

# Providing High-Quality Groundwater in Urban Areas



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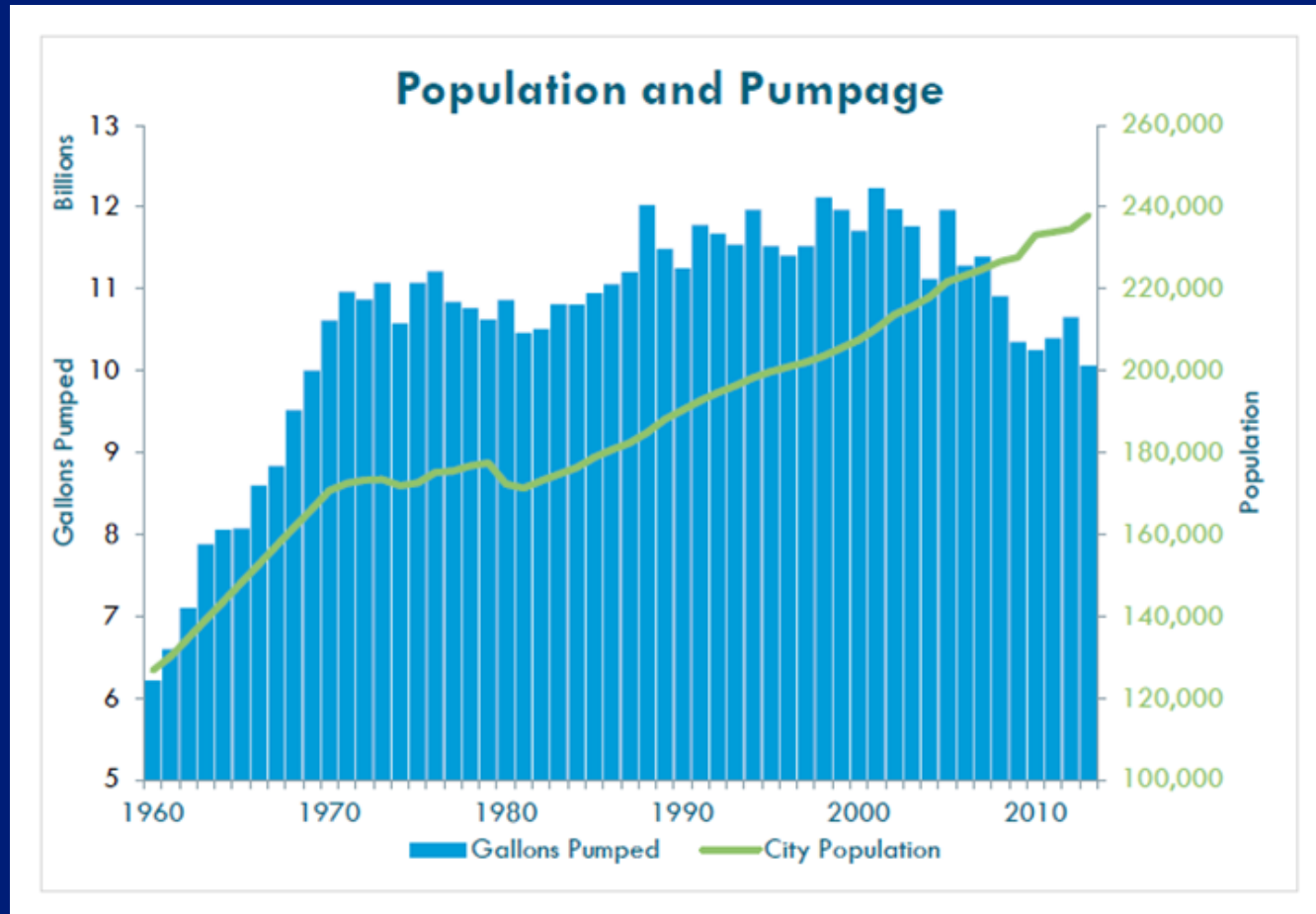
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<sup>UW</sup>**Extension**  
Cooperative Extension

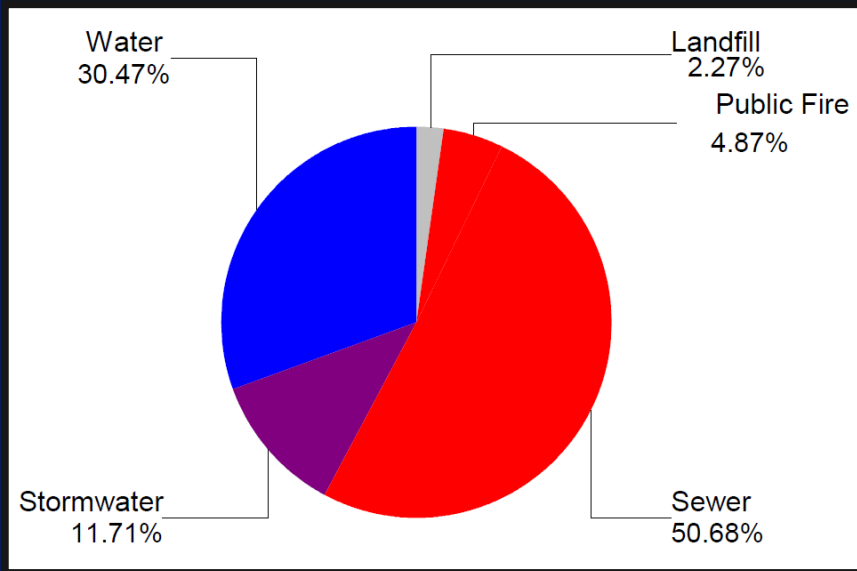
Wisconsin Geological &  
Natural History Survey



# Economic and environmental sustainability Issues related to water quality and quantity



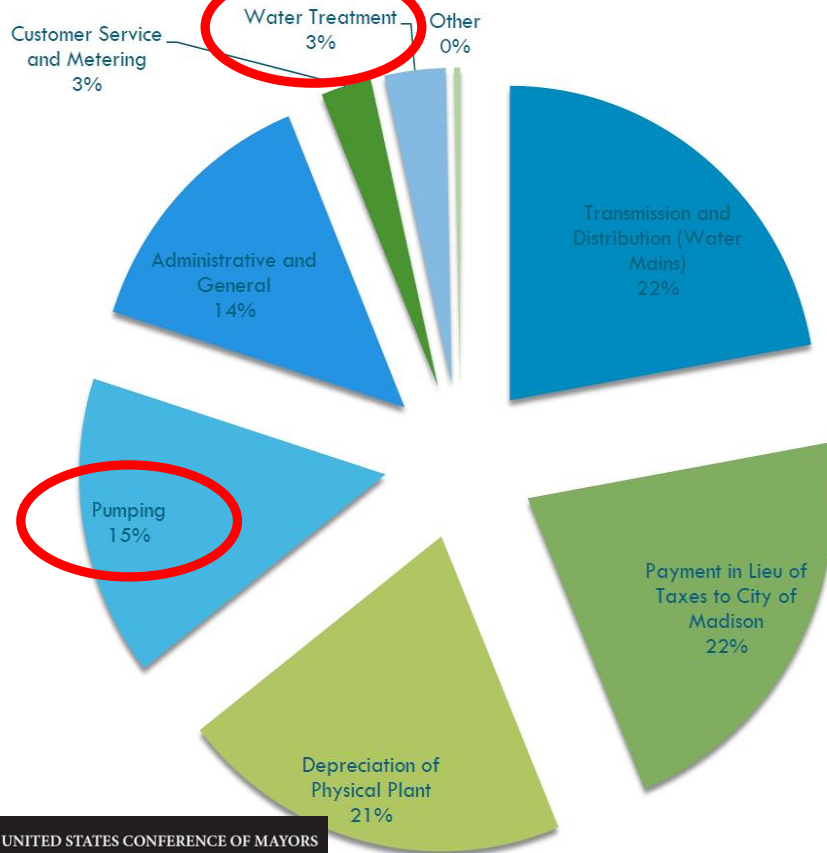
# Monthly City Services Bill (2-person household)



<b>Water</b>		
Water Base Charge 5/8" Meter		4.50
Water Consumption	1740 gallons at 0.00281	4.89
<b>Sub Total Water</b>		<b>\$9.39</b>
<b>Sewer</b>		
Sewer Base Charge 5/8" Meter		11.26
Sewer Based On Water Use	1740 gallons at 0.00251	4.36
<b>Sub Total Sewer</b>		<b>\$15.62</b>
<b>Landfill Remediation</b>		<b>\$0.70</b>
<b>Public Fire Protection Charge</b>		<b>\$1.50</b>
<b>Stormwater Phone # (608) 266-4751</b>		
Stormwater Base Charge		1.20
Stormwater Impervious	814 sqf at 0.00220	1.79
Stormwater Pervious	4,011 sqf at 0.00015	0.62
<b>Sub Total Stormwater</b>		<b>\$3.61</b>
<b>CURRENT CHARGES</b>		<b>\$30.82</b>
<b>TOTAL AMOUNT DUE</b>		<b>\$30.82</b>

\$2.81/1,000 gallons, approx. residential rate

## Where Your Water Dollar Goes



Large water utilities have large economies of scale, allowing utilities such as Madison to serve very high quality water and maintain infrastructure. What is the correct pace of infrastructure repair and debt financing?

Project Name	Capital Budget	Future Year Estimates				
	2014	2015	2016	2017	2018	2019
1 Water Mains - Replace/Rehab/Impr.	\$11,718,000	\$ 9,033,000	\$ 9,938,000	\$10,262,000	\$11,032,000	\$11,869,000
2 Water Mains - New	1,366,000	1,795,000	1,962,000	2,145,000	2,346,000	2,567,000
3 Zone 4 Fire Flow Supply Augment	415,000	5,362,000	654,000	673,000	0	0
4 Arbor Hills Suppl Fire Flow Supply	642,000	0	0	0	0	0
5 East Side - Well 7 Fe&Mn Filtration	5,300,000	0	981,000	673,000	0	0
6 East Side Replacement Well (Well 3)	480,000	0	0	1,124,000	6,494,000	1,071,000
7 Zones 7 & 8 Supplemental Supply	397,000	1,122,000	5,894,000	893,000	0	0
8 Lakeview Reservoir Reconstruction	2,974,000	1,956,000	0	0	0	0
9 Booster Pump Station 114	0	0	0	0	647,000	3,170,000
10 Northeast Side Supplemental Supply	0	0	0	60,000	472,000	1,346,000
11 System Wide Miscellaneous Projects	2,737,000	1,598,000	1,852,000	2,008,000	2,550,000	2,106,000
12 Paterson St. Bldg Remodel/Upgrade	6,847,000	400,000	0	0	0	0
13 Booster Station 106 Reconstruction	1,698,000	635,000	654,000	0	0	0
14 Zone 11 Blackhawk Elevated Reservoir	0	0	0	0	0	63,000
15 Misc. Pump Station/PRV/Facility Projs.	2,944,000	704,000	1,241,000	1,301,000	1,365,000	1,432,000
16 Booster Pump Station 129 Reconstr.	0	56,000	121,000	1,609,000	919,000	947,000
17 Iron & Manganese Filter at Well 19	344,000	3,350,000	0	0	0	0
18 Iron & Manganese Filter at Well 30	0	0	380,000	3,774,000	0	0
19 Near West Side Water Supply Project	0	0	0	0	0	63,000
20 Well 29 Filter Capacity Expansion	446,000	0	0	0	0	0
21 Well 12 Conversion to Two-Zone Well	48,000	991,000	0	0	0	0
22 Booster Pump Station 109	0	320,000	1,357,000	765,000	657,000	0
23 Zone 10 Far West Elevated Reservoir	0	0	0	60,000	655,000	3,717,000
24 Booster Pump Station/PRV 124 Constr.	0	0	58,000	126,000	1,674,000	947,000
<b>Total</b>	<b>\$38,356,000</b>	<b>\$27,322,000</b>	<b>\$25,092,000</b>	<b>\$25,473,000</b>	<b>\$28,811,000</b>	<b>\$29,298,000</b>

THE UNITED STATES CONFERENCE OF MAYORS



Growth in Local Government Spending on Public Water and Wastewater – But How Much Progress Can American Households Afford?



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Cost of pumping – energy to lift water, is greater at deep wells  
 Fe, Mn, Ra affect deep, confined wells (for example, well 31)  
 Upper aquifer wells may have VOCs (for example, well 15)