Indiana Department of Environmental Management
2017 Annual Compliance Report
for Indiana Public Water Supply Systems

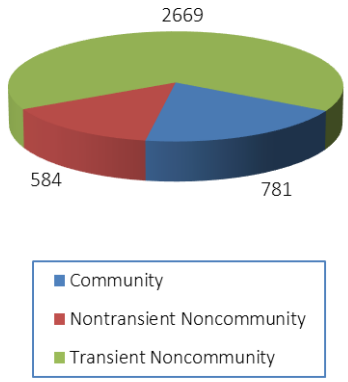
IDEM Drinking Water Branch **June 2018**

Introduction

The 1996 Amendments to the Safe Drinking Water Act require each state to prepare an annual report of violations of the national primary drinking water regulations for public water supplies. The annual reports are intended to provide a summary of violations of maximum contaminant levels (MCL's), treatment techniques, variances and exemptions[1], and monitoring and reporting violations (M&R). This report includes information for the time period January 1, 2017 through December 31, 2017.

Public Water Supply Information

Graph 1. Number and Type of Public Water Systems in Indiana



There are approximately 4,034 active public water supplies in Indiana. Graph 1 shows the distribution of public water systems by the system type. Drinking water in Indiana comes from ground water sources via wells or surface water sources such as lakes and rivers. Some public water systems purchase water from other public water supplies and distribute the water to their customers. Ninety-seven percent (97%) of all public water systems are served by ground water systems. However, only fifty-six percent (56%) of the total population is served by systems utilizing ground water.

[1] IDEM did not issue any variances or exemptions in 2017; therefore there are no violations for variances and exemptions to address in this summary report.

Drinking Water Monitoring Requirements

The Safe Drinking Water Act and the Indiana Public Water Supply Supervision Program mandate the monitoring and reporting of various bacteriological and chemical contaminants that may be found in drinking water. The contaminants are categorized as total coliform, nitrate (NO_3), inorganic chemicals (IOCs), volatile organic compounds (VOCs), synthetic organic compounds (SOCs), radionuclides (Rads), lead and copper (Pb/Cu), and Stage 1 and Stage 2 disinfectants/disinfection byproducts (D/DBPs) Rules. The levels of these contaminants in drinking water are compared to maximum contaminant levels (MCLs) which are set by the Environmental Protection Agency (EPA) and adopted by the State, to ensure that water is safe for human consumption. In addition, compliance results may trigger additional actions, such as source water monitoring under the Ground Water Rule (GWR) or public education for lead. See Table 2 on page 4 for a list of MCLs and action levels for all of the regulated contaminants.

Surface water systems are also required to comply with additional provisions of the Safe Drinking Water Act which deal with surface water treatment. These regulations pertain to treatment techniques that require systems to properly treat their water. When a surface water PWS fails to properly treat its water or cannot control the levels of such contaminants as turbidity, bacteria, viruses, or parasitic microorganisms the system has violated the provisions of the Safe Drinking Water Act and is assigned a treatment technique (TT) violation. Surface water systems are also required to sample for *Cryptosporidium* and/or *E. coli* under the Long Term 2 Enhanced Surface Water Treatment Rule (LT2) to determine if additional treatment is required to remove *Cryptosporidium*.

If a system has an MCL or TT violation, that system becomes a priority for follow-up by the Drinking Water Branch to ensure the violation is corrected.

Violation Summary

Table 1 provides a summary of the number of MCL, M&R, and TT violations for all of the regulated drinking water contaminants for the 2017 calendar year (January 1, 2017 - December 31, 2017). The table also provides a summary of the number of systems in violation for each contaminant group.

Table 1. 2017 Violations Summary for Indiana Public Water Supplies									
		MCL		Treatment Technique		Monitoring & Reporting		Consumer Confidence Report	
		Violations	Systems In Violation	Violations	Systems in Violation	Violations	Systems In Violation	Violations	Systems in violation
CCR	CWS							78	69
Pb/Cu	CWS			0	0	37	32	**PN Violations**	
	NTNC			1	1	38	37		
SWTR	CWS			0	0	0	0	0	0
	NTNC			0	0	0	0	0	0
	TNC			0	0	0	0	0	0
VOC	CWS	1	1			168	8		
	NTNC	0	0			252	9		
IOC	CWS	4	1			72	25		
	NTNC	5	5			34	12		
	TNC	19	19			164	153		
SOC	CWS	0	0			34	3	**GWR Other Violations**	
	NTNC	0	0			29	2		
GWR	CWS			0	0	21	13	0	0
	NTNC			0	0	9	9	0	0
	TNC			0	0	148	126	0	0
TCR/ RTCR	CWS	2	2	4	4	63	36		
	NTNC	1	1	5	5	71	51		
	TNC	10	10	189	184	1432	734		
Rads	CWS	0	0			6	3		
DBP	CWS	21	1	1	1	43	21		
	NTNC	0	0	0	0	0	0		
	TNC	0	0	0	0	0	0		
Totals*	CWS	28	11	5	5	473	127	78	69
	NTNC	6	6	6	6	440	99	0	0
	TNC	29	29	189	184	1769	847	0	0

Total Number of Systems in Violation*		
	CWS	209
	NTNC	152
	TNC	1048
	Total	1409

Total Number Of Violations		
	CWS	754
	NTNC	551
	TNC	2392
	Total	3697

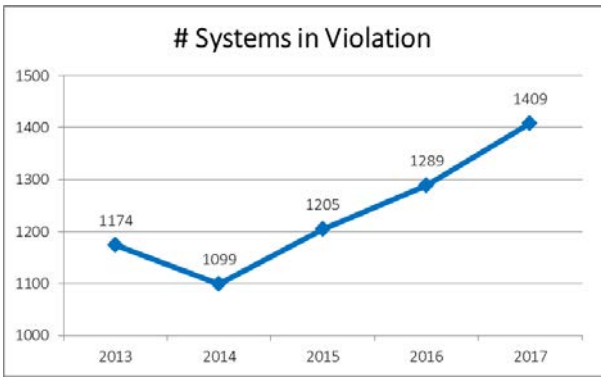
LEGEND

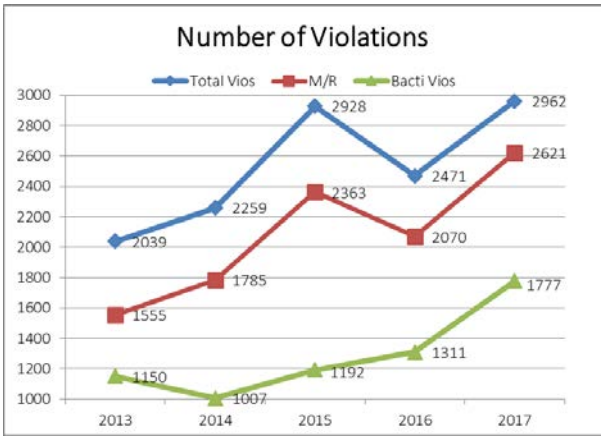
MCL=Maximum Contaminant Level Violation	**IOC**=Inorganic Chemicals (10-12 Chemicals)	**VOC**=Volatile Organic Compounds (21 Chemicals)	**NO3**=Nitrate
Pb/Cu=Lead and Copper	**SOC**=Synthetic Organic Compounds (27-30 Chemicals)	**TCR**=Total Coliform Rule	**Rads**=Radionuclides
DBP=Disinfection By-Products	**SWTR**=Surface Water Treatment Rule	**CCR**=Consumer Confidence Report	
TNC=Transient Noncommunity	**NTNC**=Nontransient Noncommunity Water System	**CWS**=Community Water System	

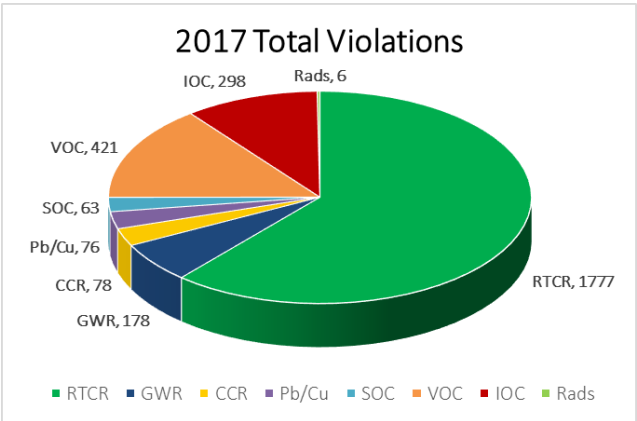
***** This number represents the total number of systems in violations for 2017. However, this number includes some systems with multiple violations across contaminant groups.

An evaluation of the data in 2017 Annual Compliance Report (ACR) shows the in-compliance rates at about seventy-three percent (73%) for monitoring and reporting (M/R) violations, ninety-nine percent (99%) for MCLs, and ninety-five percent (95%) for TT violations. The majority of violations are related to failing to collect and/or report samples. Approximately twenty-seven percent (27%) of the total number of active water systems have sampling (M/R) violations for at least one contaminant, but the majority of those systems (approximately 79%) are transient public water systems.

The number of systems with violations has been increasing with the new Disinfectant Byproducts Rule at the end of 2014 and the new revised Total Coliform Rule (RTCR) in early 2016. The numbers of total violations, particularly M/R violations and RTCR violations, are also on the rise with the new rules. RTCR violations make up the vast majority of all violations. The following charts illustrate these trends:







A key indicator of the quality of the drinking water is the Community Water Systems' (CWSs) populations meeting current health-based standards. IDEM and EPA Region 5 agreed on a strategic plan with shared goals including tracking the percentage of population served by CWSs that meets current health-based standards. During 2017, the percentage was measured quarterly and the average for the four (4) quarterly results was ninety-nine percent (99%) of the population served by CWSs in Indiana meets all health standards.

Consumer Confidence Reports

All community public water systems are required to develop and distribute to their customers a brief annual water quality report called a consumer confidence report (CCR). The community water system is required to deliver a copy of the CCR to its consumers by July 1st. The purpose of the report is to inform and educate customers on the status and quality of their public water supply. The report contains information on the sources of drinking water, the levels of any detected contaminants, and educational information regarding drinking water.

Compliance Assistance Efforts

The Drinking Water Branch currently assists public water supply owners and operators to promote compliance with the drinking water regulations. Assistance is provided through several activities, namely: site visits, correspondence, telephone contact (including the use of interactive voice response (IVR) and regular phone calls), e-mails, educational presentations and materials, and implementation of the small system laboratory assistance program (SSLAP) where IDEM provides free sampling for very small, nonprofit systems serving a population of one hundred (100) or less. Additionally with RTCR, field staff are handling all the Level 2 Assessments and Capacity Development staff are helping systems with the Level 1 Assessments. Another way IDEM reduces sampling violations is by reminding all public water systems of their required monthly, quarterly, semi-annual, or annual sampling by utilizing the IVR system, which leaves automated messages indicating when their sampling requirements are due. Further, IDEM also uses e-mails (when available) as another way to notify systems of when sampling is due.

The following is a summary of the number of site visits and assistance efforts that were conducted in 2017 by the Drinking Water Branch staff:

Sanitary Surveys	**1124**
Well Site Surveys	**91**
Technical Assistance Visits	**638**
Cap. Dev. Assistance Interactions	**500**
IVR Calls & E-mails	**17,203**

The Drinking Water Branch continues to provide assistance to all public water systems as a means to ensure drinking water is protective of human health.

For More Information

If you have any questions concerning this report or would like the lists of public water supplies that had violations in 2017, please contact the Drinking Water Branch at (317) 234-7430. Additional copies of this report are available on the Indiana Department of Environmental Management, Office of Water Quality, Drinking Water Branch web-site at: http://www.in.gov/idem/cleanwater/2386.htm or by calling the Drinking Water Branch at (317) 234-7430.

Additional information regarding the quality of your drinking water may be obtained by contacting your local public water supplier. Please contact your local public water supply for a copy of their latest consumer confidence report (CCR).

For more information regarding all aspects of the environment in Indiana, visit IDEM's website at: http://www.in.gov/idem/. Also, for general information regarding drinking water, you may contact the EPA Safe Drinking Water Hotline by calling (800) 426-4791.

TABLE 2
REGULATED CHEMICAL DRINKING WATER CONTAMINANTS
MAXIMUM CONTAMINANT LEVELS

Contaminant	MCL	Contaminant	MCL	Contaminant	MCL
Inorganic Chemicals (IOCs)	**mg/l**	**Volatile Organic Compounds (VOCs)**	**ug/l**	**Synthetic Organic Compounds (SOCs)**	**ug/l**
Antimony	0.006	1,1-Dichloroethylene	7	2,4-D	70
Arsenic	0.01	1,1,1-Trichloroethane	200	2,4,5-TP (Silvex)	50
Barium	2	1,1,2-Trichloroethane	5	Alachlor	2
Beryllium	0.004	1,2-Dichloroethane	5	Atrazine	3
Cadmium	0.005	1,2-Dichloropropane	5	Benzo(a)pyrene	0.2
Chromium	0.1	1,2,4-Trichlorobenzene	70	Carbofuran	40
Cyanide (free)	0.2	Benzene	5	Chlordane	2
Fluoride (Adjusted) *	2	Carbon Tetrachloride	5	Dalapon	200
Fluoride (Natural) *	4	Cis-1,2-Dichloroethylene	70	Di(2-ethylhexyl)adipate	400
Mercury	0.002	Dichloromethane	5	Di(2-ethylhexyl)phthalate	6
Nickel	---	Ethylbenzene	700	Dibromochloropropane (DBCP)	0.2
Selenium	0.05	Monochlorobenzene	100	Dinoseb	7
Thallium	0.002	o-Dichlorobenzene	600	Dioxin (2,3,7,8-TCDD)	3X10-5
Nitrate	10	p-Dichlorobenzene	75	Diquat	20
Nitrite	1	Styrene	100	Endothall	100
Total Nitrate & Nitrite	10	Tetrachloroethylene	5	Endrin	2
		Toluene	1000	Ethylene Dibromide (EDB)	0.05
Sodium *	No MCL	Trans-1,2-Dichloroethylene	100	Glyphosate	700
		Trichloroethylene	5	Heptachlor	0.4
Asbestos		Vinyl Chloride	2	Heptachlor epoxide	0.2
Asbestos	7 MFL**	Xylenes (total)	10,000	Hexachlorobenzene	1
				Hexachlorocyclopentadiene	50
				Lindane	0.2
				Methoxychlor	40
Lead & Copper		**Disinfection Byproducts**		Oxamyl (Vydate)	200
Lead Action Level	0.015	Total Trihalomethanes ****	80	PCBs	0.5
Copper Action Level	1.3	Haloacetic Acids 5*****	60	Pentachlorophenol	1
				Picloram	500
Radionuclides *	**PCi/l**			Simazine	4
Gross Alpha	15			Toxaphene	3
Gross Alpha Action Level	5				
Radium-226 Action Level	3				
Radium-226 & Radium-228 (combined)	5				
Manmade	***				

* Community Water Systems Only
** MFL=million fibers/liter > 10 micron
*** The average annual concentration of beta particle and photon radioactivity from manmade radionuclides in drinking water shall not produce an annual dose equivalent to the total body or any internal organ greater than four (4) millirem per year.
**** The sum of the concentrations of bromodichloromethane, dibromochloromethane, tribromomethane (bromoform), and trichloromethane (chloroform).
*****The sum of the concentrations of monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, bromoacetic acid, and dibromoacetic acid.

Code Type	-	Description
01	-	MCL, Single Sample
02	-	MCL, Average
03	-	Monitoring, Regular
1A	-	MCL, E.Coli, Pos E Coli (RTCR)
2A	-	Level 1 Assessment Treatment Technique (RTCR)
2B	-	Level 2 Assessment Treatment Technique (RTCR)
2D	-	Startup Procedures Treatment Technique (RTCR)
21	-	MCL, Acute (TCR)
22	-	MCL, Monthly (TCR)
23	-	Monitoring, Routine Major (TCR)
24	-	Monitoring, Routine Minor (TCR)
25	-	Monitoring, Repeat Major (TCR)
26	-	Monitoring, Repeat Minor (TCR)
27	-	Monitoring, Major (DBP)
3A	-	Monitoring, Routine Major (RTCR)
3B	-	Monitoring, Additional Routine Major (RTCR)
34	-	Monitoring, GWR Triggered/Additional Major
38	-	Monitoring, Major (Surface Water)
41, 44	-	Treatment Techniques (Surface Water)
51	-	Initial Tap Sampling (Lead and Copper)
52	-	Follow Up or Routine Tap (Lead and Copper)
65	-	Public Education (LCR)
66	-	Lead Consumer Notice (LCR)
71	-	Consumer Confidence Report
C	-	Community Water System
NTNC	-	Non-Transient Non-Community Water System
NC	-	Transient Water System
GW	-	Ground Water System
GWP	-	Ground Water Purchased System
SW	-	Surface Water System
SWP	-	Surface Water Purchased System