcement      |
| Arsenic                 | IL1130250 | CARLOCK                               | MCL                       | Returned to Compliance |
| Arsenic                 | IL1130450 | DANVERS                               | MCL                       | Under Enforcement      |
| Arsenic                 | IL1470200 | DE LAND                               | MCL                       | Returned to Compliance |
| Coliform (TCR)          | IL0110010 | HOLLOWAYVILLE                         | MCL                       | Returned to Compliance |
| Coliform (TCR)          | IL0195150 | SANGAMON VALLEY PWD                   | MCL                       | Returned to Compliance |
| Coliform (TCR)          | IL0230150 | MARTINSVILLE                          | MCL                       | Returned to Compliance |
| Coliform (TCR)          | IL0735425 | RIVERVIEW MHP (HENRY COUNTY)          | MCL                       | Under Enforcement      |
| Coliform (TCR)          | IL0790010 | E J WATER COOP                        | MCL                       | Under Enforcement      |
| Coliform (TCR)          | IL0830250 | JERSEYVILLE                           | MCL                       | Returned to Compliance |
| Coliform (TCR)          | IL0995030 | IL AMERICAN-STREATOR                  | MCL                       | Returned to Compliance |
| Coliform (TCR)          | IL1115250 | EASTWOOD MANOR WATER COMPANY          | MCL                       | Returned to Compliance |
| Coliform (TCR)          | IL1130750 | LE ROY                                | MCL                       | Returned to Compliance |
| Coliform (TCR)          | IL1170040 | CENTRAL MACOUPIN COUNTY RWD           | MCL                       | Returned to Compliance |
| Coliform (TCR)          | IL1170200 | CHESTERFIELD                          | MCL                       | Returned to Compliance |
| Coliform (TCR)          | IL1170800 | PALMYRA                               | MCL                       | Returned to Compliance |
| Coliform (TCR)          | IL1235100 | CAMP GROVE                            | MCL                       | Returned to Compliance |
| Coliform (TCR)          | IL1310500 | NEW WINDSOR                           | MCL                       | Returned to Compliance |
| Coliform (TCR)          | IL1510100 | GOLCONDA                              | MCL                       | Returned to Compliance |
| Coliform (TCR)          | IL1790100 | CREVE COEUR                           | MCL                       | Returned to Compliance |
| Coliform (TCR)          | IL1790500 | MORTON                                | MCL                       | Under Enforcement      |
| Coliform (TCR)          | IL1794320 | DEER CREEK                            | MCL                       | Returned to Compliance |

| <b>Contaminant Name</b>         | <b>ID</b> | <b>Community Water System Name</b>    | <b>Violation Category</b> | <b>Comment</b>         |
|---------------------------------|-----------|---------------------------------------|---------------------------|------------------------|
| Coliform (TCR)                  | IL1830950 | WESTVILLE                             | MCL                       | Returned to Compliance |
| Coliform (TCR)                  | IL1970500 | LOCKPORT                              | MCL                       | Returned to Compliance |
| Coliform (TCR)                  | IL1975600 | EAST MORELAND WTR SERVICE ASSN        | MCL                       | Returned to Compliance |
| Coliform (TCR)                  | IL2030010 | VALLEY VIEW SUBDIVISION (WOODFORD)    | MCL                       | Under Enforcement      |
| Combined Radium (-226 and -228) | IL0110100 | BUDA                                  | MCL                       | Returned to Compliance |
| Combined Radium (-226 and -228) | IL0150300 | SHANNON                               | MCL                       | Under Enforcement      |
| Combined Radium (-226 and -228) | IL0150350 | THOMSON                               | MCL                       | Returned to Compliance |
| Combined Radium (-226 and -228) | IL0311620 | LEMONT                                | MCL                       | Under Enforcement      |
| Combined Radium (-226 and -228) | IL0730300 | CAMBRIDGE                             | MCL                       | Under Enforcement      |
| Combined Radium (-226 and -228) | IL0935150 | FOX LAWN HOMEOWNERS WATER ASSOCIATION | MCL                       | Under Enforcement      |
| Combined Radium (-226 and -228) | IL0990900 | RANSOM                                | MCL                       | Under Enforcement      |
| Combined Radium (-226 and -228) | IL1570650 | STEELEVILLE                           | MCL                       | Returned to Compliance |
| Combined Radium (-226 and -228) | IL2010150 | LOVES PARK                            | MCL                       | Under Enforcement      |
| Gross Alpha, Excl. Radon and U  | IL0990900 | RANSOM                                | MCL                       | Under Enforcement      |
| IESWTR                          | IL1170040 | CENTRAL MACOUPIN COUNTY RWD           | TT                        | Returned to Compliance |
| IESWTR                          | IL1170150 | CARLINVILLE                           | TT                        | Returned to Compliance |
| IESWTR                          | IL1170200 | CHESTERFIELD                          | TT                        | Returned to Compliance |
| IESWTR                          | IL1175100 | LAKE WILLIAMSON CHRISTIAN CENTER      | TT                        | Returned to Compliance |
| Lead and Copper Rule            | IL0190850 | SIDNEY                                | TT                        | Returned to Compliance |
| Lead and Copper Rule            | IL0310210 | BERWYN                                | TT                        | Returned to Compliance |
| Lead and Copper Rule            | IL0310300 | BROADVIEW                             | TT                        | Returned to Compliance |
| Lead and Copper Rule            | IL1590050 | CALHOUN                               | TT                        | Returned to Compliance |
| Nitrate                         | IL1150100 | BLUE MOUND                            | MCL                       | Returned to Compliance |

| <b>Contaminant Name</b>       | <b>ID</b> | <b>Community Water System Name</b> | <b>Violation Category</b> | <b>Comment</b>         |
|-------------------------------|-----------|------------------------------------|---------------------------|------------------------|
| Nitrate                       | IL1330200 | MAEYSTOWN                          | MCL                       | Under Enforcement      |
| Nitrate                       | IL1950200 | ERIE                               | MCL                       | Returned to Compliance |
| Nitrite                       | IL1130800 | LEXINGTON                          | MCL                       | Returned to Compliance |
| Total Haloacetic Acids (HAA5) | IL0050100 | MULBERRY GROVE                     | MCL                       | Under Enforcement      |
| Total Haloacetic Acids (HAA5) | IL0270300 | CARLYLE                            | MCL                       | Under Enforcement      |
| Total Haloacetic Acids (HAA5) | IL0610150 | GREENFIELD                         | MCL                       | Under Enforcement      |
| Total Haloacetic Acids (HAA5) | IL0670450 | LA HARPE                           | MCL                       | Under Enforcement      |
| Total Haloacetic Acids (HAA5) | IL1350150 | COFFEEN                            | MCL                       | Returned to Compliance |
| Total Haloacetic Acids (HAA5) | IL1615387 | ROCK ISLAND ARSENAL, US ARMY       | MCL                       | Returned to Compliance |
| Total Haloacetic Acids (HAA5) | IL1630850 | MILLSTADT                          | MCL                       | Returned to Compliance |
| TTHM                          | IL1090010 | NEW SALEM PWD                      | MCL                       | Under Enforcement      |
| TTHM                          | IL1130400 | COOKSVILLE                         | MCL                       | Returned to Compliance |
| TTHM                          | IL1190080 | TRITOWNSHIP WATER DISTRICT         | MCL                       | Returned to Compliance |
| TTHM                          | IL1195110 | HOLIDAY SHORES SD                  | MCL                       | Returned to Compliance |
| TTHM                          | IL1275050 | FORT MASSAC PWD                    | MCL                       | Returned to Compliance |
| TTHM                          | IL1630600 | FREEBURG                           | MCL                       | Returned to Compliance |
| TTHM                          | IL1630650 | LEBANON                            | MCL                       | Returned to Compliance |

*Illinois DPH 2015 Annual Compliance Report  
Maximum Contaminant Level and Treatment Technique Violations by NCPWS  
Sort by Contaminant*

| <b>ID</b> | <b>Non Community Water Supply Name</b> | <b>Contaminant Name</b> | <b>Violation Category</b> | <b>Comment</b>         |
|-----------|--|-------------------------|---------------------------|------------------------|
| IL3019968 | SLIDERS PIZZA AND PUB                  | NITRATE                 | MCL, SINGLE SAMPLE        | no SOX                 |
| IL3147678 | EAST JORDAN METHODIST CHURCH           | NITRATE                 | MCL, SINGLE SAMPLE        | Returned to Compliance |
| IL3002212 | BONANZA CAMPGROUND #1                  | NITRITE                 | MCL, SINGLE SAMPLE        | Returned to Compliance |
| IL3140830 | WAYNE/WAGONER PRINTING COMPANY         | ARSENIC                 | MCL, AVERAGE              | Returned to Compliance |
| IL3140830 | WAYNE/WAGONER PRINTING COMPANY         | ARSENIC                 | MCL, AVERAGE              | Returned to Compliance |
| IL3147652 | CORNERSTONE CHRISTIAN ACADEMY          | ARSENIC                 | MCL, AVERAGE              | no SOX                 |
| IL3147652 | CORNERSTONE CHRISTIAN ACADEMY          | ARSENIC                 | MCL, AVERAGE              | no SOX                 |
| IL3147652 | CORNERSTONE CHRISTIAN ACADEMY          | ARSENIC                 | MCL, AVERAGE              | no SOX                 |
| IL3120642 | LAWRENCEVILLE ROD & GUN CLUB           | NITRATE                 | MCL, AVERAGE              | no SOX                 |
| IL3157487 | NORTH SHORE GLENBROOK                  | TTHM                    | MCL, AVERAGE              | Returned to Compliance |
| IL3158048 | NORTH SHORE EVANSTON                   | TTHM                    | MCL, AVERAGE              | Returned to Compliance |
| IL3155804 | MARIANJOY REHAB HOSPITAL               | TTHM                    | MCL, LRAA                 | no SOX                 |
| IL3132076 | HERITAGE ENVIRONMENTAL                 | VINYL CHLORIDE          | MCL, AVERAGE              | no SOX                 |
| IL3132076 | HERITAGE ENVIRONMENTAL                 | VINYL CHLORIDE          | MCL, AVERAGE              | no SOX                 |
| IL3132076 | HERITAGE ENVIRONMENTAL                 | VINYL CHLORIDE          | MCL, AVERAGE              | no SOX                 |
| IL3132076 | HERITAGE ENVIRONMENTAL                 | VINYL CHLORIDE          | MCL, AVERAGE              | no SOX                 |
| IL3000539 | THE TIMBER                             | COLIFORM (TCR)          | MCL (TCR), ACUTE          | no SOX                 |
| IL3000539 | THE TIMBER                             | COLIFORM (TCR)          | MCL (TCR), ACUTE          | no SOX                 |
| IL3002212 | BONANZA CAMPGROUND #1                  | COLIFORM (TCR)          | MCL (TCR), ACUTE          | Returned to Compliance |
| IL3003764 | MORGAN COUNTY BOAT & SKI               | COLIFORM (TCR)          | MCL (TCR), ACUTE          | Returned to Compliance |
| IL3014423 | LEROY COUNTRY CLUB                     | COLIFORM                | MCL (TCR), ACUTE          | Returned to Compliance |

|           |                                |                |                    |                        |
|-----------|--------------------------------|----------------|--------------------|------------------------|
|           |                                | (TCR)          |                    |                        |
| IL3015446 | FABYAN FOREST PRESERVE         | COLIFORM (TCR) | MCL (TCR), ACUTE   | no SOX                 |
| IL3017905 | CAMP QUARRYLEDGE               | COLIFORM (TCR) | MCL (TCR), ACUTE   | Returned to Compliance |
| IL3041137 | LOCKPORT GOLF & RECREATION     | COLIFORM (TCR) | MCL (TCR), ACUTE   | Returned to Compliance |
| IL3056440 | COMLARA PARK CAMPGROUND        | COLIFORM (TCR) | MCL (TCR), ACUTE   | no SOX                 |
| IL3082172 | LAKOTA SCOUT RESERV-DEER CAMP  | COLIFORM (TCR) | MCL (TCR), ACUTE   | no SOX                 |
| IL3099960 | EMERALD ACRES CAMPGROUND       | COLIFORM (TCR) | MCL (TCR), ACUTE   | no SOX                 |
| IL3103846 | GREEN PASTURES CHRISTIAN CAMP  | COLIFORM (TCR) | MCL (TCR), ACUTE   | Returned to Compliance |
| IL3110999 | A B GUSTOS                     | COLIFORM (TCR) | MCL (TCR), ACUTE   | Returned to Compliance |
| IL3111294 | BERNADOTTE CAFE                | COLIFORM (TCR) | MCL (TCR), ACUTE   | Returned to Compliance |
| IL3120600 | CHEBANSE RECREATION AREA MAIN  | COLIFORM (TCR) | MCL (TCR), ACUTE   | no SOX                 |
| IL3123760 | SCHIMMER OLDS                  | COLIFORM (TCR) | MCL (TCR), ACUTE   | Returned to Compliance |
| IL3126417 | CENTRAL HIGH SCHOOL            | COLIFORM (TCR) | MCL (TCR), ACUTE   | Returned to Compliance |
| IL3135319 | RAYMOND BENSON PARK            | COLIFORM (TCR) | MCL (TCR), ACUTE   | Returned to Compliance |
| IL3137232 | WEDRON SILICA SAND COMPANY     | COLIFORM (TCR) | MCL (TCR), ACUTE   | Returned to Compliance |
| IL3137661 | ROYAL OAKS HOT DOG STAND       | COLIFORM (TCR) | MCL (TCR), ACUTE   | no SOX                 |
| IL3151266 | CABIN FEVER CAMPGROUND         | COLIFORM (TCR) | MCL (TCR), ACUTE   | no SOX                 |
| IL3000521 | SANDY OAKS CMPGRND/DALE GARNER | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3000653 | YMCA CAMP WINNEBAGO            | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3001875 | CAMP AKITA/A FRAME WELL        | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |

|           |                                     |                |                    |                        |
|-----------|-------------------------------------|----------------|--------------------|------------------------|
| IL3001958 | CAMP WOKANDA                        | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3002170 | CEDARBROOK RV CAMPGROUNDS           | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3002535 | MILLSTADT SPORTSMANS CLUB           | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3003145 | SHERIDAN GRADE SCHOOL               | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3005959 | WALCAMP LUTHERAN RETREAT (5959)     | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3006882 | COMMONWEALTH EDISON COMPANY         | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3014506 | KAMP KOMFORT C/O CLIFF OCKER        | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3015057 | BILTMORE C C MAIN BUILDING          | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3015446 | FABYAN FOREST PRESERVE              | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3015974 | HAMMEL WOODS DUPAGE                 | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3017517 | MOONS LITTLE ACRES                  | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3018606 | ROCK RIVER CHRISTIAN CAMP           | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3019083 | SHELL GILMER QUICK MART             | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3019356 | IGLESIA SAN PABLO                   | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3019687 | TWO RIVERS UNITED METHODIST CH CAMP | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3022426 | KANKAKEE KOA-KUL BANG               | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3023689 | DUCK INN                            | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3024000 | AMERICAN LEGION POST 703            | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3024000 | AMERICAN LEGION POST 703            | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3024976 | LAKE WILL                           | COLIFORM       | MCL (TCR), MONTHLY | no SOX                 |

|           |                                 |                |                    |                        |
|-----------|---------------------------------|----------------|--------------------|------------------------|
|           |                                 | (TCR)          |                    |                        |
| IL3029207 | LISBON GRADE SCHOOL             | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3042127 | HONEYWELL INTERNATIONAL INC     | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3048595 | BEULAH PRESBYTERIAN CHURCH      | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3051268 | EMERALD ACRES                   | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3053413 | I74 SPOON RIVER REST AREA       | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3053413 | I74 SPOON RIVER REST AREA       | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3053413 | I74 SPOON RIVER REST AREA       | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3053413 | I74 SPOON RIVER REST AREA       | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3055335 | COMLARA PARK HQ                 | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3057232 | CRYSTAL LAKE MONTESSORI         | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3057729 | LOUD THNDR FRST PRSRV C SHLTR   | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3058628 | EUREKA SPORTSMENS CLUB          | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3061556 | CAMP CILCA                      | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3066308 | WINNERS CIRCLE                  | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3068940 | CAMPTON SPORTS COMPLEX          | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3069997 | LAKOTA SCOUT RESERV-EAGLE LODGE | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3078162 | KNOX CO SPORTSMENS CLUB         | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3084673 | NEW FRIEND WESLEYAN CHURCH      | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3085902 | LOUD THUNDER FOREST PRESERVE B  | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |

|           |   |                |                    |                        |
|-----------|---|----------------|--------------------|------------------------|
| IL3088534 | DONKEY INN BAR AND GRILL                | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3090290 | SHERRARD JR/SR HIGH SCHOOL              | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3090670 | GRANT HILLS MOTEL (90670)               | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3091637 | HA INTERNATIONAL LLC                    | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3094730 | MORAIN HILLS STATE PARK WHITE TAIL PRAI | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3094748 | MORAIN HILLS ST PARK OAK OPENING        | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3095125 | CAMP DUNCAN (95125)                     | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3095653 | JUBILEE ST PK #1 QUAIL MEADOWS          | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3095661 | JUBILEE ST PK #3 EQUESTRIAN             | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3095828 | SILVER SPRINGS STATE PARK (95828)       | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3097873 | LAKE LOUISE (97873)                     | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3099994 | LA CHATEAU PARK INC                     | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3102384 | BUSSE BOAT DOCK 1227                    | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3102384 | BUSSE BOAT DOCK 1227                    | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3102905 | WELDON SPRINGS SP DAY USE               | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3104562 | LAKE VILLA TOWNSHIP OFFICE DAYCARE      | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3108936 | CHESTNUT MOUNTAIN RESORT (108936)       | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3110023 | STREATOR BAPTIST CAMP -OFFICE WELL      | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3111039 | FRANCIS PARK                            | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3111294 | BERNADOTTE CAFE                         | COLIFORM       | MCL (TCR), MONTHLY | Returned to Compliance |

|           |                                    |                |                    |                        |
|-----------|------------------------------------|----------------|--------------------|------------------------|
|           |                                    | (TCR)          |                    |                        |
| IL3111807 | GRANT HILLS MOTEL (111807)         | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3112409 | FRANKLIN CREEK STATE PARK (112409) | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3115451 | RADNOR ROD AND GUN CLUB            | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3115469 | CROW VALLEY CAMPGROUND             | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3117572 | POLLYWOGS ASSOCIATION INC          | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3119511 | BEREA BAPTIST CHURCH               | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3122283 | CLINTON MARINA                     | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3129155 | CHEMUNG COUNTRY STORE              | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3129155 | CHEMUNG COUNTRY STORE              | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3130708 | LORD AND SAVIOR LUTHERAN           | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3132472 | BOXERS AND BRIEFS                  | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3134403 | COMLARA PARK SHOWERHOUSE           | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3135756 | SCOT FORGE                         | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3136192 | LITTLE JOHN CONSERVATION CLUB      | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3136192 | LITTLE JOHN CONSERVATION CLUB      | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3137455 | LOUD THUNDER FOREST PRESERVE E     | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3138701 | STONEWALL ORCHARD CLUBHOUSE        | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3138917 | LIVING WORD OMEGA CHURCH           | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3141556 | DAHINDA UM CHURCH                  | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |

|           |                                      |                |                    |                        |
|-----------|--------------------------------------|----------------|--------------------|------------------------|
| IL3142323 | MANOR MOTEL WELL 3                   | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3142620 | CAMP AKITA BATHHOUSE WELL            | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3142638 | CAMP AKITA LODGE WELL                | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3146779 | BUEHLERS BUY LOW                     | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3150557 | WOODFORD STATE FISH & WILDLIFE AREA  | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3150821 | FOOD 4 LESS CREST HILL               | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3151134 | CARY PARK DISTRICT                   | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3151746 | LAYTON ATHLETICS                     | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3152694 | THUNDERHAWK GOLF COURSE 15TH GREEN   | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3153957 | WCFP HADLEY VALLEY                   | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3155127 | INDIAN HILL BIBLE CHURCH             | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3155366 | ATKINSON MOTORSPORT PARK CAMPGROUND  | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3156695 | NACHUSA LUTHERAN HOME                | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3156844 | URBAN WASFARE                        | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3157552 | MCCD WINDING CREEK CONSERVATION AREA | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3157560 | MCHENRY TOWNSHIP FOOD PANTRY         | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3158519 | NATURES SCHOLARS DAYCARE             | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3158709 | HARRIS ENTERPRISES OF IL             | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3159343 | PSYCHO SILO SALOON                   | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |

**Appendix C**  
*Illinois EPA 2015 Annual Compliance Report*  
*Maximum Contaminant Level and Treatment Technique Violations*  
*Sort by CWS*

| <b>ID</b> | <b>Community Water System Name</b>    | <b>Violation Type</b> | <b>Contaminant Name</b>         | <b>Comments</b>        |
|-----------|---------------------------------------|-----------------------|---------------------------------|------------------------|
| IL0050100 | MULBERRY GROVE                        | MCL                   | Total Haloacetic Acids (HAA5)   | Under Enforcement      |
| IL0110010 | HOLLOWAYVILLE                         | MCL                   | Coliform (TCR)                  | Returned to Compliance |
| IL0110100 | BUDA                                  | MCL                   | Combined Radium (-226 and -228) | Returned to Compliance |
| IL0150300 | SHANNON                               | MCL                   | Combined Radium (-226 and -228) | Under Enforcement      |
| IL0150350 | THOMSON                               | MCL                   | Combined Radium (-226 and -228) | Returned to Compliance |
| IL0190850 | SIDNEY                                | TT                    | Lead and Copper Rule            | Returned to Compliance |
| IL0195150 | SANGAMON VALLEY PWD                   | MCL                   | Coliform (TCR)                  | Returned to Compliance |
| IL0195925 | TRIANGLE MHP                          | MCL                   | Arsenic                         | Under Enforcement      |
| IL0230150 | MARTINSVILLE                          | MCL                   | Coliform (TCR)                  | Returned to Compliance |
| IL0270300 | CARLYLE                               | MCL                   | Total Haloacetic Acids (HAA5)   | Under Enforcement      |
| IL0310210 | BERWYN                                | TT                    | Lead and Copper Rule            | Returned to Compliance |
| IL0310300 | BROADVIEW                             | TT                    | Lead and Copper Rule            | Returned to Compliance |
| IL0311620 | LEMONT                                | MCL                   | Combined Radium (-226 and -228) | Under Enforcement      |
| IL0610150 | GREENFIELD                            | MCL                   | Total Haloacetic Acids (HAA5)   | Under Enforcement      |
| IL0670450 | LA HARPE                              | MCL                   | Total Haloacetic Acids (HAA5)   | Under Enforcement      |
| IL0730080 | HICKORY HILLS 2ND ADDITION WATER ASSN | MCL                   | Arsenic                         | Under Enforcement      |
| IL0730300 | CAMBRIDGE                             | MCL                   | Combined Radium (-226 and -228) | Under Enforcement      |
| IL0735280 | LYNWOOD 3RD ADDITION                  | MCL                   | Arsenic                         | Under Enforcement      |
| IL0735425 | RIVERVIEW MHP (HENRY COUNTY)          | MCL                   | Coliform (TCR)                  | Under Enforcement      |
| IL0790010 | E J WATER COOP                        | MCL                   | Coliform (TCR)                  | Under Enforcement      |
| IL0830250 | JERSEYVILLE                           | MCL                   | Coliform (TCR)                  | Returned to Compliance |
| IL0935150 | FOX LAWN HOMEOWNERS WATER ASSOCIATION | MCL                   | Combined Radium (-226 and -228) | Under Enforcement      |
| IL0990900 | RANSOM                                | MCL                   | Combined Radium (-226 and -228) | Under Enforcement      |
| IL0990900 | RANSOM                                | MCL                   | Gross Alpha, Excl. Radon and U  | Under Enforcement      |

| <b>ID</b> | <b>Community Water System Name</b> | <b>Violation Type</b> | <b>Contaminant Name</b>                       | <b>Comments</b>        |
|-----------|------------------------------------|-----------------------|---|------------------------|
| IL0995030 | IL AMERICAN-STREATOR               | MCL                   | Coliform (TCR)                                | Returned to Compliance |
| IL1090010 | NEW SALEM PWD                      | MCL                   | TTHM  | Under Enforcement      |
| IL1115250 | EASTWOOD MANOR WATER COMPANY       | MCL                   | Coliform (TCR)                                | Returned to Compliance |
| IL1130250 | CARLOCK                            | MCL                   | Arsenic                                       | Returned to Compliance |
| IL1130400 | COOKSVILLE                         | MCL                   | TTHM  | Returned to Compliance |
| IL1130450 | DANVERS                            | MCL                   | Arsenic                                       | Under Enforcement      |
| IL1130750 | LE ROY                             | MCL                   | Coliform (TCR)                                | Returned to Compliance |
| IL1130800 | LEXINGTON                          | MCL                   | Nitrite                                       | Returned to Compliance |
| IL1150100 | BLUE MOUND                         | MCL                   | Nitrate                                       | Returned to Compliance |
| IL1170040 | CENTRAL MACOUPIN COUNTY RWD        | MCL                   | Coliform (TCR)                                | Returned to Compliance |
| IL1170040 | CENTRAL MACOUPIN COUNTY RWD        | TT                    | Interim Enhanced Surface Water Treatment Rule | Returned to Compliance |
| IL1170150 | CARLINVILLE                        | TT                    | Interim Enhanced Surface Water Treatment Rule | Returned to Compliance |
| IL1170200 | CHESTERFIELD                       | MCL                   | Coliform (TCR)                                | Returned to Compliance |
| IL1170200 | CHESTERFIELD                       | TT                    | Interim Enhanced Surface Water Treatment Rule | Returned to Compliance |
| IL1170800 | PALMYRA                            | MCL                   | Coliform (TCR)                                | Returned to Compliance |
| IL1175100 | LAKE WILLIAMSON CHRISTIAN CENTER   | TT                    | Interim Enhanced Surface Water Treatment Rule | Returned to Compliance |
| IL1190080 | TRITOWNSHIP WATER DISTRICT         | MCL                   | TTHM  | Returned to Compliance |
| IL1195110 | HOLIDAY SHORES SD                  | MCL                   | TTHM  | Returned to Compliance |
| IL1235100 | CAMP GROVE                         | MCL                   | Coliform (TCR)                                | Returned to Compliance |
| IL1275050 | FORT MASSAC PWD                    | MCL                   | TTHM  | Returned to Compliance |
| IL1310500 | NEW WINDSOR                        | MCL                   | Coliform (TCR)                                | Returned to Compliance |
| IL1330200 | MAEYSTOWN                          | MCL                   | Nitrate                                       | Under Enforcement      |
| IL1350150 | COFFEEN                            | MCL                   | Total Haloacetic Acids (HAA5)                 | Returned to Compliance |
| IL1470200 | DE LAND                            | MCL                   | Arsenic                                       | Returned to Compliance |
| IL1510100 | GOLCONDA                           | MCL                   | Coliform (TCR)                                | Returned to Compliance |
| IL1570650 | STEELEVILLE                        | MCL                   | Combined Radium (-226 and -228)               | Returned to Compliance |

| <b>ID</b> | <b>Community Water System Name</b> | <b>Violation Type</b> | <b>Contaminant Name</b>         | <b>Comments</b>        |
|-----------|------------------------------------|-----------------------|---------------------------------|------------------------|
| IL1590050 | CALHOUN                            | TT                    | Lead and Copper Rule            | Returned to Compliance |
| IL1615387 | ROCK ISLAND ARSENAL, US ARMY       | MCL                   | Total Haloacetic Acids (HAA5)   | Returned to Compliance |
| IL1630600 | FREEBURG                           | MCL                   | TTHM                            | Returned to Compliance |
| IL1630650 | LEBANON                            | MCL                   | TTHM                            | Returned to Compliance |
| IL1630850 | MILLSTADT                          | MCL                   | Total Haloacetic Acids (HAA5)   | Returned to Compliance |
| IL1790100 | CREVE COEUR                        | MCL                   | Coliform (TCR)                  | Returned to Compliance |
| IL1790500 | MORTON                             | MCL                   | Coliform (TCR)                  | Returned to Compliance |
| IL1790500 | MORTON                             | MCL                   | Coliform (TCR)                  | Under Enforcement      |
| IL1794320 | DEER CREEK                         | MCL                   | Coliform (TCR)                  | Returned to Compliance |
| IL1830950 | WESTVILLE                          | MCL                   | Coliform (TCR)                  | Returned to Compliance |
| IL1950200 | ERIE                               | MCL                   | Nitrate                         | Returned to Compliance |
| IL1970500 | LOCKPORT                           | MCL                   | Coliform (TCR)                  | Returned to Compliance |
| IL1975600 | EAST MORELAND WTR SERVICE ASSN     | MCL                   | Coliform (TCR)                  | Returned to Compliance |
| IL2010150 | LOVES PARK                         | MCL                   | Combined Radium (-226 and -228) | Under Enforcement      |
| IL2030010 | VALLEY VIEW SUBDIVISION (WOODFORD) | MCL                   | Coliform (TCR)                  | Under Enforcement      |

*Illinois DPH 2015 Annual Compliance Report  
Maximum Contaminant Level and Treatment Technique Violations  
NCPWS*

| <b>ID</b> | <b>Non Community Water Supply Name</b> | <b>Contaminant Name</b> | <b>Violation Category</b> | <b>Comment</b>         |
|-----------|--|-------------------------|---------------------------|------------------------|
| IL3000521 | SANDY OAKS CMPGRND/DALE GARNER         | COLIFORM (TCR)          | MCL (TCR), MONTHLY        | no SOX                 |
| IL3000539 | THE TIMBER                             | COLIFORM (TCR)          | MCL (TCR), ACUTE          | no SOX                 |
| IL3000539 | THE TIMBER                             | COLIFORM (TCR)          | MCL (TCR), ACUTE          | no SOX                 |
| IL3000653 | YMCA CAMP WINNEBAGO                    | COLIFORM (TCR)          | MCL (TCR), MONTHLY        | Returned to Compliance |
| IL3001875 | CAMP AKITA/A FRAME WELL                | COLIFORM (TCR)          | MCL (TCR), MONTHLY        | Returned to Compliance |
| IL3001958 | CAMP WOKANDA                           | COLIFORM (TCR)          | MCL (TCR), MONTHLY        | Returned to Compliance |
| IL3002170 | CEDARBROOK RV CAMPGROUNDS              | COLIFORM (TCR)          | MCL (TCR), MONTHLY        | Returned to Compliance |
| IL3002212 | BONANZA CAMPGROUND #1                  | NITRITE                 | MCL, SINGLE SAMPLE        | Returned to Compliance |
| IL3002212 | BONANZA CAMPGROUND #1                  | COLIFORM (TCR)          | MCL (TCR), ACUTE          | Returned to Compliance |
| IL3002535 | MILLSTADT SPORTSMANS CLUB              | COLIFORM (TCR)          | MCL (TCR), MONTHLY        | Returned to Compliance |
| IL3003145 | SHERIDAN GRADE SCHOOL                  | COLIFORM (TCR)          | MCL (TCR), MONTHLY        | no SOX                 |
| IL3003764 | MORGAN COUNTY BOAT & SKI               | COLIFORM (TCR)          | MCL (TCR), ACUTE          | Returned to Compliance |
| IL3005959 | WALCAMP LUTHERAN RETREAT (5959)        | COLIFORM (TCR)          | MCL (TCR), MONTHLY        | no SOX                 |
| IL3006882 | COMMONWEALTH EDISON COMPANY            | COLIFORM (TCR)          | MCL (TCR), MONTHLY        | Returned to Compliance |
| IL3014423 | LEROY COUNTRY CLUB                     | COLIFORM (TCR)          | MCL (TCR), ACUTE          | Returned to Compliance |
| IL3014506 | KAMP KOMFORT C/O CLIFF OCKER           | COLIFORM (TCR)          | MCL (TCR), MONTHLY        | no SOX                 |
| IL3015057 | BILTMORE C C MAIN BUILDING             | COLIFORM (TCR)          | MCL (TCR), MONTHLY        | Returned to Compliance |
| IL3015446 | FABYAN FOREST PRESERVE                 | COLIFORM (TCR)          | MCL (TCR), ACUTE          | no SOX                 |
| IL3015446 | FABYAN FOREST PRESERVE                 | COLIFORM (TCR)          | MCL (TCR), MONTHLY        | no SOX                 |
| IL3015974 | HAMMEL WOODS DUPAGE                    | COLIFORM (TCR)          | MCL (TCR), MONTHLY        | no SOX                 |
| IL3017517 | MOONS LITTLE ACRES                     | COLIFORM (TCR)          | MCL (TCR), MONTHLY        | no SOX                 |
| IL3017905 | CAMP QUARRYLEDGE                       | COLIFORM (TCR)          | MCL (TCR), ACUTE          | Returned to Compliance |
| IL3018606 | ROCK RIVER CHRISTIAN CAMP              | COLIFORM (TCR)          | MCL (TCR), MONTHLY        | no SOX                 |
| IL3019083 | SHELL GILMER QUICK MART                | COLIFORM (TCR)          | MCL (TCR), MONTHLY        | no SOX                 |
| IL3019356 | IGLESIA SAN PABLO                      | COLIFORM (TCR)          | MCL (TCR), MONTHLY        | no SOX                 |

|           |                                     |                |                    |                        |
|-----------|-------------------------------------|----------------|--------------------|------------------------|
| IL3019687 | TWO RIVERS UNITED METHODIST CH CAMP | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3019968 | SLIDERS PIZZA AND PUB               | NITRATE        | MCL, SINGLE SAMPLE | no SOX                 |
| IL3022426 | KANKAKEE KOA-KUL BANG               | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3023689 | DUCK INN                            | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3024000 | AMERICAN LEGION POST 703            | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3024000 | AMERICAN LEGION POST 703            | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3024976 | LAKE WILL                           | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3029207 | LISBON GRADE SCHOOL                 | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3041137 | LOCKPORT GOLF & RECREATION          | COLIFORM (TCR) | MCL (TCR), ACUTE   | Returned to Compliance |
| IL3042127 | HONEYWELL INTERNATIONAL INC         | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3048595 | BEULAH PRESBYTERIAN CHURCH          | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3051268 | EMERALD ACRES                       | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3053413 | I74 SPOON RIVER REST AREA           | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3053413 | I74 SPOON RIVER REST AREA           | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3053413 | I74 SPOON RIVER REST AREA           | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3053413 | I74 SPOON RIVER REST AREA           | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3055335 | COMLARA PARK HQ                     | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3056440 | COMLARA PARK CAMPGROUND             | COLIFORM (TCR) | MCL (TCR), ACUTE   | no SOX                 |
| IL3057232 | CRYSTAL LAKE MONTESSORI             | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3057729 | LOUD THNDR FRST PRSRV C SHLTR       | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3058628 | EUREKA SPORTSMENS CLUB              | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3061556 | CAMP CILCA                          | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3066308 | WINNERS CIRCLE                      | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3068940 | CAMPTON SPORTS COMPLEX              | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3069997 | LAKOTA SCOUT RESERV-EAGLE LODGE     | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3078162 | KNOX CO SPORTSMENS CLUB             | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3082172 | LAKOTA SCOUT RESERV-DEER CAMP       | COLIFORM (TCR) | MCL (TCR), ACUTE   | no SOX                 |
| IL3084673 | NEW FRIEND WESLEYAN CHURCH          | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3085902 | LOUD THUNDER FOREST PRESERVE B      | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3088534 | DONKEY INN BAR AND GRILL            | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |

|           |   |                |                    |                        |
|-----------|---|----------------|--------------------|------------------------|
| IL3090290 | SHERRARD JR/SR HIGH SCHOOL              | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3090670 | GRANT HILLS MOTEL (90670)               | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3091637 | HA INTERNATIONAL LLC                    | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3094730 | MORAIN HILLS STATE PARK WHITE TAIL PRAI | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3094748 | MORAIN HILLS ST PARK OAK OPENING        | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3095125 | CAMP DUNCAN (95125)                     | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3095653 | JUBILEE ST PK #1 QUAIL MEADOWS          | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3095661 | JUBILEE ST PK #3 EQUESTRIAN             | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3095828 | SILVER SPRINGS STATE PARK (95828)       | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3097873 | LAKE LOUISE (97873)                     | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3099960 | EMERALD ACRES CAMPGROUND                | COLIFORM (TCR) | MCL (TCR), ACUTE   | no SOX                 |
| IL3099994 | LA CHATEAU PARK INC                     | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3102384 | BUSSE BOAT DOCK 1227                    | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3102384 | BUSSE BOAT DOCK 1227                    | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3102905 | WELDON SPRINGS SP DAY USE               | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3103846 | GREEN PASTURES CHRISTIAN CAMP           | COLIFORM (TCR) | MCL (TCR), ACUTE   | Returned to Compliance |
| IL3104562 | LAKE VILLA TOWNSHIP OFFICE DAYCARE      | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3108936 | CHESTNUT MOUNTAIN RESORT (108936)       | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3110023 | STREATOR BAPTIST CAMP -OFFICE WELL      | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3110999 | A B GUSTOS                              | COLIFORM (TCR) | MCL (TCR), ACUTE   | Returned to Compliance |
| IL3111039 | FRANCIS PARK                            | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3111294 | BERNADOTTE CAFE                         | COLIFORM (TCR) | MCL (TCR), ACUTE   | Returned to Compliance |
| IL3111294 | BERNADOTTE CAFE                         | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3111807 | GRANT HILLS MOTEL (111807)              | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3112409 | FRANKLIN CREEK STATE PARK (112409)      | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3115451 | RADNOR ROD AND GUN CLUB                 | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3115469 | CROW VALLEY CAMPGROUND                  | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3117572 | POLLYWOGS ASSOCIATION INC               | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3119511 | BEREA BAPTIST CHURCH                    | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |

|           |                                |                |                    |                        |
|-----------|--------------------------------|----------------|--------------------|------------------------|
| IL3120600 | CHEBANSE RECREATION AREA MAIN  | COLIFORM (TCR) | MCL (TCR), ACUTE   | no SOX                 |
| IL3120642 | LAWRENCEVILLE ROD & GUN CLUB   | NITRATE        | MCL, AVERAGE       | no SOX                 |
| IL3122283 | CLINTON MARINA                 | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3123760 | SCHIMMER OLDS                  | COLIFORM (TCR) | MCL (TCR), ACUTE   | Returned to Compliance |
| IL3126417 | CENTRAL HIGH SCHOOL            | COLIFORM (TCR) | MCL (TCR), ACUTE   | Returned to Compliance |
| IL3129155 | CHEMUNG COUNTRY STORE          | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3129155 | CHEMUNG COUNTRY STORE          | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3130708 | LORD AND SAVIOR LUTHERAN       | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3132076 | HERITAGE ENVIRONMENTAL         | VINYL CHLORIDE | MCL, AVERAGE       | no SOX                 |
| IL3132076 | HERITAGE ENVIRONMENTAL         | VINYL CHLORIDE | MCL, AVERAGE       | no SOX                 |
| IL3132076 | HERITAGE ENVIRONMENTAL         | VINYL CHLORIDE | MCL, AVERAGE       | no SOX                 |
| IL3132076 | HERITAGE ENVIRONMENTAL         | VINYL CHLORIDE | MCL, AVERAGE       | no SOX                 |
| IL3132472 | BOXERS AND BRIEFS              | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3134403 | COMLARA PARK SHOWERHOUSE       | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3135319 | RAYMOND BENSON PARK            | COLIFORM (TCR) | MCL (TCR), ACUTE   | Returned to Compliance |
| IL3135756 | SCOT FORGE                     | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3136192 | LITTLE JOHN CONSERVATION CLUB  | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3136192 | LITTLE JOHN CONSERVATION CLUB  | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3137232 | WEDRON SILICA SAND COMPANY     | COLIFORM (TCR) | MCL (TCR), ACUTE   | Returned to Compliance |
| IL3137455 | LOUD THUNDER FOREST PRESERVE E | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3137661 | ROYAL OAKS HOT DOG STAND       | COLIFORM (TCR) | MCL (TCR), ACUTE   | no SOX                 |
| IL3138701 | STONEWALL ORCHARD CLUBHOUSE    | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3138917 | LIVING WORD OMEGA CHURCH       | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3140830 | WAYNE/WAGONER PRINTING COMPANY | ARSENIC        | MCL, AVERAGE       | Returned to Compliance |
| IL3140830 | WAYNE/WAGONER PRINTING COMPANY | ARSENIC        | MCL, AVERAGE       | Returned to Compliance |
| IL3141556 | DAHINDA UM CHURCH              | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3142323 | MANOR MOTEL WELL 3             | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3142620 | CAMP AKITA BATHHOUSE WELL      | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3142638 | CAMP AKITA LODGE WELL          | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3146779 | BUEHLERS BUY LOW               | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |

|           |   |                |                    |                        |
|-----------|---|----------------|--------------------|------------------------|
| IL3147652 | CORNERSTONE CHRISTIAN ACADEMY           | ARSENIC        | MCL, AVERAGE       | no SOX                 |
| IL3147652 | CORNERSTONE CHRISTIAN ACADEMY           | ARSENIC        | MCL, AVERAGE       | no SOX                 |
| IL3147652 | CORNERSTONE CHRISTIAN ACADEMY           | ARSENIC        | MCL, AVERAGE       | no SOX                 |
| IL3147678 | EAST JORDAN METHODIST CHURCH            | NITRATE        | MCL, SINGLE SAMPLE | Returned to Compliance |
| IL3150557 | WOODFORD STATE FISH & WILDLIFE AREA     | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3150821 | FOOD 4 LESS CREST HILL                  | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3151134 | CARY PARK DISTRICT                      | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3151266 | CABIN FEVER CAMPGROUND                  | COLIFORM (TCR) | MCL (TCR), ACUTE   | no SOX                 |
| IL3151746 | LAYTON ATHLETICS                        | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3152694 | THUNDERHAWK GOLF COURSE 15TH GREEN      | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3153957 | WCFP HADLEY VALLEY                      | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3155127 | INDIAN HILL BIBLE CHURCH                | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3155366 | ATKINSON MOTORSPORT PARK<br>CAMPGROUND  | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3155804 | MARIANJOY REHAB HOSPITAL                | TTHM           | MCL, LRAA          | no SOX                 |
| IL3156695 | NACHUSA LUTHERAN HOME                   | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3156844 | URBAN WASFARE                           | COLIFORM (TCR) | MCL (TCR), MONTHLY | no SOX                 |
| IL3157487 | NORTH SHORE GLENBROOK                   | TTHM           | MCL, AVERAGE       | Returned to Compliance |
| IL3157552 | MCCD WINDING CREEK CONSERVATION<br>AREA | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3157560 | MCHENRY TOWNSHIP FOOD PANTRY            | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3158048 | NORTH SHORE EVANSTON                    | TTHM           | MCL, AVERAGE       | Returned to Compliance |
| IL3158519 | NATURES SCHOLARS DAYCARE                | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3158709 | HARRIS ENTERPRISES OF IL                | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |
| IL3159343 | PSYCHO SILO SALOON                      | COLIFORM (TCR) | MCL (TCR), MONTHLY | Returned to Compliance |

**Appendix D**  
*Community Public Water Supply Facilities*  
*Activated Between October 1, 2003 and December 31, 2015*

| <b>Facility Number</b> | <b>Facility Name</b>                     | <b>Status<br/>A=Active<br/>P=Proposed</b> | <b>Status Date</b> | <b>Capacity Demonstration Notes/<br/>Approval Date</b>        | <b>ETT Score</b> |
|------------------------|--|---|--------------------|---|------------------|
| IL0070060              | GREENVIEW ESTATES MHP                    | A   | 9/8//2014          | status change - system was active (exempt) prior to 10/1/1999 | 0                |
| IL0070200              | POPLAR GROVE WELL 7 SERVICE AREA         | P   | 1/24/2006          | (no permit info available)                                    |                  |
| IL0070350              | POPLAR GROVE WEST-COUNTRYSIDE            | A   | 10/1/2004          | status change - system was active (exempt) prior to 10/1/1999 | 0                |
| IL0170010              | CASS RURAL WATER DISTRICT                | A   | 5/1/2008           | 8/12/2004   | 0                |
| IL0170080              | ARENZVILLE RURAL WATER COOPERATIVE       | A   | 3/2/2011           | 2/16/2007   | 0                |
| IL0195350              | ILUR PORTFOLIOS-CARRIAGE ESTATES         | A   | 8/24/2015          | status change - system was active (exempt) prior to 10/1/1999 | 0                |
| IL0210030              | SHARPSBURG AND NEIGHBORING AREA WATER SY | A   | 4/13/2011          | 6/23/2011   | 0                |
| IL0270040              | GATEWAY REGIONAL WATER COMPANY           | A   | 5/10/2007          | 5/11/2004   | 0                |
| IL0310200              | WOODS OF SOUTH BARRINGTON                | A   | 7/26/2007          | 7/29/2005   | 0                |
| IL0310230              | MID-MARK WATER COMMISSION                | A   | 1/13/2011          | Discovered System-system was active prior to 10/1/1999        | 0                |
| IL0310370              | LINDENTREE TOWNHOMES                     | A   | 12/1/2005          | 10/24/2003  | 0                |
| IL0311540              | LA GRANGE ESTATES MHP                    | A   | 7/6/2006           | Discovered System-system was active prior to 10/1/1999        | 0                |
| IL0312050              | AQUA ILLINOIS-SUMMERDALE                 | A   | 11/19/2015         | status change - system was active (exempt) prior to 10/1/1999 | 0                |
| IL0312433              | LARAMIE PARK HOMEOWNER ASSOCIATION       | P   | 10/1/2004          | status change - system was active (exempt) prior to 10/1/1999 |                  |
| IL0312540              | GREENBRIAR OF PROSPECT HEIGHTS           | P   | 8/19/2015          |   |                  |
| IL0315617              | EDWARD HINES JR V A HOSPITAL             | A   | 5/17/2007          | status change - system was active (exempt) prior to 10/1/1999 | 0                |
| IL0315850              | STERLING ESTATES MHP                     | A   | 7/1/2005           | status change - system was active (exempt) prior to 10/1/1999 | 0                |
| IL0350100              | JEWETT                                   | A   | 12/1/2003          | status change - system was active (exempt) prior to 10/1/1999 | 0                |

| Facility Number | Facility Name                            | Status<br>A=Active<br>P=Proposed | Status Date | Capacity<br>Demonstration Notes/<br>Approval Date              | ETT Score |
|-----------------|--|----------------------------------|-------------|--|-----------|
| IL0374860       | SANDWICH ESTATES MHP                     | A                                | 8/3/2011    | status change - system was active (exempt) prior to 10/1/1999  | 0         |
| IL0374865       | TRIANGLE MANUFACTURED HOME COMMUNITY     | A                                | 8/18/2011   | Discovered System-system was active prior to 10/1/1999         | 0         |
| IL0375500       | NORTHERN ILLINOIS UNIVERSITY-DEKALB      | A                                | 11/24/2004  | status change - system was active (exempt) prior to 10/1/1999  | 0         |
| IL0495400       | EASY BREEZE MANUFACTURED HOME PARK       | A                                | 5/4/2012    | system existed prior to 10/1/1999 but not regulated until 2012 | 0         |
| IL0510020       | KASKASKIA SPRINGS WTER CO.               | P                                | 4/21/2009   | 4/22/2010  |           |
| IL0570150       | BANNER                                   | P                                | 2/10/2014   | Permit Denied, No appeal                                       |           |
| IL0578020       | BERNADOTTE TOWNSHIP                      | P                                | 8/5/2009    | 8/31/2009  |           |
| IL0750910       | SUGAR CREEK MANUFACTURED HOME COMM., LLC | A                                | 11/15/2006  | Discovered System-system was active prior to 10/1/1999         | 0         |
| IL0810030       | MOORES PRAIRIE TOWNSHIP WATER COMPANY    | A                                | 5/9/2013    | 2/23/2012  | 0         |
| IL0890160       | PINGREE GROVE                            | A                                | 10/6/2005   | 8/18/2004  | 0         |
| IL0894400       | WILLOW LAKE ESTATES MHP                  | A                                | 7/1/2015    | status change - system was active (exempt) prior to 10/1/1999  | 0         |
| IL0930300       | HIGHGROVE CONSERVATION DEVELOPMENT       | P                                | 6/5/2006    | 5/28/2008  |           |
| IL0970330       | LONG GROVE SENIOR CARE                   | P                                | 7/16/2015   |  |           |
| IL0970340       | LONG GROVE                               | P                                | 11/2/2015   |  |           |
| IL0971200       | PRAIRIE TRAILS OF LONG GROVE             | A                                | 2/18/2004   | status change - system was active (exempt) prior to 10/1/1999  | 0         |
| IL0975040       | AQUA ILLINOIS-HAWTHORN WOODS             | A                                | 1/1/2005    | 1/15/2004  | 0         |
| IL0975070       | AQUA ILLINOIS-RAVENNA                    | A                                | 8/24/2006   | 7/27/2004  | 0         |
| IL0975090       | SEDGEBROOK INC                           | P                                | 6/21/2004   | status change - system was active (exempt) prior to 10/1/1999  |           |
| IL0990560       | MENDOTA MOBILE HOME COMMUNITY            | A                                | 5/1/2006    | Discovered System-system was active prior to 10/1/1999         | 0         |
| IL0995750       | WEST WALNUT TRAILER COURT                | A                                | 6/9/2011    | status change - system was active (exempt) prior to 10/1/1999  | 0         |
| IL0995840       | SHERIDAN CRCTL CNTR                      | A                                | 10/15/2003  | status change - system was active (exempt) prior to 10/1/1999  | 0         |
| IL1030350       | SAUK VALLEY STUDENT HOUSING              | A                                | 9/28/2005   | 5/10/2005  | 0         |

| <b>Facility Number</b> | <b>Facility Name</b>                    | <b>Status<br/>A=Active<br/>P=Proposed</b> | <b>Status Date</b> | <b>Capacity Demonstration Notes/<br/>Approval Date</b>         | <b>ETT Score</b> |
|------------------------|---|---|--------------------|--|------------------|
| IL1050500              | DANA/LONG POINT, READING, ANCONA RWD    | A   | 6/1/2009           | 8/12/2005  | 0                |
| IL1050650              | IL AMERICAN-SAUNEMIN                    | A   | 9/1/2004           | status change - system was active (exempt) prior to 10/1/1999  | 0                |
| IL1090020              | SCIOTA                                  | A   | 11/1/2003          | status change - system was active (exempt) prior to 10/1/1999  | 0                |
| IL1090030              | WEST PRAIRIE WATER CO-OP                | A   | 8/22/2007          | status change - system was active (exempt) prior to 10/1/1999  | 0                |
| IL1110070              | SPRING GROVE                            | P   | 9/23/2005          | 11/15/2005   |                  |
| IL1110130              | WOODS CREEK WATER SUPPLY                | A   | 11/30/2005         | 7/22/2003  | 0                |
| IL1110930              | MEADOWS OF WEST BAY WATER TREATMENT     | A   | 10/19/2007         | 9/15/2005  | 0                |
| IL1135130              | WILLOW CREEK NORTH MHP                  | A   | 8/23/2006          | Discovered System- system was active prior to 10/1/1999        | 0                |
| IL1150020              | BOODY COMMUNITY WATER COMPANY           | A   | 10/23/2006         | 8/24/2005  | 0                |
| IL1170060              | SOUTH PALMYRA WATER COMMISSION          | A   | 12/19/2003         | status change - system was active (exempt) prior to 10/1/1999  | 0                |
| IL1235125              | AUTUMN RIDGE ESTATES                    | A   | 3/29/2007          | status change - system was active (exempt) prior to 10/1/1999  | 0                |
| IL1195160              | ENCHANTED VILLAGE                       | A   | 6/15/2015          | status change - system was active (exempt) prior to 10/1/1999  | 0                |
| IL1270200              | GALLAGHER SUBDIVISION                   | P   | 6/19/2012          | not active   |                  |
| IL1375050              | NORTH MORGAN WATER COOP                 | A   | 11/1/2007          | 10/14/2005   | 0                |
| IL1430080              | BUFFALO HOLLOW FARMS WATER ASSOC        | A   | 9/7/2004           | status change - system was active (exempt) prior to 10/1/1999  | 0                |
| IL1590200              | OLNEY                                   | A   | 4/3/2008           | status change - system was active (exempt) prior to 10/1/1999  | 0                |
| IL1610350              | MISSISSIPPI MANUFACTURED HOME COMMUNITY | A   | 5/29/2014          | status change - system was active (exempt) prior to 10/1/1999  | 0                |
| IL1615540              | TENNANTS SHADY OAKS SUBDIVISION         | A   | 10/1/2012          | system existed prior to 10/1/1999 but not regulated until 2012 | 0                |
| IL1630070              | CONCORDIA WATER COOPERATIVE             | P   | 12/20/2011         | 2/3/2012   | 0                |
| IL1670060              | OAKWOOD ESTATES                         | A   | 8/20/2014          | status change - system was active (exempt) prior to 10/1/1999  | 0                |
| IL1670080              | SOUTH SANGAMON WATER COMMISSION         | A   | 5/10/2012          | 12/23/2010   | 0                |

| <b>Facility Number</b> | <b>Facility Name</b>                  | <b>Status<br/>A=Active<br/>P=Proposed</b> | <b>Status Date</b> | <b>Capacity Demonstration Notes/<br/>Approval Date</b>        | <b>ETT Score</b> |
|------------------------|---------------------------------------|---|--------------------|---|------------------|
| IL1670090              | ROUND PRAIRIE WATER COOP              | A   | 10/8/2013          | 7/28/2011   | 0                |
| IL1670100              | WOODSIDE MHC                          | A   | 1/22/2013          | status change - system was active (exempt) prior to 10/1/1999 | 0                |
| IL1670110              | PARK RIDGE MHC                        | A   | 1/22/2013          | status change - system was active (exempt) prior to 10/1/1999 | 0                |
| IL1670120              | BISSELL VILLAGE MHC                   | A   | 2/11/2013          | 1/11/2013   | 0                |
| IL1670130              | NORTHBROOK MHC                        | A   | 2/11/2013          | 1/11/2013   | 0                |
| IL1670140              | EDGEWOOD MOBILE HOME COURT (MHC)      | A   | 6/28/2013          | status change - system was active (exempt) prior to 10/1/1999 | 0                |
| IL1670160              | RIDGE VILLAGE MHP                     | A   | 9/24/2013          | status change - system was active (exempt) prior to 10/1/1999 | 0                |
| IL1670170              | MILTON MANOR MHP                      | A   | 4/30/2014          | status change - system was active (exempt) prior to 10/1/1999 | 0                |
| IL1670180              | LINDEN MANOR MHP                      | A   | 4/30/2014          | status change - system was active (exempt) prior to 10/1/1999 | 0                |
| IL1670190              | WESTWOOD                              | A   | 10/10/2014         | status change - system was active (exempt) prior to 10/1/1999 | 0                |
| IL1670210              | WESTWOOD PLACE                        | A   | 10/10/2014         | status change - system was active (exempt) prior to 10/1/1999 | 0                |
| IL1670220              | GASLITE COURT MHC                     | A   | 9/17/2015          | status change - system was active (exempt) prior to 10/1/1999 | 0                |
| IL1690020              | DHS RUSHVILLE TREATMENT AND DETENTION | A   | 8/31/2009          | status change - system was active (exempt) prior to 10/1/1999 | 0                |
| IL1710020              | SCOTT COUNTY RURAL WATER CO-OP        | A   | 7/24/2008          | 6/10/2002   | 0                |
| IL1970130              | GODLEY PUBLIC WATER DISTRICT          | A   | 8/26/2011          | 5/5/2004  | 0                |
| IL2010030              | FOREST VIEW MHP                       | A   | 6/1/2005           | status change - system was active (exempt) prior to 10/1/1999 | 0                |
| IL2010080              | SHERIDAN GROVE SUBDIVISION            | A   | 9/19/2007          | 5/4/2005  | 0                |
| IL2010090              | ROCK 39 WATER SYSTEM                  | I   | 3/3/2012           | 3/22/2012   | 0                |
| IL2010460              | WOUTH BLUFF MHP                       | A   | 7/15/2015          | status change - system was active (exempt) prior to 10/1/1999 | 0                |

**Appendix E**  
*Non-Transient Non-Community Water Supplies*  
*Activated between January 1, 2004 and December 31, 2015*

| <b>Facility #</b> | <b>Facility Name</b>                    | <b>Facility Status</b><br><b>A=Active</b><br><b>I=Inactive</b> | <b>Activation Date</b> | <b>ETT Score</b> |
|-------------------|---|--|------------------------|------------------|
| IL3147652         | Cornerstone Christian Academy           | A  | 2-24-04                |                  |
| IL3147660         | Springhaven Park                        | I  | 3-1-04                 |                  |
| IL3147728         | American Precision Electronics          | A  | 3-10-04                |                  |
| IL3147801         | All State West Plaza                    | A  | 3-25-04                |                  |
| IL3147900         | Barbara Rose Elementary School          | A  | 6-10-04                |                  |
| IL3148270         | Ag View FS Inc.                         | A  | 10-14-05               |                  |
| IL3148361         | Will County Forest Preserve Op & Maint. | I  | 10-18-04               |                  |
| IL3148430         | Rankin School Dist                      | A  | 9-7-04                 |                  |
| IL3148619         | North Boone High School (09-27-04)      | A  | 1-4-05                 |                  |
| IL3148742         | Barrington Methodist Church             | A  | 3-29-05                |                  |
| IL3149005         | TOYAL AMERICA                           | A  | 3-15-05                |                  |
| IL3149039         | Monsanto Agronomy Center                | A  | 6-6-05                 |                  |
| IL3149088         | QTC Development, Inc                    | A  | 6-7-05                 |                  |
| IL3149252         | Countryside Private School              | A  | 10-3-05                |                  |
| IL3149427         | Mobil Truck Stop                        | A  | 10-4-05                |                  |
| IL3149443         | Wilton Federated Church                 | A – Changed to Transient System                                | 10-4-05                |                  |
| IL3149559         | Citgo Refinery North Well               | A  | 8-2-06                 |                  |
| IL3149591         | Plainfield Township                     | A – Changed to Transient System                                | 1-23-06                |                  |
| IL3149807         | Flower Garden Toddler Center            | I  | 2-1-06                 |                  |
| IL3149849         | Walco Tool and Engineering              | A – Changed to Transient System                                | 2-15-06                |                  |
| IL3150052         | Toolamation                             | A  | 4-21-06                | 2                |
| IL3150102         | Forming America Ltd.                    | A  | 4-25-06                |                  |
| IL3150169         | Merichkas                               | A  | 5-11-06                |                  |
| IL3150433         | Crest Foods Production                  | A  | 11-2-06                |                  |
| IL3150441         | Crest Foods Warehouse                   | A  | 11-2-06                |                  |
| IL3150548         | Monsanto Seeds                          | A  | 11-2-06                |                  |
| IL3150581         | Victory Christian Center                | A-Changed to Transient System                                  | 1-24-07                |                  |
| IL3150748         | Seward Screw Products 16377             | A  | 3-7-07                 |                  |
| IL3150763         | Illinois Crime Lab                      | I  | 3-7-07                 |                  |
| IL3139337         | Superior Felt                           | I  | 8-13-07                |                  |
| IL3151654         | Monsanto Corn Research                  | A  | 1-9-08                 |                  |
| IL3151670         | Pioneer Hi-Bred Intl. Corn Research     | A  | 3-4-08                 |                  |
| IL3151944         | Freemont Intermediate School            | A  | 4-2-08                 |                  |
| IL3152173         | Sav A Pet                               | A  | 5-14-08                | 2                |
| IL3152223         | Apachi Day Camp                         | A-Changed to Transient System                                  | 5-1-08                 | 3                |
| IL3152462         | Danisco                                 | A  | 10-1-08                |                  |
| IL3152504         | Monsanto Office                         | A  | 10-1-08                |                  |
| IL3152629         | Patriot Renewable Fuels                 | A  | 12-17-08               |                  |
| IL3152645         | Monsanto Barn                           | A  | 5-8-08                 | 2                |
| IL3152744         | Mary Sears Child Care                   | I  | 11-13-14               |                  |

| Facility # | Facility Name                                   | Facility Status<br>A=Active<br>I=Inactive | Activation Date | ETT Score |
|------------|---|---|-----------------|-----------|
| IL3152835  | West Hills Shopping Center                      | A   | 9-18-08         |           |
| IL3152850  | Deans Food Company                              | A   | 12-29-08        |           |
| IL3153015  | Chemtool Rockton                                | A   | 3-12-09         |           |
| IL3153023  | Pentecostal Center                              | I   | 12-17-08        |           |
| IL3153064  | Menards   | A   | 2-3-09          |           |
| IL3153072  | Jewel Wells Spring Grove                        | A   | 3-31-09         |           |
| IL3153080  | Pioneer Hi-bred Int.                            | A   | 3-31-09         |           |
| IL3153213  | Little Bit Country Preschool                    | A – Changed to<br>Transient System        | 6-25-09         |           |
| IL3153288  | Cross Roads Community Church                    | A   | 6-25-09         | 2         |
| IL3153346  | Scott Company Hyponex                           | A   | 6-25-09         |           |
| IL3153411  | Vermilion Power Station                         | I   | 9-17-09         |           |
| IL3153569  | Rovanco Piping System Inc.                      | A   | 9-25-09         |           |
| IL3153890  | Curry Ice & Coal                                | I   | 12-30-09        |           |
| IL3153924  | Hanson Pressure Pipe West Well                  | I   | 6-3-09          |           |
| IL3154047  | Full Fill Industries                            | A   | 2-16-10         |           |
| IL3154153  | CORNERSTONE EARLY<br>LEARNING                   | I   | 1-25-10         |           |
| IL3154161  | HELMAR LUTHERAN CHURCH                          | A – Changed to<br>Transient System        | 3-20-12         |           |
| IL3154476  | Open Bible Church                               | I   | 3-30-10         |           |
| IL3154724  | Lifes Little Miracles                           | A   | 4-13-10         |           |
| IL3154567  | Moore Tires Inc.                                | A   | 4-26-10         |           |
| IL3154633  | Lutheran General Hospital                       | A   | 6-24-10         |           |
| IL3154666  | Monroe Center School 2 <sup>nd</sup> Well       | A   | 6-24-10         |           |
| IL3155028  | MASJID AL HUDA SCHOOL                           | A   | 10-20-10        | 4         |
| IL3155085  | We Care Daycare                                 | A   | 1-3-11          | 18        |
| IL3147736  | Flower Garden Day Care 3 <sup>rd</sup> Building | A   | 2-9-11          |           |
| IL3148429  | MONTESSORI ACADEMY GLEN<br>ELLYN                | A   | 2-10-11         |           |
| IL3151365  | Children of Promise                             | A   | 2-10-10         |           |
| IL3155382  | SEPTRAN INC                                     | A   | 2-24-11         |           |
| IL3155168  | SAUBER MFG CO 11 BAY                            | I   | 3-15-11         |           |
| IL3155150  | SAUBER MFG CO SUPER SHOP                        | A   | 3-15-11         |           |
| IL3155390  | PEACEFUL PATHWAYS                               | A   | 4-3-11          |           |
| IL3155416  | FOX METRO WATER<br>RECLAMATION DISTRICT         | A   | 4-19-11         |           |
| IL3155358  | SUNSET FOODS VILLAGE OF<br>LONG GROVE           | A   | 5-17-11         |           |
| IL3155291  | FORBO ADHESIVES                                 | A   | 5-26-11         |           |
| IL3155309  | NORTHSHORE UNIVERSITY<br>HEALTH SYSTEM          | A   | 6-28-11         |           |
| IL3155606  | UIC MEDICAL CENTER CHICAGO                      | A   | 8-31-11         |           |
| IL3155614  | HEARTLAND PRIVATE SCHOOL                        | A   | 9-21-11         |           |
| IL3155747  | NORTHFIELD BLOCK COMPANY<br>1                   | A   | 9-29-11         | 4         |
| IL3155754  | NORTHFIELD BLOCK COMPANY<br>2                   | A   | 9-29-11         | 4         |
| IL3155762  | NORTHFIELD BLOCK COMPANY<br>3                   | A   | 09-29-11        | 4         |

| Facility # | Facility Name                        | Facility Status<br>A=Active<br>I=Inactive | Activation Date | ETT Score |
|------------|--------------------------------------|---|-----------------|-----------|
| IL3155796  | AMERICAN AD BAG                      | A   | 10-12-11        |           |
| IL3155804  | MARION JOY REHAB HOSPITAL            | A   | 01-10-12        | 5         |
| IL3155952  | CHRIST COMMUNITY CHURCH              | A   | 01-10-12        |           |
| IL3155986  | KOLB-LENA CHEESE COMPANY             | A   | 01-10-12        |           |
| IL3156323  | TRINITY COMMONS                      | A – Changed to<br>Transient System        | 04-02-12        |           |
| IL3156471  | PCS PHOSPHATE                        | A   | 06-26-12        |           |
| IL3156554  | QUENTIN ROAD BIBLE BAPTIST<br>SCHOOL | A   | 07-17-12        |           |
| IL3156646  | WONDERS OF CHILDREN<br>DAYCARE       | A   | 08-02-12        |           |
| IL3156695  | NACHUSA LUTHERAN HOME                | A   | 09-13-12        |           |
| IL3156737  | ARTCO LEMONT                         | A   | 09-13-12        |           |
| IL3156760  | PRECISION PLANTING                   | A   | 09-17-12        |           |
| IL3156836  | JW MARRIOTT HOTEL                    | A   | 11-12-12        |           |
| IL3156943  | COUNTRYSIDE CENTER<br>HANDICAPPED    | A   | 12-31-12        |           |
| IL3156950  | WHOLE FOODS MARKET WELL              | A   | 12-31-12        |           |
| IL3157149  | JX PETERBUILT                        | A   | 04-02-13        |           |
| IL3157164  | AUX SABLE MORRIS                     | A   | 04-02-13        |           |
| IL3157289  | RIVER TERRACE CHURCH                 | A   | 05-13-13        |           |
| IL3157297  | BERNER FOOD & BEV                    | A   | 05-15-13        | 2         |
| IL3157347  | PREMIER FABRICATION                  | A   | 06-04-13        |           |
| IL3157412  | RINKS HOLDING LLC                    | A   | 07-15-13        |           |
| IL3157479  | TUGRANT DIVERSIFIED BRANDS           | A   | 09-24-13        |           |
| IL3157487  | NORTHSHORE UNIVERSITY<br>GLENVIEW    | A   | 10-2-13         | 3         |
| IL3157586  | TECHNISAND WEDRON                    | A   | 10-9-13         | 2         |
| IL3157594  | WEDRON SILCA 2                       | A   | 10-9-13         |           |
| IL3157636  | MYCOGEN SEEDS GRAND RIDGE            | A   | 10-10-13        |           |
| IL3157677  | NUSSBAUM TRANSPORTATION              | A   | 10-24-13        |           |
| IL3157990  | AZZ GALVANIZING                      | A   | 12-05-13        | 13        |
| IL3157933  | PEARL VALLEY EGGS                    | A   | 12-26-13        |           |
| IL3157974  | CITY OF ROCHELLE AIRPORT             | A   | 12-26-13        |           |
| IL3158444  | CANTIGNY PARK                        | A   | 9-3-14          |           |
| IL3158519  | NATURE SCHOLARS DAYCARE              | A   | 9-30-14         |           |
| IL3158600  | INTEGRYS GAS 2 <sup>ND</sup> WELL    | A   | 10-8-14         |           |
| IL3158717  | ALLOY SPECIALTIES INC                | A   | 12-26-14        |           |
| IL3158774  | MACLEAN FOGG                         | A   | 1-15-15         |           |
| IL3158873  | WEDRON SILICA SCREENING<br>HOUSE     | A   | 2-17-15         |           |
| IL3158881  | WEDRON SILICA MINE SITE              | A   | 2-17-15         |           |
| IL3158923  | KSI CONVEYORS INC                    | A   | 3-4-15          |           |
| IL3158774  | MACLEAN FOGG M1                      | A   | 01/15/2015      |           |
| IL3158873  | WEDRON SILICA SCREEN HOUSE           | A   | 2-17-15         |           |
| IL3158881  | WEDRON SILICA MINE SITE              | A   | 2-17-15         |           |
| IL3158923  | KSI CONVEYORS INC                    | A   | 3-3-15          |           |
| IL3159053  | FAITH CHRISTIAN ELEM<br>SCHOOL       | A   | 4-9-15          |           |

| <b>Facility #</b> | <b>Facility Name</b>    | <b>Facility Status</b><br><b>A=Active</b><br><b>I=Inactive</b> | <b>Activation Date</b> | <b>ETT Score</b> |
|-------------------|-------------------------|--|------------------------|------------------|
| IL3159061         | CELANESE                | A –Changed to<br>Transient                                     | 4-9-15                 |                  |
| IL3159418         | PRIMROSE SCHOOL/DAYCARE | A  | 6-17-15                |                  |
| IL3159582         | DURA BAR METAL SERVICES | A  | 8-25-15                |                  |

*Appendix F*  
*United States Geological Survey Research Reports*

- Carter, J.M., Moran, M.J., Zogorski, J.S., and Price, C.V., 2012, Factors Associated with Sources, Transport, and Fate of Chloroform and Three Other Trihalomethanes in Untreated Groundwater Used for Drinking Water: *Environmental Science & Technology*, v. 46, no. 15, 8189-8197 <http://pubs.acs.org/doi/pdf/10.1021/es301839p>.
- Eberts, S.M., Thomas, M.A., and Jagucki, M.L., 2013, The quality of our Nation's waters—Factors affecting public-supply-well vulnerability to contamination—Understanding observed water quality and anticipating future water quality: U.S. Geological Survey Circular 1385, 120 p. Available online at <http://pubs.usgs.gov/circ/1385/>.
- Foster, Stephen, Typson, Gillian, Hoard, Ken, Hirata, Ricardo, Shivakoti, Binaya-Raj, Warner, Kelly, Gogu, Radu, and Nkhuwa, Daniel, 2015, Resilient cities & groundwater: International Association of Hydrogeologists, Strategic Overview Series, IAH 2015, 6 p. <https://iah.org/wp-content/uploads/2015/12/IAH-Resilient-Cities-Groundwater-Dec-2015.pdf>
- Kay, R.T., Groschen, G.E, Cygan, Gary, Dupré, D.H., 2011, Diel cycles in dissolved barium, lead, iron, vanadium, and nitrite in a stream draining a former zinc smelter site near Hegeler, Illinois: *Chemical Geology*, Volume 283, Issues 1–2, Pages 99–108, [www.sciencedirect.com/science/article/pii/S0009254110003608](http://www.sciencedirect.com/science/article/pii/S0009254110003608).
- Kay, R.T, Miner J.J., Maurer, D.A., and Knight, C.W., 2010, Hydrology, water quality, and causes of changes in vegetation in the vicinity of the Spring Bluff Nature Preserve, Lake County, Illinois, May 2007–August 2008: U.S. Geological Survey Scientific Investigations Report 2009–5237, 73 p.
- Mills, P.C., Duncker, J.D., Over, T.M., Domanski, M.M., and Engel, F.L., 2014, Evaluation of a mass-balance approach to determine consumptive water use in northeastern Illinois: U.S. Geological Survey Scientific Investigations Report 2014–5176, 90 p., <http://dx.doi.org/10.3133/sir20145176>.
- Mills, P.C., 2014, Groundwater-surface water relations in the Fox River watershed—Insights from exploratory studies in Illinois and Wisconsin: U.S. Geological Survey Open-File Report 2014–1055, 20 p., <http://dx.doi.org/10.3133/ofr20141055>.
- Mills, P.C., and Cobb, R.P, 2015, Hexavalent and total chromium at low reporting concentrations in source-water aquifers and surface waters used for public supply in Illinois, 2013: U.S. Geological Survey Scientific Investigations Report 2015–5020, 58 p., <http://dx.doi.org/10.3133/sir20155020>.
- Morrow, W.S., 2013, Best management practices at a Chicago streetscapes project: Illinois Groundwater Association 30<sup>th</sup> Anniversary Meeting, Program and Abstracts, April 19, 2013, Morton, Illinois, [www.illinoisgroundwater.org/meetings/2013\\_Spring/IGA%20Spring2013%20Abstracts.pdf](http://www.illinoisgroundwater.org/meetings/2013_Spring/IGA%20Spring2013%20Abstracts.pdf).

- Rowe, Barbara L., Price, Curtis V., Zogorski, John S., and Moran, Michael J., 2010, *Vulnerability of drinking water supply wells to VOCs*: J. American Water Works Association, vol. 102, no. 5, May 2010, p. 133-143.
- Szabo, Zoltan, Fischer, J.M., and Hancock, T.C., 2012, Principal aquifers can contribute radium to sources of drinking water under certain geochemical conditions: U.S. Geological Survey Fact Sheet 2010–3113, 6 p., available at <http://pubs.usgs.gov/fs/2010/3113/>.
- Szabo, Zoltan, dePaul, V.T., Fischer, J.M., Kraemer, T.F., and Eric Jacobsen, 2012, Occurrence and geochemistry of radium in water from principal drinking-water aquifer systems of the United States, *Applied Geochemistry*, Volume 27, Issue 3, March 2012, Pages 729-752.
- Warner, K.L. and Ayotte, J.A., 2014, *Water Quality in the Glacial Aquifer System, Northern United States, 1993–2009*: U.S. Geological Survey Circular 1352, 116 p. <http://pubs.usgs.gov/circ/1352/>
- Warner, K.L., 2013, Now you see it, now you don't--advantages of continuous water-quality monitoring: Proceedings of Workshop on sensor needs for terrestrial biochemistry measurements, Argonne National Laboratory, July 23-24, Argonne, Illinois <http://sensor.workshop.anl.gov/presentations/index.htm>.
- Warner, K.L., and Reeves, H., 2012, Regional Groundwater Availability and Groundwater Quality Studies in the Glacial Aquifer System of the United States: USGS Groundwater Workshop, Abstracts and Poster presentations, August, 6-10, 2012.
- Warner, K.L., June 26-27, 2012, Natural contaminants occur more frequently than anthropogenic contaminants in the glacial aquifer system, northern United States, National Ground Water Association, Midwest Focus Conference, Conference Proceedings, Columbus, Ohio.
- Warner, K.L., Ayotte, J., and Arnold, T.L., 2012, Water Quality of the Glacial Aquifer System--Anthropogenic and Natural Contaminants, National Water Quality Monitoring Conference Proceedings, Portland, Oregon, April 30-May 4, 2012 [http://acwi.gov/monitoring/conference/2012/posters/Poster73A\\_Warner.pdf](http://acwi.gov/monitoring/conference/2012/posters/Poster73A_Warner.pdf).

**Appendix G**  
*State Water and Geological Survey Research Reports*

- Abrams, D.B., D.R. Hadley, D.H. Mannix, G.S. Roadcap, S.C. Meyer, K.J. Hlinka, K. Rennels, K.R. Bradbury, P.M. Chase, and J.J. Krause, 2015. Changing Groundwater Levels in the Sandstone Aquifers of Northern Illinois and Southern Wisconsin: Impacts on Available Water Supply. ISWS Contract Report CR 2015-02.  
<http://www.isws.illinois.edu/pubdoc/CR/ISWSCR2015-02.pdf>.
- Hlinka, K., S.D. Wilson, C. Smith, G. Rogers, K. Bridges, S.C. Meyer, G.S. Roadcap, C. Healy, and T. Bryant, 2014. Water Withdrawals in Illinois, 2011. ISWS Circular C-186.  
<http://www.isws.illinois.edu/pubdoc/C/ISWSC-186.pdf>.
- Kelly, W.R., S.V. Panno, and K.C. Hackley, 2015. Effects of Various Soil Amendments on Subsurface Water Quality at the ISU Farm. Illinois State Water Survey Report of Investigations RI-121, Champaign, IL, 85 p.  
<http://www.isws.illinois.edu/pubdoc/RI/ISWSRI-121.pdf>.
- Kelly, W.R., 2015. Book Review: Groundwater Geochemistry and Isotopes. *Ground Water* 53(6): 832-833. DOI: 10.1111/gwat.12377.
- Kelly, W.R., D.B. Abrams, V. Knapp, S.C. Meyer, Z. Zhang, B. Dziegielewski, D.R. Hadley, G.S. Roadcap, D.H. Mannix, and Y. Lian, in press. Water Supply Planning: Middle Illinois Progress Report. Illinois State Water Survey Contract Report.
- Mannix, D., D. Abrams, D. Hadley, G. Roadcap, and W. Kelly, 2015. Groundwater availability in Northeastern Illinois from the deep sandstones. *Splash: American Water Works Association, Illinois Section*, Fall 2015:48-51.  
<http://www.kelmanonline.com/httpdocs/files/ISAWWA/splashfall2015/index.html>.
- Morris, L., S.D. Wilson, and W.R. Kelly, in press. Methods of conducting effective outreach to private well owners – a literature review. *Journal of Water and Health*. Available online: DOI: 10.2166/wh.2015.081
- Panno, S.V., K.C. Hackley, R.A. Locke, I.G. Krapac, B. Wimmer, A. Iranmanesh, and W.R. Kelly, 2013. Formation waters from Cambrian-age strata, Illinois Basin, USA: Constraints on their origin and evolution. *Geochimica et Cosmochimica Acta*. 122:184–197. DOI 10.1016/j.gca.2013.08.021.
- Panno, S.V. and W.R. Kelly, 2015. Driftless Area karst of northwestern Illinois and its effects on groundwater quality. Proceedings of the 14<sup>th</sup> Multidisciplinary Conference on Sinkholes and the Engineering & Environmental Impacts of Karst. October 5 – 9, 2016, Rochester, MN, 12 p.  
[http://scholarcommons.usf.edu/cgi/viewcontent.cgi?article=1094&context=sinkhole\\_2015](http://scholarcommons.usf.edu/cgi/viewcontent.cgi?article=1094&context=sinkhole_2015).

Panno, S.V., P.G. Millhouse, R.W. Nyboer, D. Watson, W.R. Kelly, L.M. Anderson, C.C. Abert, and D.E. Luman. 2014. Guide to the Geology, Hydrogeology, Botany, History, and Archaeology of the Driftless Area of Northwestern Illinois, Jo Daviess County. Illinois State Geological Survey Field Trip Guidebooks 2014A, Champaign, IL. <http://library.isgs.illinois.edu/Pubs/pdfs/ftgb/ftgb2014A-galena.pdf>.

Zhang, Y., W.R. Kelly, S.V. Panno, and W.-T. Liu, 2014. Tracing fecal pollution sources in karst groundwater by *Bacteroidales* genetic biomarkers, bacterial indicators, and environmental variables. *Science of The Total Environment* 490:1082–1090. DOI: 10.1016/j.scitotenv.2014.05.086.