



Chicago Metropolitan
Agency for Planning

From Policy to Efficiency: A Model Water Conservation Ordinance

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Presentation Content

- *Water 2050*
- Purpose for MWCO
- Methodology
- Ordinance sections
- Next Steps

Water 2050: NE IL Regional Water Supply Plan

- *Regional Water Supply Planning Group (RWSPG)*
- *Water demand forecasts to 2050*
- *Assess available supplies*
- *Evaluate/select management options*
- *Formulate recommendations*
- *Plan released in March 2010*
- *Plan Implementation!*



11/3/2010

We learned a lot...

- 80% of our water consumption is public supply
- Future water demand projected to increase 7%-64% between 2005-2050.
- Future water supplies have limits and opportunities.
- Climate change modeling shows additional increase in demand if warmer drier weather occurs
- Conservation/efficiency measures show water savings.

And there is potential...

BMP	Low Conservation (MGD)	High Conservation (MGD)
Toilet Replacements	15.0	74.8
Water Waste Prohibition	12.1	60.3
Metering	30.3	31.5
Leaks and Audit Repair	5.9	29.7
Showerhead and Faucet Retrofits	5.2	26.0
Commercial/Industrial	5.0	25.2
Clothes Washers	3.2	16.1
Large Landscape	1.0	5.1
Residential Water Survey	0.1	0.7
Total Estimates (MGD)	77.8	269.4

Purpose for MWCO

- Need proactive water use conservation/efficiency
- Assistance for communities
- Information resource on initiatives across US
- Continue NIPC/CMAP model ordinance history

Methodology

- Wide review of water conservation ordinances
- IAPMO Green Code
- Incorporated ENERGY STAR and WaterSense
- Expert Review and Feedback
- Legal Review



Document Organization

- Definitions
- Residential
 - Indoors
 - Landscape
- Rainwater Harvesting
- CII
 - Indoors
 - Landscape
- Pricing
- Water Waste
- Violations and Enforcement
- Information and Outreach
- Appendices



36.0 Water Utility Bill Format: All water utilities that serve customers within the local government's boundaries, shall issue regular water bills to all customers that include:

- 1) Usage in gallons/day and per billing cycle
- 2) Historical water use
- 3) Comparative water use within customer class
- 4) Water conservation tips



Section 36.0 COMMENTARY

Water bill format and frequency can be important information and outreach tools for promoting water conservation. Water bill format can be modified to include usage in gallons, historical water use, comparative water use and water conservation tips. Displaying usage in gallons provides the customer with a more logical unit to understand water use. Historical water use, generally the previous 12 months displayed in a chart, allows the customer to compare their current water use to the previous year's corresponding water use to observe any changes that may have occurred. Comparative water consumption within a customer class gives customers a point of reference to compare their water use to the average. Finally including water conservation tips on the water bill would be a dedicated outlet for information and outreach materials as part of a public information program/campaign. The additional cost of adding these features to a water bill may include the purchase of new billing software or modifications to current software and some initial set up fees. However in the long term, such additions are not expected to be burdensome to the utility. Local government must decide which features are appropriate for their customers. A sample bill including all features is included in Appendix F.

Frequency of billing can also be an information tool for customers. Increased billing frequency can allow customers to more precisely track water use, observe seasonal variations, detect leaks, and adjust water use according to direct and frequent water use feedback. Ideally customers would receive monthly bills; however, it is acknowledged that an increase in billing frequency comes with an additional cost that must be considered by the local unit of government and/or utility.



In practice: Durham, NC

http://www.durhamnc.gov/departments/wm/pdf/how_to_read_new_bill.pdf



Learn More: Sample water bill, Better Bills: Promoting Conservation through Bill Design.

<http://www.betterbills.org/>

The Commonwealth of Massachusetts, Executive Office of Environmental Affairs and Water Resources Commission. "Water Conservation Standards." Billing Frequency, July 2006.

http://www.mass.gov/Eoeea/docs/eea/water/water_conservation_standards.pdf

Adopting the Ordinance

- “One size fits all” NOT
- Public Information
- Rebate Programs



Landscape-Residential/CII

- Turf area, soil depth, planting
- Irrigation schedules
- Irrigation Equipment
- Water budgets for CII
- Rainwater Harvesting



Indoor-Residential

- High Efficiency Toilets (HETs)
- Faucets
- Showerheads

Fixture	EPAAct 1992	Ordinance	Savings
Toilet	1.6 g/f	1.28 g/f	20%
Faucets	2.2 g/m	1.5 g/m	32%
Showerheads	2.5 g/m	2.0 g/m	20%

- Dishwasher/clothes washer
- Water and energy savings



Residential Retrofits

- Resale
 - Owner responsible
- Purchase
 - Buyer responsible
- Reconnection
 - Buyer responsible



Indoor-CII

- Same in indoor-residential plus urinals
- Carwash/laundry facilities
- Drinking/Eating establishments
- CII Retrofits



Conservation Pricing

- AWWA stated that Conservation Pricing is among the best management practices for urban water conservation
- Concerns the elimination of non-conserving pricing policies & adoption of a structure that provides incentives to customers to reduce average or peak usage and use surcharges to encourage conservation

Conservation Pricing & WRS

- Utility's Perspective
 - Revenue requirement, ROI, Long-term Planning
- Customer's Perspective
 - Equitable, Affordable, Understandable
- Society's Perspective
 - Economic Efficiency, Resource Conservation, Priority Uses of Water, “Just & Reasonable”



Water Waste

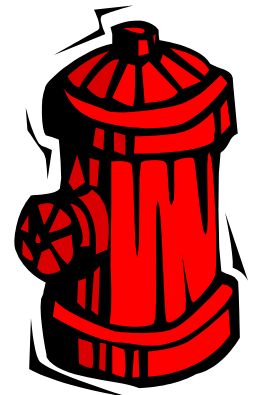
Residential/Commercial

- Leakages
- Water softeners
- Car washing
- Impervious areas
- Cooling and Reverse Osmosis systems



Utility/municipal

- Audits
- Meters
- Leak Detection and Monitoring
- Hydrants
- Decorative fountains



Information/Outreach

- Program/campaign
- Literature distribution
- Signage
- Utility bill format

Source: Denver Water <http://www.denverwater.org/>



Violations/Enforcement

- Make it work for your community
- Bill or separate fine
- Severability
- Ordinance/code conflict





Thank you

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www.cmap.illinois.gov/watersupply/default.aspx

Photo courtesy of: Anthony Pfammatter