

The Wisconsin Water Utility Numbers – 2009

Stephen Julka, Public Service Commission Staff

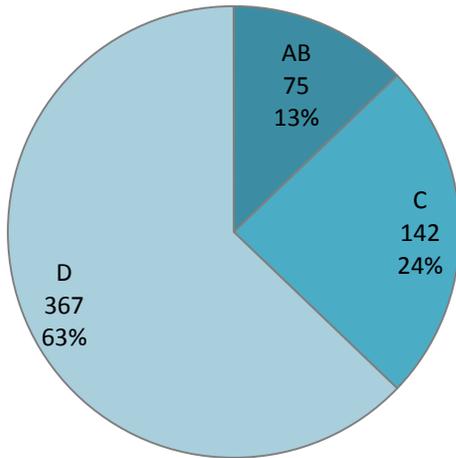
In 2009, there were 584 water utilities in the state of Wisconsin; 513 were municipal utilities, 65 were sanitary districts, and 6 were privately owned utilities. These utilities were classified, with a few exceptions, based on the number of customers they served. In 2009, 75 utilities reported as Class AB (4,000 or more customers), 142 utilities as Class C (1,000 to 3,999 customers), and 367 utilities as Class D (fewer than 1,000 customers). The tables and charts in this report have been generated using information provided by each utility in their 2009 Annual Report to the Public Service Commission of Wisconsin.¹

Water Utilities and Utility Customers

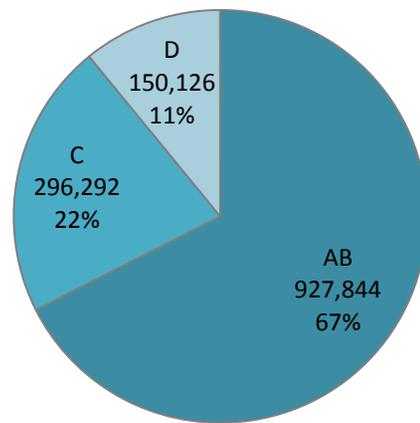
There were more than 1.37 million metered customers who were served by the state’s water utilities in 2009, most of them by Class AB utilities.

		AB	C	D	Total
Utilities	Total	75	142	367	584
	% of Total	13%	24%	63%	100%
Retail Customers	Mean	12,394	2,092	413	
	Total	927,844	296,292	150,126	1,374,262
	% of Total	67%	22%	11%	100%

Number of Water Utilities by Class



Number of Retail Customers Served by Water Utilities



Although Class AB utilities made up roughly one-eighth of all utilities in the state in 2009, they served about two-thirds of water utility customers. More than three-fifths of the state’s utilities were Class D and served just over one-tenth of utility customers.

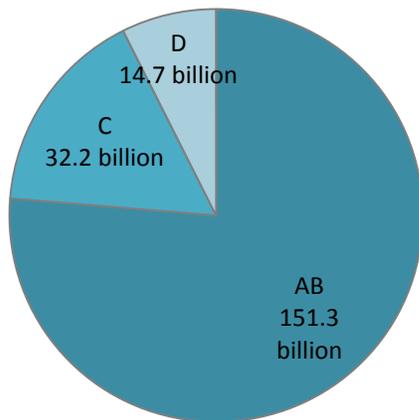
¹ This report is based on 2009 Annual Report data from 579 of the 584 water utilities. 2009 Annual Report data from Danbury Sanitary District, Lincoln Sanitary District #1, Lyndon Station Municipal Water Utility, Park Falls Municipal Water Utility, and Stitzer Sanitary District were estimated based on 2008 reported data.

Water Sales

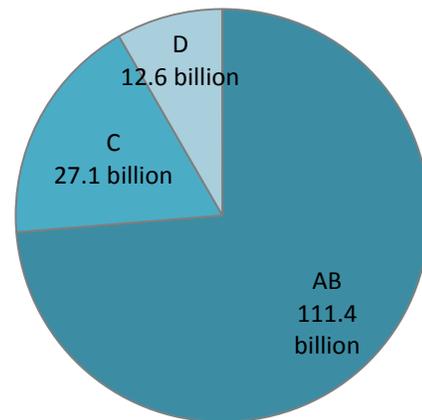
Class AB utilities accounted for more than three-quarters of the total water pumped and sold nearly 30,000 gallons more per customer than Class C and Class D utilities in 2009. This is attributed to the fact that more large industrial customers were served by Class AB utilities than by the other two classes. Class D utilities earned more in revenues per gallon sold but less per customer served than Class AB and Class C utilities.

		AB	C	D	Total
Water Pumped (Thousands of Gallons)	Mean	2,017,477	228,640	40,545	
	Total	151,310,764	32,238,232	14,717,991	198,266,987
	% of Total	76%	16%	7%	100%
Retail Sales (Thousands of Gallons)	Mean	1,484,915	192,390	34,653	
	Total	111,368,602	27,127,003	12,579,114	151,074,719
	% of Total	74%	18%	8%	100%
Retail Revenues (Dollars)	Mean	\$ 1,029,709	\$ 156,242	\$ 33,928	
	Total	\$ 298,120,501	\$ 83,120,560	\$ 41,833,145	\$ 423,074,206
	% of Total	70%	20%	10%	100%
	Per Thousand Retail Gallons Sold	\$ 2.68	\$ 3.06	\$ 3.33	
	Per Retail Customer	\$ 321.30	\$ 280.54	\$ 278.65	

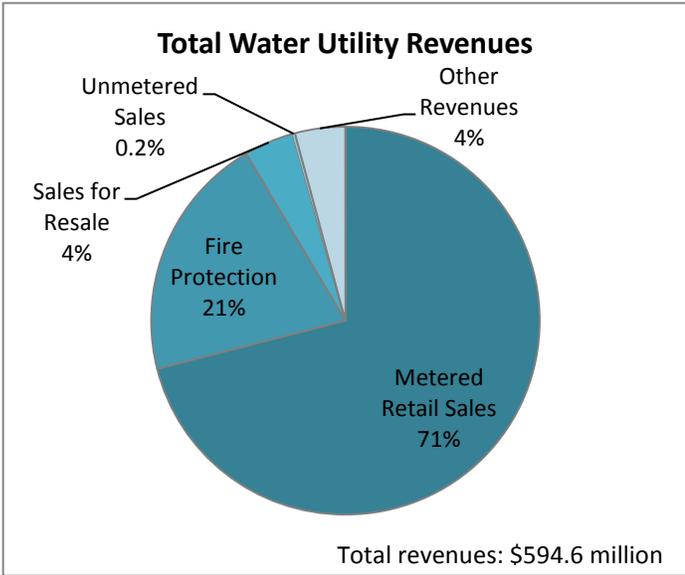
**Total Water Pumped by Utilities
(Gallons)**



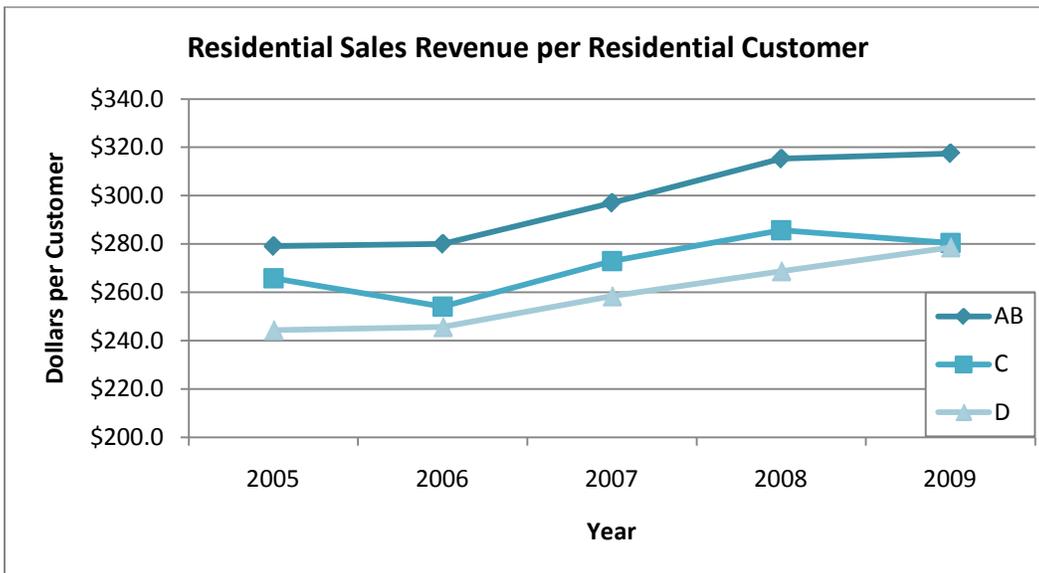
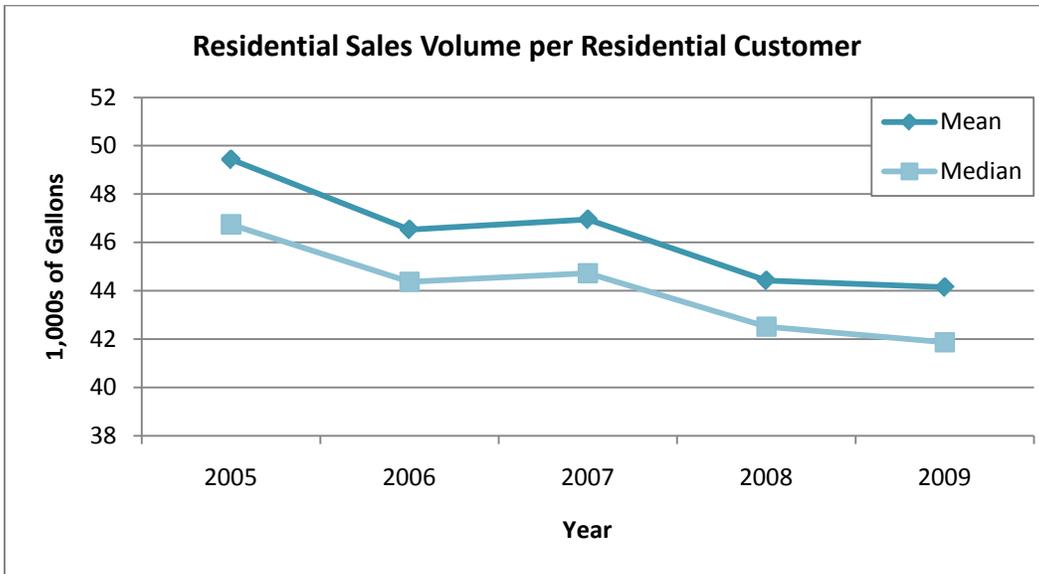
**Total Retail Water Sales by Utilities
(Gallons)**

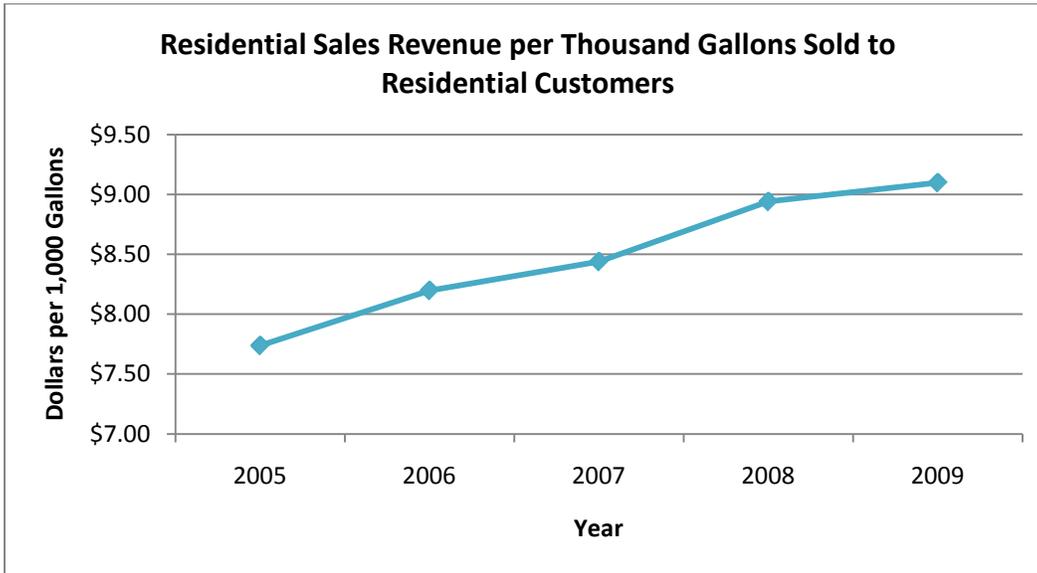


Class AB utilities accounted for 76 percent of the total 198 billion gallons pumped. Class C and Class D utilities accounted for 16 percent 7 percent, respectively, of the total volume pumped in 2009. Total water pumped for each of the three utility classes decreased from 2008 to 2009. Of the nearly 200 billion gallons pumped in 2009, approximately 151 billion gallons, or 76 percent, were sold to metered retail water utility customers and 24.5 billion gallons, or 12 percent, were sold to wholesale customers. About three-quarters of retail sales were to Class AB customers.



Utilities generate revenue through retail sales, wholesale sales, fire protection charges, and other charges. Metered sales to retail customers is the largest source of revenue, or 71 percent of the total revenue of \$595 million in 2009. Class AB utilities account for about two-thirds of retail revenues for state water utilities. Class C utilities earned about one-fifth and Class D utilities about one-eighth of the total revenues in 2009. Although water sales per customer have generally decreased, revenues per customer have generally increased, reflecting rising water rates charged by utilities. Water sales per residential customer have generally decreased for Class AB and Class C utilities, while sales have increased slightly for Class D utilities.





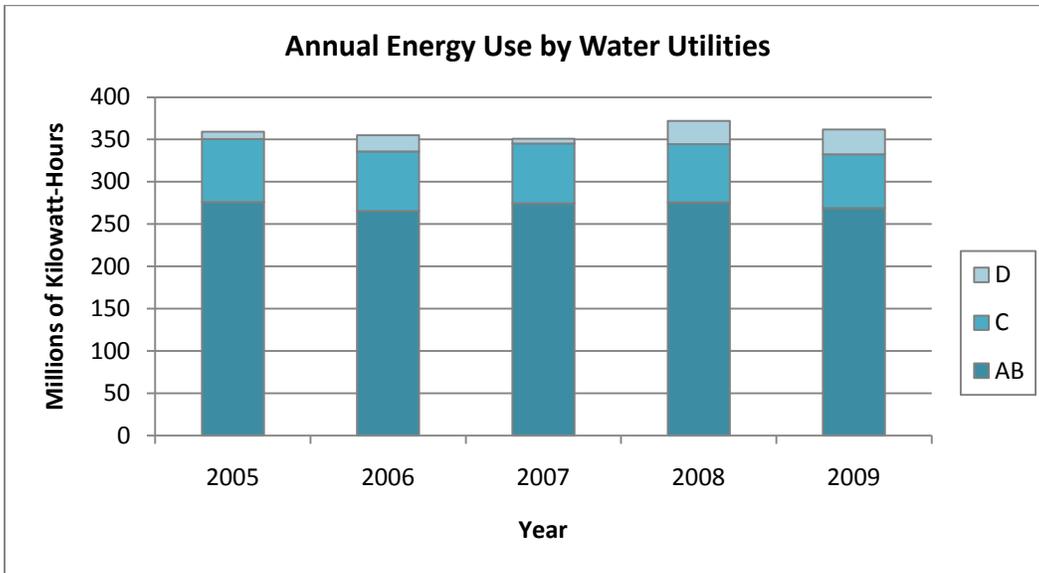
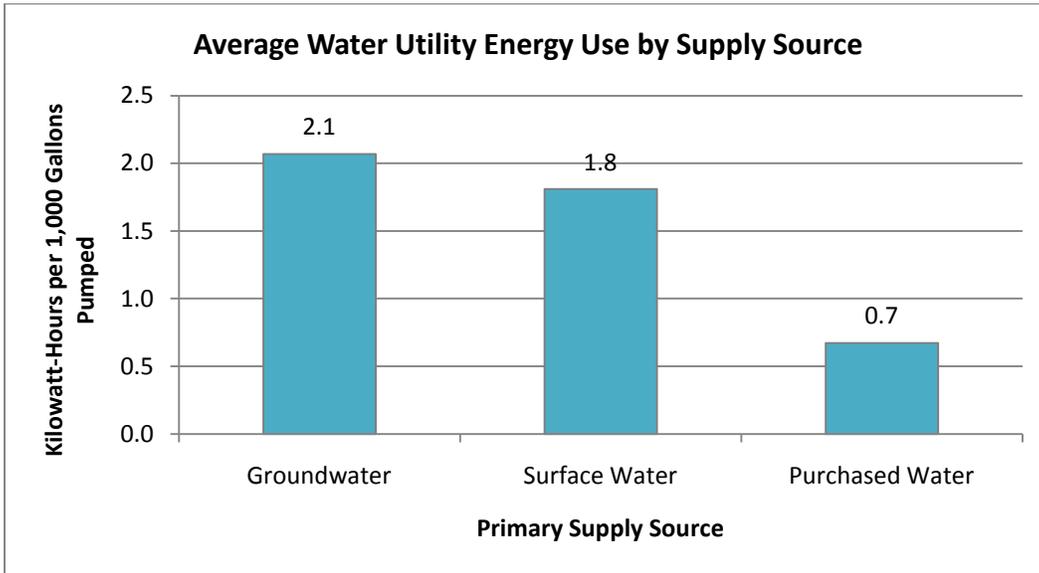
Revenues per thousand gallons sold to residential customers have also increased over time, showing the trend of increasing water rates.

Water Utility Energy Use

Pumping and distributing water is an energy-intensive process. Utilities include energy usage information in their annual reports to the Public Service Commission. In 2009, water utilities reported using more than 361 million kilowatt-hours for water utility operation.

		AB	C	D	Total
Energy Use (Kilowatt-Hours)	Mean	3,585,020	445,962	81,499	
	Total	268,876,467	62,880,594	29,584,115	361,341,176
	% of Total	74%	17%	8%	100%
	Per Thousand Gallons Pumped	1.78	1.95	2.01	
	Per Customer	289.3	211.9	194.3	

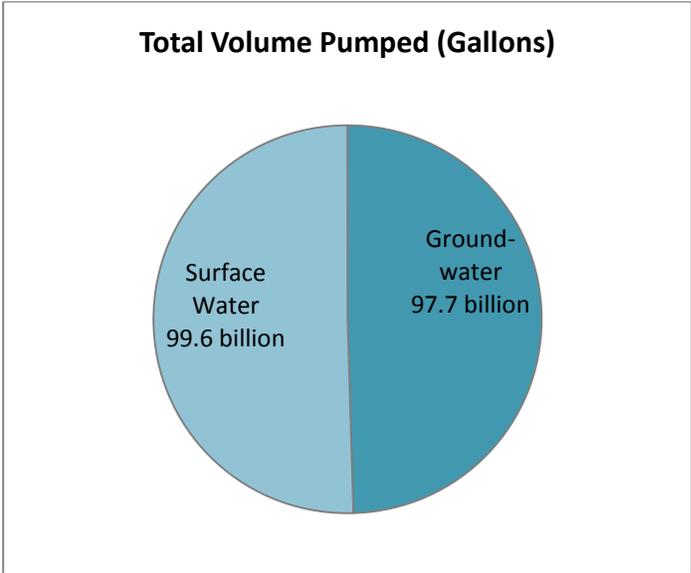
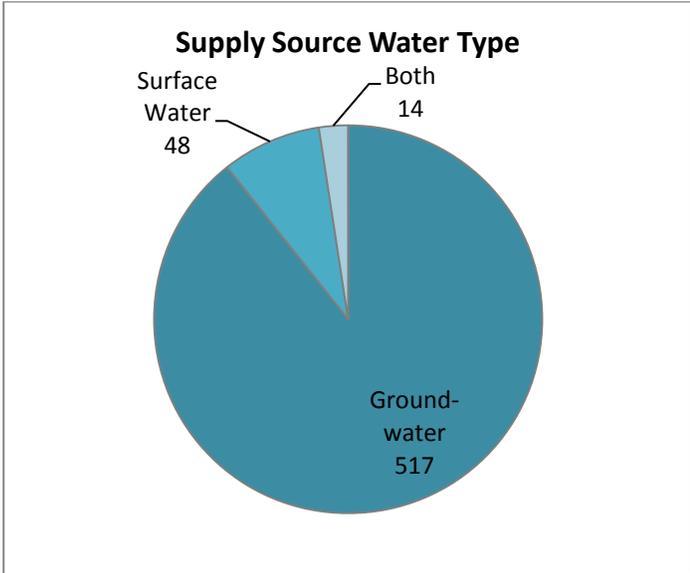
Class AB utilities used more energy per customer served but less energy per gallon pumped than the other utility classes. Energy use by water utilities shows the same ratio as pumpage and sales, with Class AB utilities accounting for three-quarters of total energy use by utilities in 2009.



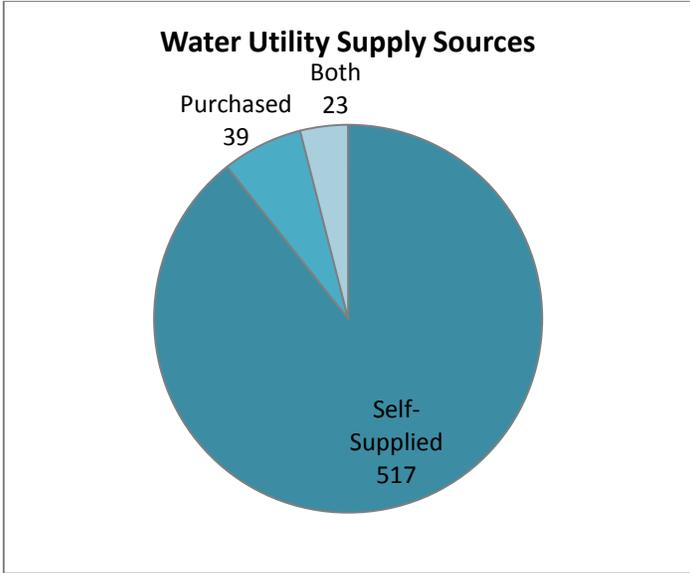
Total energy use by utilities has remained stable at about 350 million kilowatt-hours annually. Energy use per customer served varied by utility class. Class AB utilities used about 290 kilowatt-hours, Class C utilities used about 214 kilowatt-hours, and Class D utilities used about 197 kilowatt-hours per customer.

Water Supply Sources

Water utilities in the state rely on both groundwater and surface water for their supplies. Utilities that pumped water from their own wells used more groundwater than surface water, but utilities that purchased water wholesale from other utilities used more surface water than groundwater. Class AB utilities account for the majority of surface water pumped. Class D utilities rely almost exclusively on groundwater, but the largest volume of groundwater was pumped by Class AB utilities. Four utilities pumped both surface water and groundwater. Class AB utilities also purchased the largest volumes of both surface water and groundwater and three utilities purchased both surface water and groundwater.



Groundwater was the supply source for the majority of the state’s water utilities. Although about ninety percent of utilities relied on groundwater as a supply source, groundwater accounts for slightly less than half of the total volume of water pumped in 2009. Class AB utilities on Lakes Michigan and Winnebago pump large amounts of surface water to serve both their retail and wholesale customers.



Most water utilities relied on a single supply source. In 2009, about 90 percent of water utilities used only water that was supplied by their own wells and plant and about 7 percent of utilities purchased wholesale water supply from other utilities. In 2009, however, 23 utilities, including 12 Class AB, 5 Class C, and 6 Class D, purchased water from other utilities in addition to pumping from their own groundwater or surface water sources.

Water Use and Loss

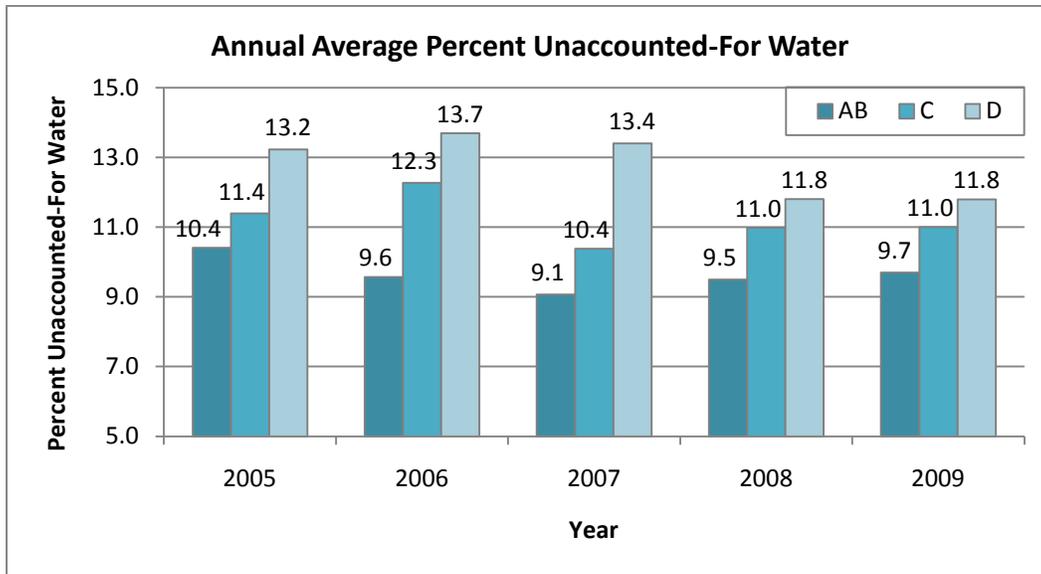
The Public Service Commission is committed to the efficient use of Wisconsin's water resources and works with utilities to minimize water losses. Three measures of water use efficiency are currently reported by water utilities in their Annual Reports: unaccounted-for water, water losses, and water not sold. Unaccounted-for water is the total volume pumped by the utility less uses for water sales, repaired mains, repaired services, repaired hydrants, and unauthorized use. Water loss is the difference between water entering the utility's distribution system and sales and authorized system uses, such as main flushing, fire protection, and freeze prevention. Water not sold is the difference between the total volume pumped and the water sold to utility customers.

Water utilities in the state sold on average about 76 percent of the water that was pumped. The Public Service Commission reviews those utilities that sell less than 70 percent of the volume of water pumped and asks these utilities to provide plans for improvements. Wisconsin Administrative Code PSC 185.85, which addresses system losses, requires that unaccounted-for water be less than 25 percent of total volume pumped for Class C and D utilities and less than 15 percent for Class AB utilities. Unaccounted-for water, however, is a misleading statistic for most utilities because it does not accurately capture what has happened to the water. The Public Service Commission is moving towards a water audit method that uses real and apparent water loss as the benchmark for evaluating the efficiency of a utility. The following charts show some specific statistics relating to utility water loss.

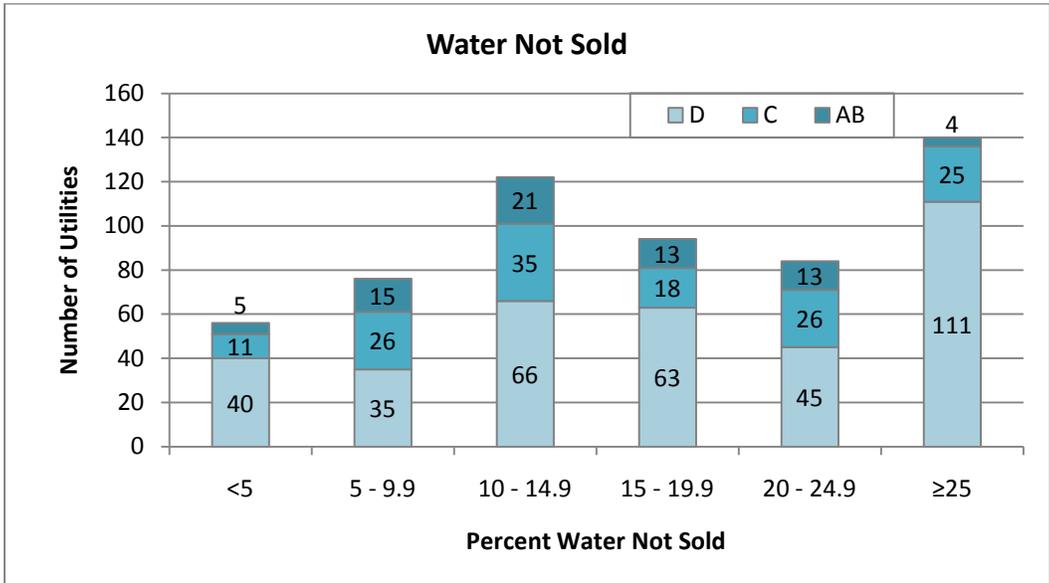
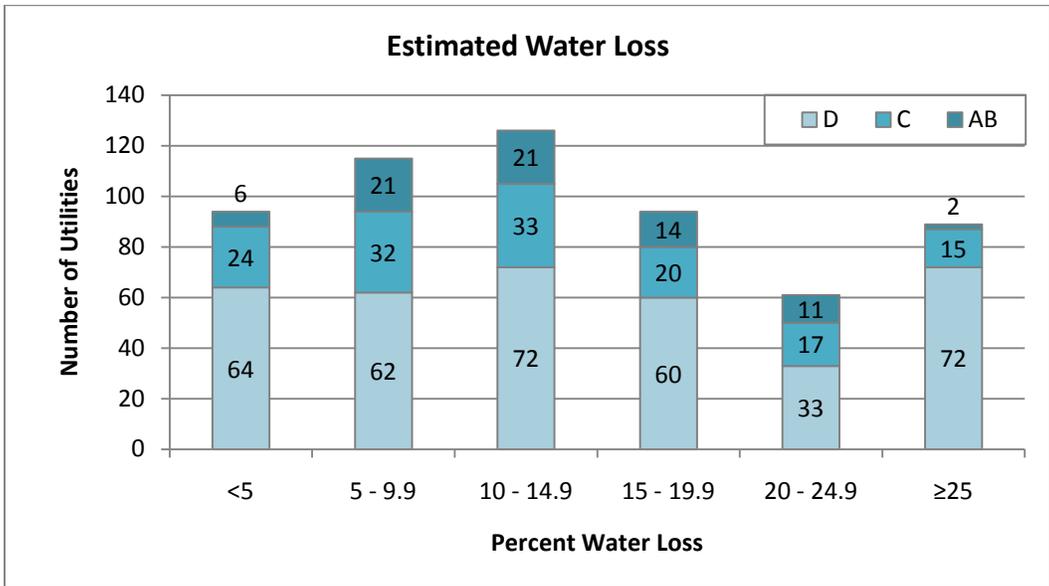
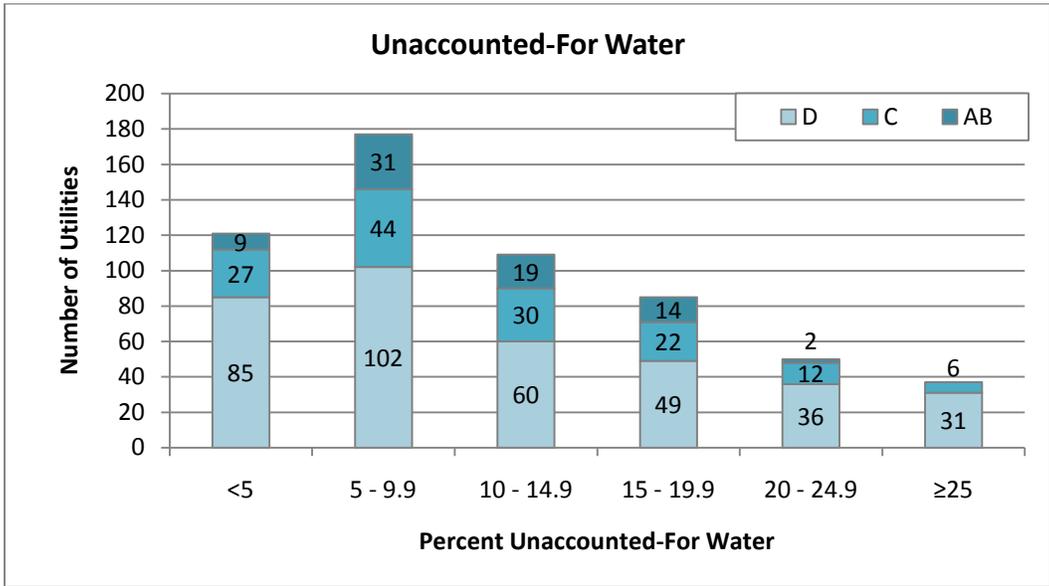
			AB	C	D	Total
Authorized System Uses (Thousands of Gallons)	Main Flushing	Mean	15,976	3,923	700	
		Total	1,102,321	498,246	230,269	1,830,836
		% of Total	60%	27%	13%	100%
	Fire Protection	Mean	7,392	551	168	
		Total	421,322	53,486	37,765	512,573
		% of Total	82%	10%	7%	100%
	Freeze Prevention	Mean	3,746	1,886	752	
		Total	142,362	135,800	104,513	382,675
		% of Total	37%	35%	27%	100%
	Other Uses	Mean	11,170	2,281	589	
		Total	569,651	223,580	122,533	915,764
		% of Total	62%	24%	13%	100%
	Total System Uses	Mean	30,289	6,508	1,371	
		Total	2,271,686	911,112	495,080	3,677,878
		% of Total	62%	25%	13%	100%

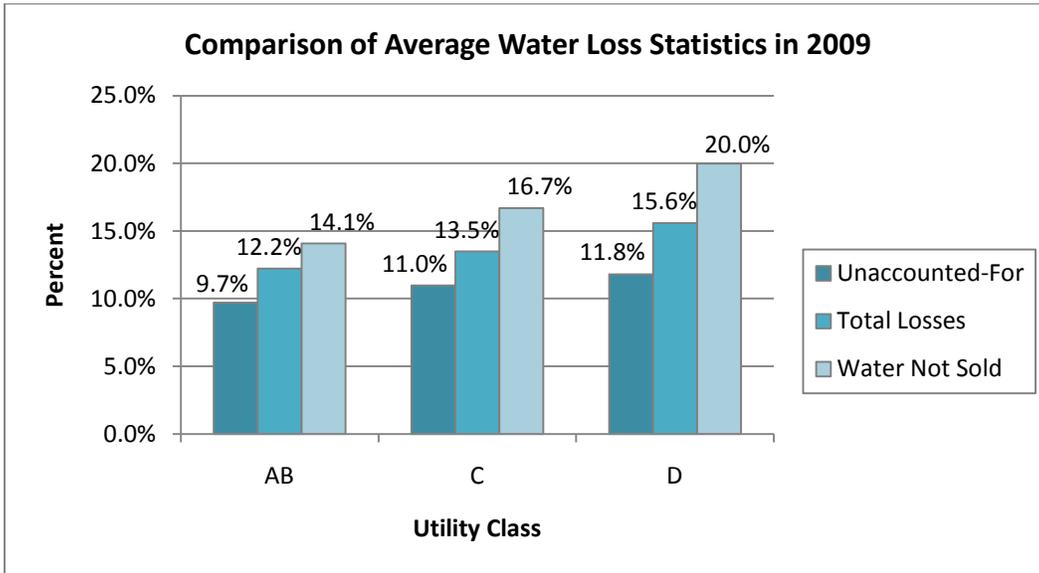
The ratios of water use among utility classes for volume pumped, sales, systems uses, and water losses were similar in 2009. For authorized system uses, the greatest amounts of water were used for main flushing, while unaccounted-for water represented the largest water losses for each utility class.

			AB	C	D	Total
Water Losses (Thousands of Gallons)	Main Leak & Break Loss	Mean	22,149	3,255	1,121	
		Total	1,572,584	380,837	234,256	2,187,677
		% of Total	72%	17%	11%	100%
	Service Leak & Break Loss	Mean	9,598	2,259	879	
		Total	489,494	201,064	121,364	811,922
		% of Total	60%	25%	15%	100%
	Hydrant Leak Loss	Mean	2,321	583	916	
		Total	69,616	31,455	98,902	199,973
		% of Total	35%	16%	49%	100%
	Unauthorized Use	Mean	8,039	67	23	
		Total	160,777	2,139	1,080	163,996
		% of Total	98%	1%	1%	100%
	Unaccounted-For Water	Mean	214,142	22,293	4,387	
		Total	16,060,665	3,121,003	1,583,770	20,765,438
		% of Total	77%	15%	8%	100%
	Total Water Losses	Mean	244,708	26,689	5,649	
		Total	18,353,136	3,736,498	2,039,372	24,129,006
		% of Total	76%	15%	8%	100%



The current measure of water loss, percent unaccounted-for water, has generally decreased over the last five years. All three utility classes have an average percentage that is less than the limit set by PSC 185.85. Class AB utilities continue to show the lowest percentage of unaccounted-for water, but the total volume lost by Class AB utilities is greater than that in smaller utilities.





This report presents some of the available data from the state's water utilities' 2009 Annual Reports to the Public Service Commission. For additional information please visit <http://psc.wi.gov> or contact Bruce Schmidt, PSC Staff Engineer, at (608) 266-5726 or by e-mail at Bruce.Schmidt@wisconsin.gov.