



CAP Presentation December 13, 2010

East Side Water Supply

Agenda

- Project Overview (Project Scoping Document)
- Water Quality
- Water System Demands
 - MWUs Water Demands
 - Historical Data
 - Future Population and Water Demands
 - Conservation

Project Overview – Big Picture

What is the Focus of this Project?

Water Quality

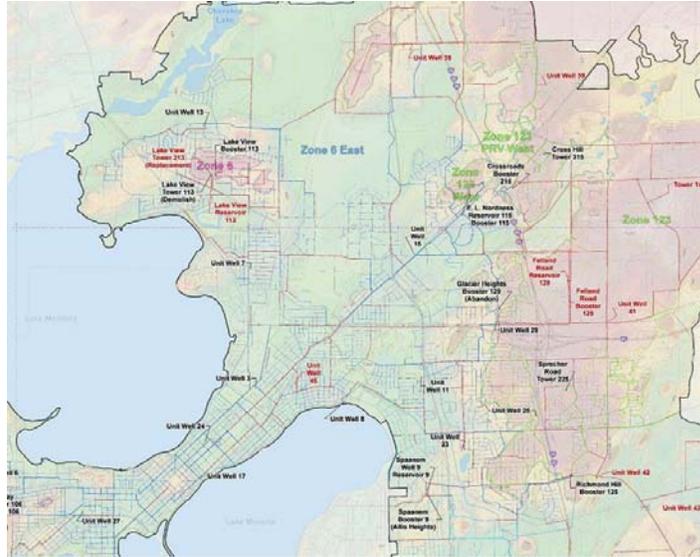
- What impacts our water quality?
- Is it getting worse?
- How can we ensure safe water in the future?

Water Quantity

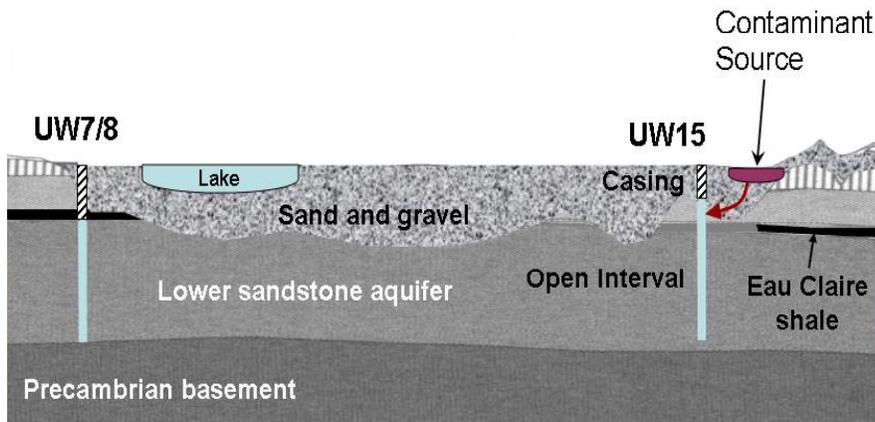
- How much water do we need today?
- How much water do we need in the future?
- Will conservation change our water needs?

WATER QUALITY

Project Overview - Well System Layout



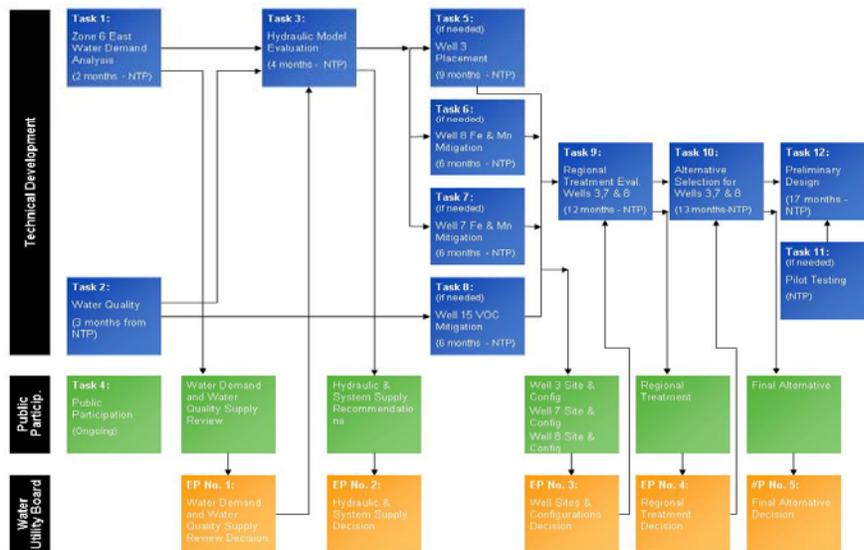
Project Overview - Introduction to Hydrogeology



Water Quality Issues

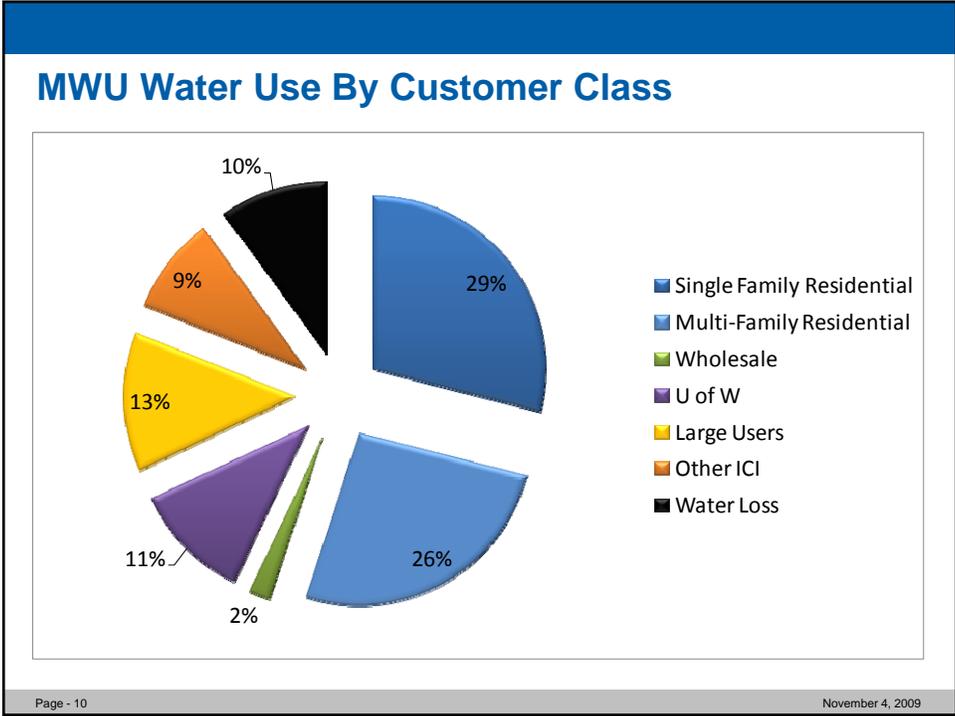
Facility	Iron	Manganese	VOC
Secondary MCL	0.30 mg/l	0.050 mg/l or 50 ug/l	
Primary MCL			PCE > 5 ug/l for a 4 quarter average
Well 7	0.43 mg/l	29 ug/l	
Well 8	0.63 mg/l	55 ug/l	
Well 15	0.04 mg/l	13 ug/l	PCE = 3.8 ug/l
Well 3 Replacement	0.25 mg/l	15 ug/l	

How are We Going to Address These Issues?

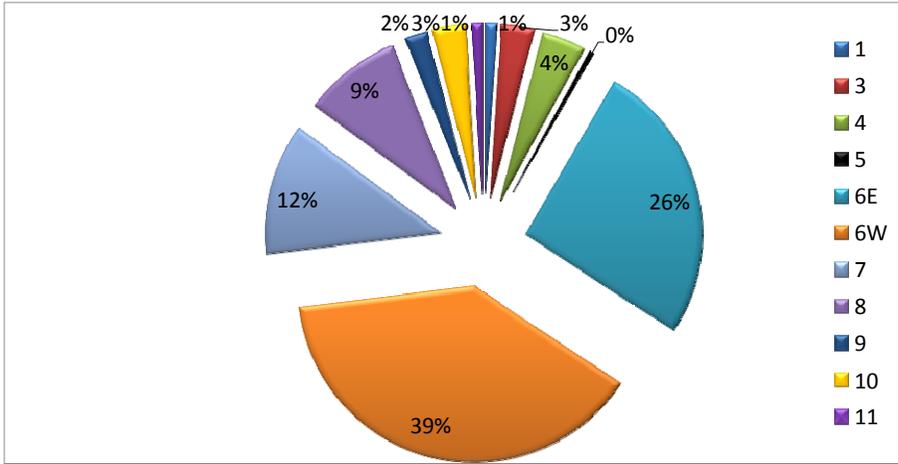


WATER QUANTITY (How much?)

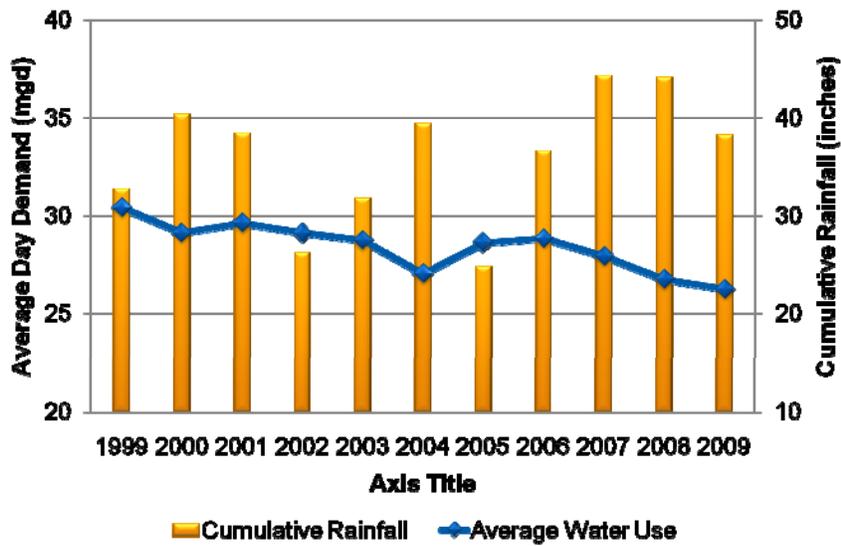
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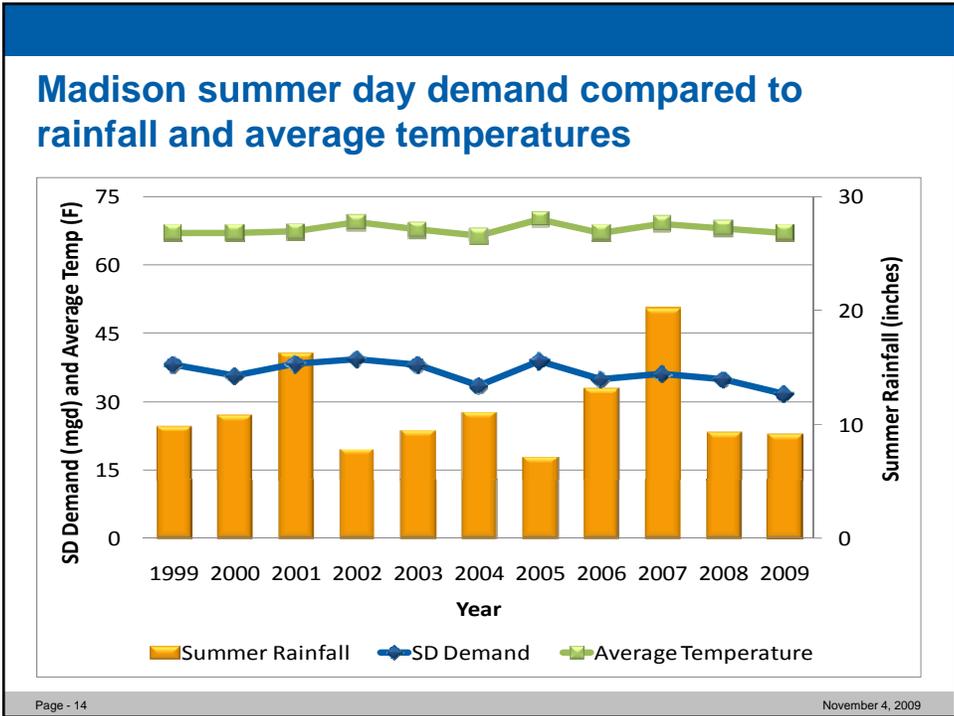
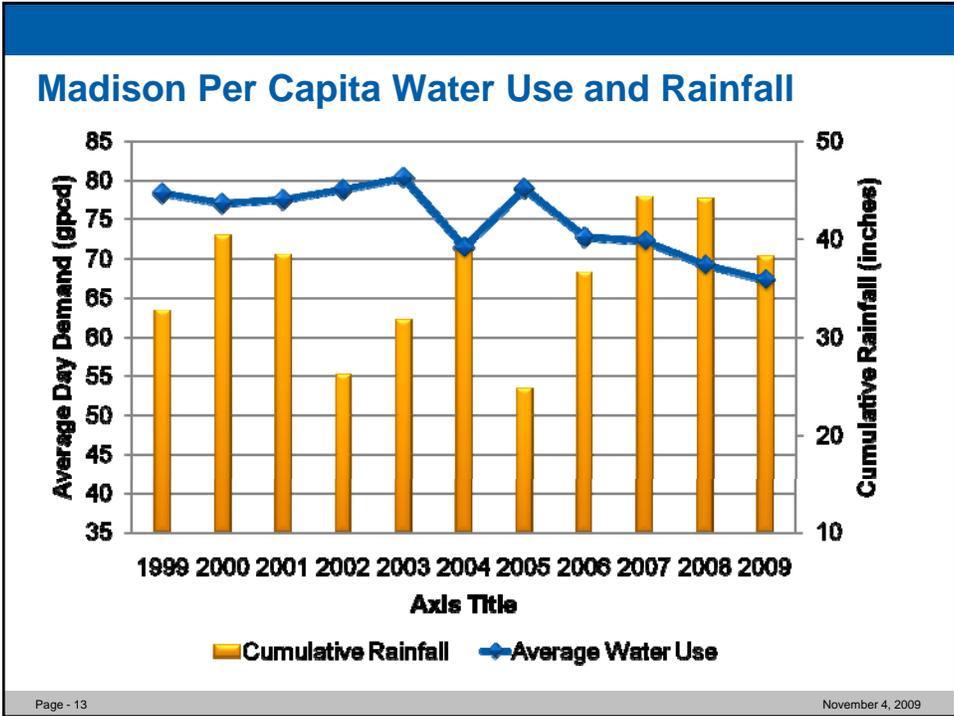


MWU Water Use By Service Zone (Average Day Demand)

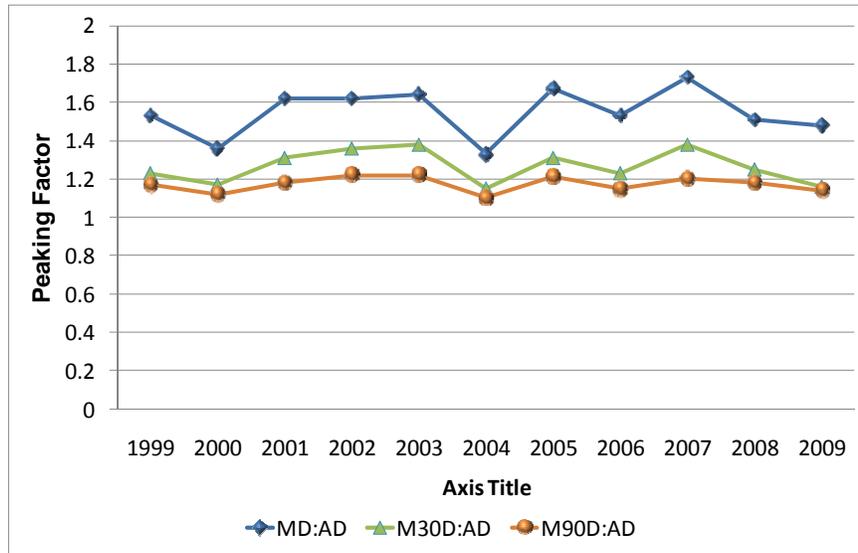


Madison Water Use and Rainfall



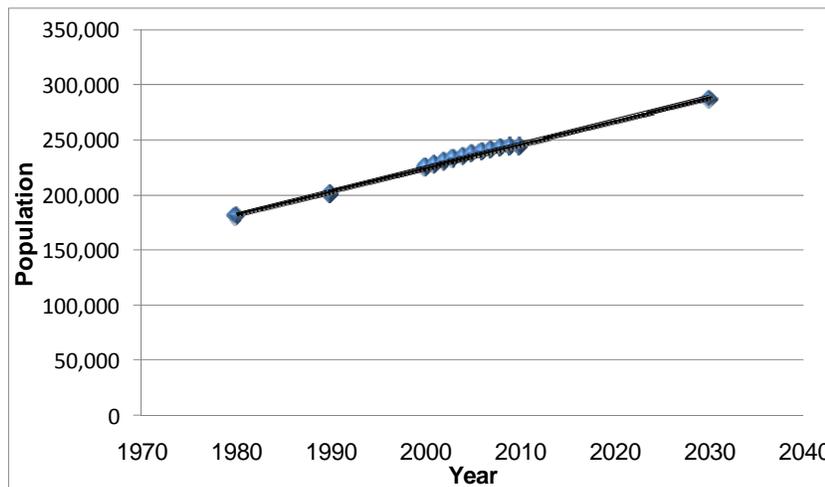


Peaking Factors



MWU Service Area Population

(Includes Madison, Maple Bluff, Shorewood Hills, Town of Madison, and other unincorporated areas)



City of Madison Water Conservation and Sustainability Plan (2006)

Primary Goal: Maintain the current annual rate of Groundwater pumping in existing areas.

Secondary Goals:

- Reduce residential water use 20% by 2020
- Promote commercial conservation through rebate promotions and education
- Develop a water conservation plan for each industrial customer
- Enact water savings programs at each government building.

Conservation Steps and Recommendations

Short-Term Goals:

- Toilet Rebate Program
- Automatic meter reading billing system
- Outdoor water use restrictions
- Public education
- Water conservations plans for industrial customers
- Improve record-keeping on municipal accounts.
- Review MWU operations to improve efficiency

Other Examples

Utility	Start Year	Programs	Estimated Reduction in Water Demand
Lincoln, NE	1988	Increasing block rate structure, Public Education	7 %
Waterloo, Ontario	Early 1980s	Toilet retrofit, Water efficient shower heads	13 %
Wichita, KS	1990s	Toilet retrofit, 2 day per week watering restriction, School education program, Proposed increasing block rate structure	13% (projected)
Barrie, Ontario	1994	Toilet retrofit, Water efficient shower heads	7 % (16.5 gpcd)
Waukesha, WI	2006	Toilet retrofit, Daytime irrigation ban, 2 day per week watering restriction, School education program, Proposed increasing block rate structure	11%

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Conservation Steps and Recommendations

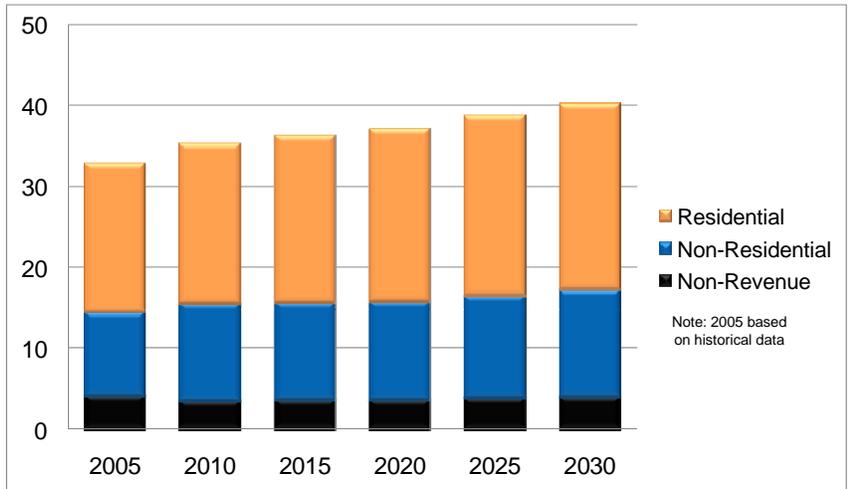
Intermediate and Long-Term Goals:

- Residential water audit program
- Expand rebate programs to other appliances
- Develop certification program for commercial customers
- Car wash reclamation ordinance
- Meter raw water pumping
- Water conservations plans for each government customer

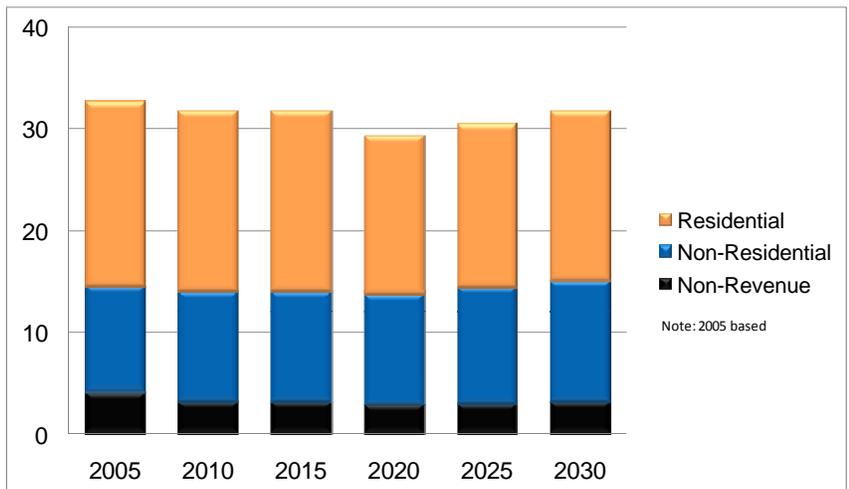
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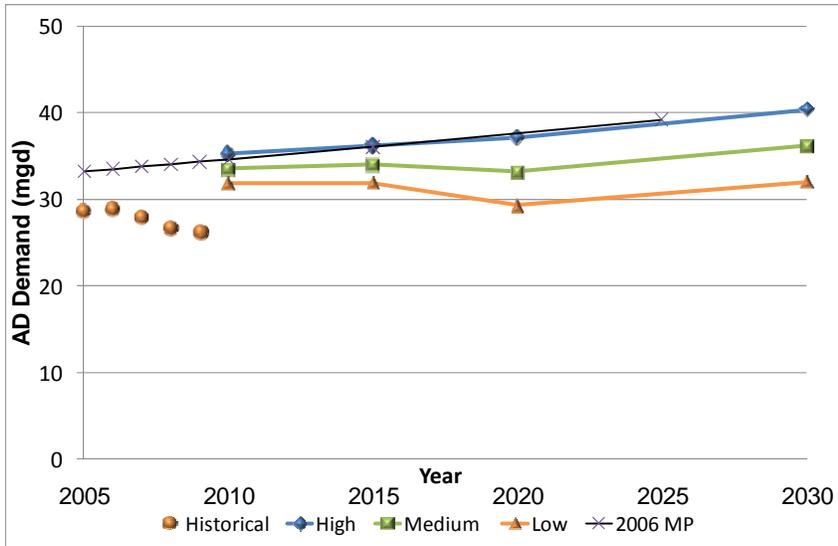
Projected AD Water System Demands by User (High Demand)



Projected AD Water System Demands by User (Low Demand)



Projected AD Water System Demands



Thank You!

