Iowa Environmental Public Health Tracking Network

Nationally Consistent Data Measures for Community Water Systems

Concentration of Disinfection by-product TTHM, 2006

Presented below are data that represent the nationally consistent data measures for presence of the disinfection by-product TTHM in community water systems in Iowa for the Year 2006:

Community water systems (CWS) are regulated under the Safe Drinking Water Act, and are defined as public water supplies that provide water for human consumption that has at least 15 service connections or serves at least 25 people at least 60 days during the year. The Iowa Department of Natural Resources maintains a statewide Safe Drinking Water Information System (SDWIS), and CWS submit the results of required water quality monitoring to this system.

Disinfection by-products (DBPs) are a family of chemicals formed when these disinfectants react with naturally occurring organic matter and other substances in the source water. Consuming disinfection by-products (DBPs) at high levels over many years may increase their risk of developing bladder cancer. Adverse developmental and reproductive effects associated with exposure to disinfection by-products during pregnancy are a concern. They have been studied with mixed results; however, the weight of evidence of the health effects data suggests a potential association. The U.S. Environmental Protection Agency (EPA) requires that water systems use treatment methods to reduce the formation of DBPs and to protect people from waterborne disease and the potential harmful effects of DBPs.

TTHM is the total of four trihalomethane chemicals that are common DBPs. The EPA has set a maximum contaminant level (MCL) for TTHM of 80 micrograms per Liter (80 µg/L). The Iowa DNR works with CWS out of compliance with this MCL to take action to reach levels below the MCL.

CWS also provide estimates of population served through the SDWIS. These numbers are used in the measures presented below, but should be treated as rough estimates and not accurate counts of the population served.

This report contains the following NCDMs

- Distribution of number of community water systems and number of people served by mean TTHM concentrations (micrograms per liter) by year and by quarter.
- Distribution of number of community water systems and number of people served by maximum TTHM concentrations (micrograms per liter) by year.

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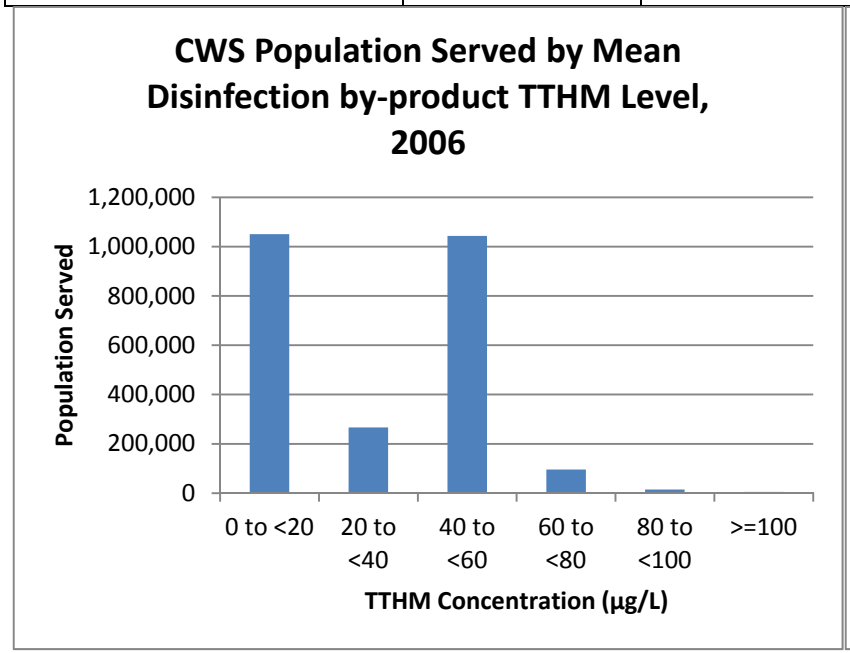
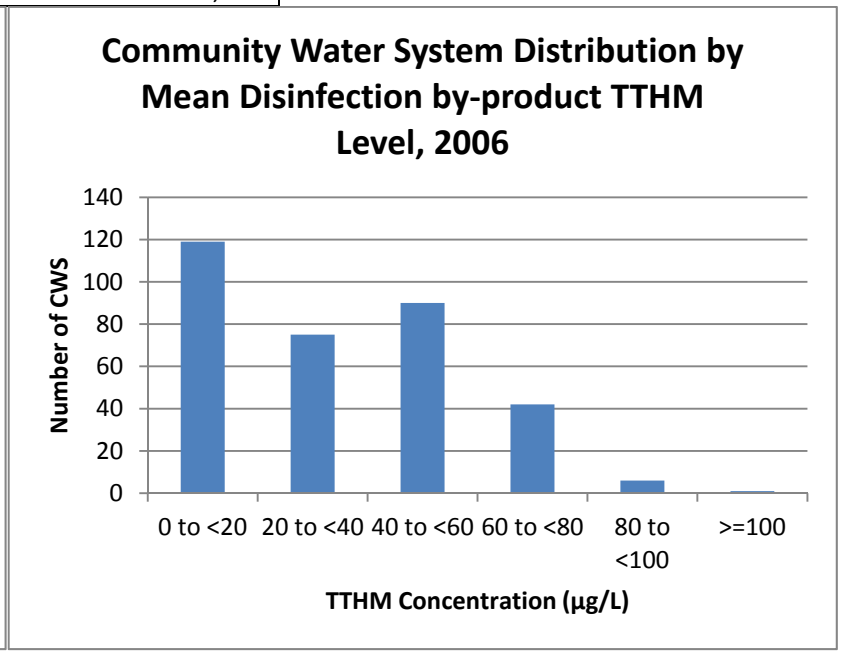
1. Distribution of number of community water systems and number of people served by mean TTHM concentrations (micrograms per liter) by year.

Community Water Systems and Population served by mean TTHM concentration, 2006		
TTHM Concentration (µg/L)	Number of CWS	Population Served
0 to <20	119	1,050,662
20 to <40	75	266,461
40 to <60	90	1,043,639
60 to <80	42	96,136
80 to <100	6	15,080
>=100	1	5,190





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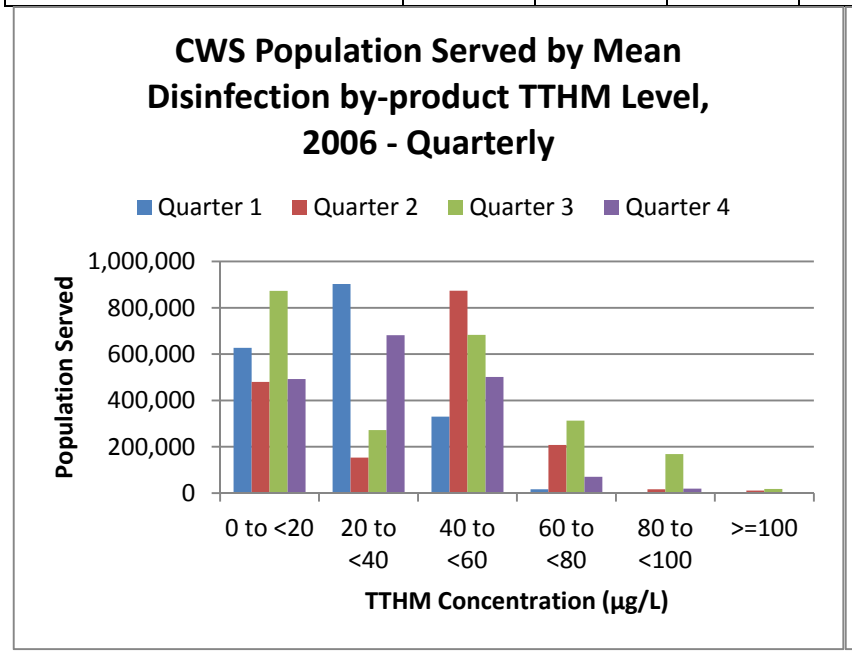
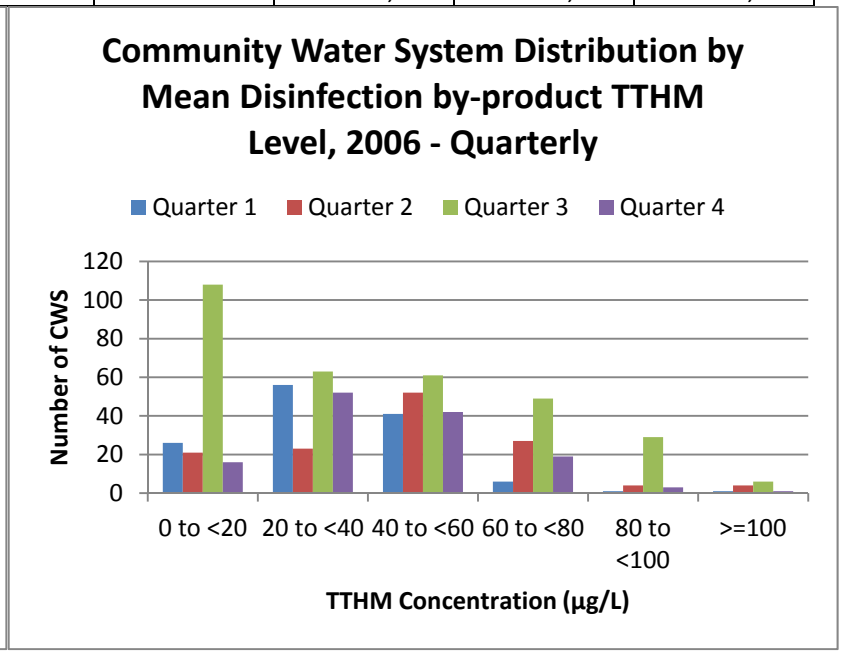
2. Distribution of number of community water systems and number of people served by mean TTHM concentrations (micrograms per liter) by quarter.

Community Water Systems and Population served by mean TTHM concentration, 2006								
TTHM Concentration (µg/L)	Number of CWS				Population Served			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
0 to <20	26	21	108	16	627,139	480,279	872,566	492,402
20 to <40	56	23	63	52	902,707	153,318	272,280	681,308
40 to <60	41	52	61	42	330,216	873,333	683,133	501,354
60 to <80	6	27	49	19	16,598	207,810	312,948	70,495
80 to <100	1	4	29	3	1,200	16,457	168,637	19,032
>=100	1	4	6	1	694	10,694	17,954	2,968





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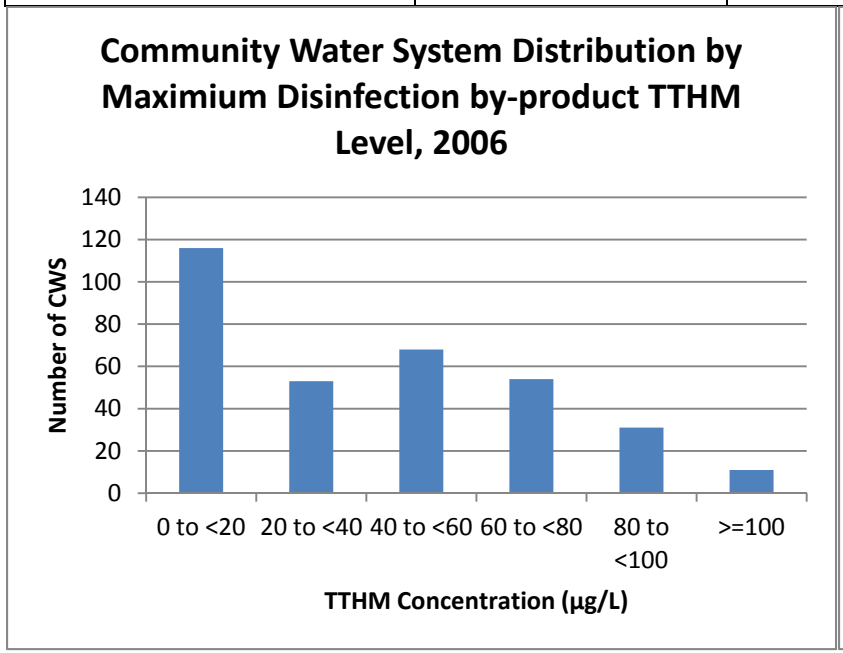
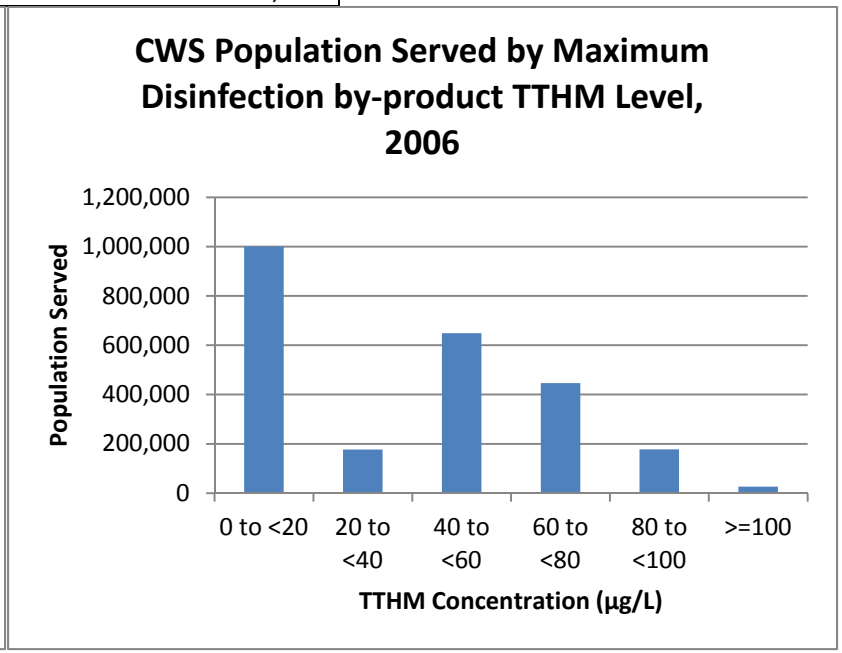
3. Distribution of number of community water systems and number of people served by maximum TTHM concentrations (micrograms per liter) by year.

Community Water Systems and Population served by maximum TTHM concentration, 2006		
TTHM Concentration (µg/L)	Number of CWS	Population Served
0 to <20	116	1,000,568
20 to <40	53	177,396
40 to <60	68	648,779
60 to <80	54	446,201
80 to <100	31	177,773
>=100	11	26,451





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