

Western Water Assessment



Our Mission: to identify and characterize regional vulnerabilities to climate variability and change, and to develop information, products and processes to assist water-resource decision-makers throughout the Intermountain West.

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A simple problem...that is becoming increasingly difficult to solve

$$\text{Supply}_t \geq \text{Demand}_t$$

- In simple terms “our” goal is to make sure that we have enough supply to meet demand
- Questions: How much supply and where? How much demand will there be? Can we increase supply? Can we decrease demand?...



What the WWA is doing to help: Example research and products

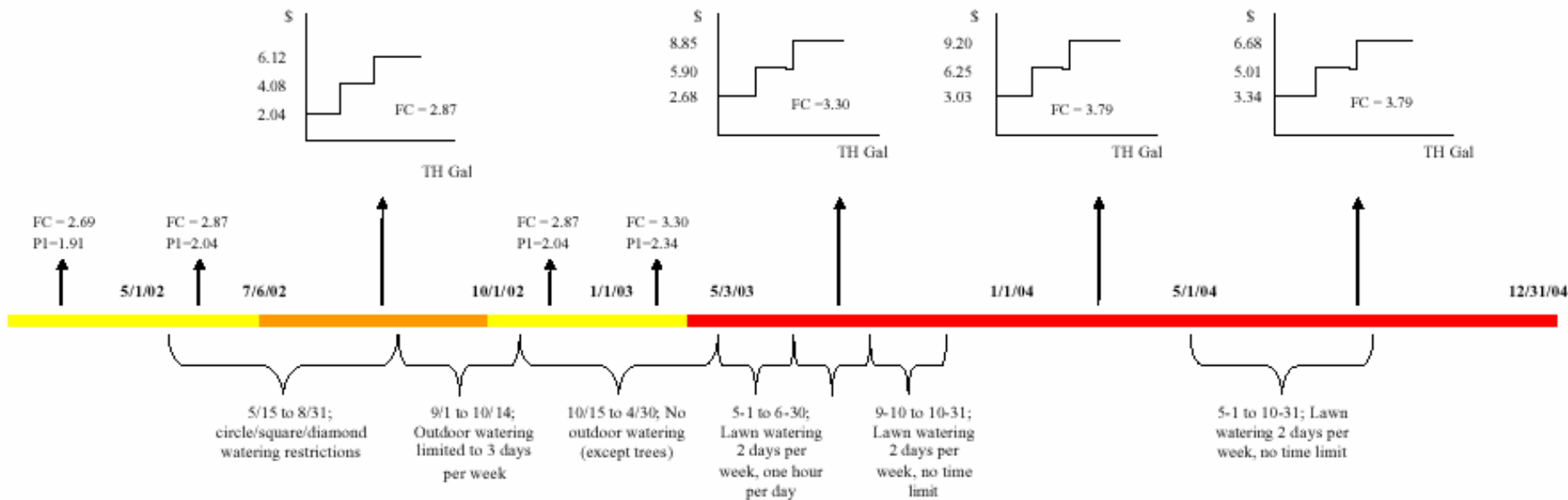
- *Understanding the past and present:*
 - Extending streamflow records
 - Provide access to and summarizing past and current research
- *Predicting the future:*
 - Short-term and seasonal forecasts
 - Forecasting demand and the responsiveness to demand management policies
- *Planning for the future:*
 - South Platte Regional Assessment Tool
 - Climate change
- Intermountain West Climate Summary

For more information visit us on the web at:

<http://wwa.colorado.edu>



Project spotlight: Aurora Water Demand Management Study



Single Rate

Households face a fixed service cost (FC) plus a uniform per unit charge (P1); all prices are shown per thousand gallons (TH Gal)

Inc. Block Rate

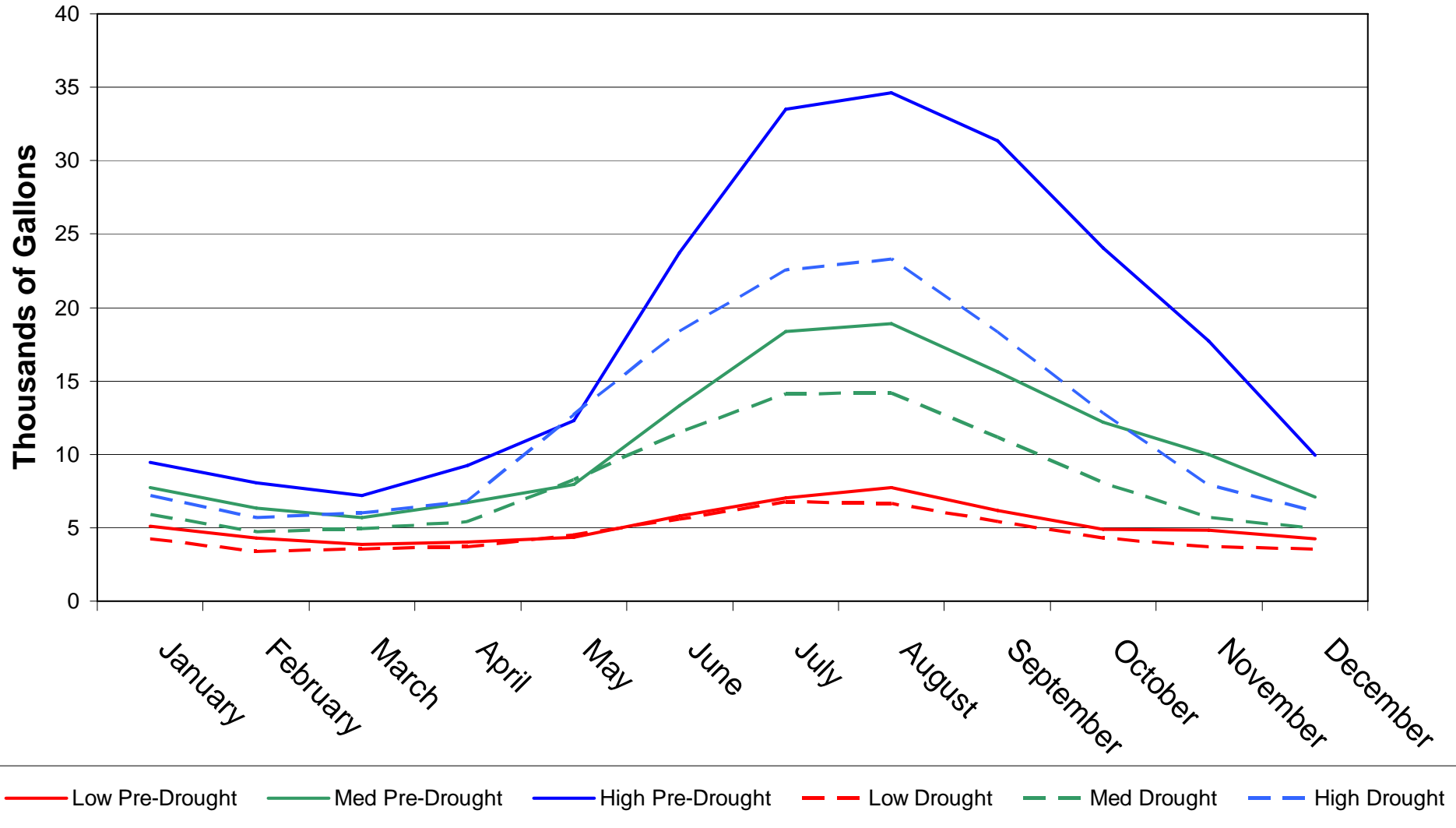
In addition to FC, households face an increasing block rate structure for all units consumed. Block widths are standardized across all households

Water Budget

In addition to FC, households face an increasing block rate structure for all units consumed. Block widths are **specific** to each household; based on average daily indoor consumption (ADIC) and an irrigation allowance (IA). Households receive a varying percentage of their ADIC and IA in each block depending on drought conditions.

Source: City of Aurora; Water Management Plan (2002-2004) and ratesall.txt provided by the City of Aurora Utilities Department.

Average Residential Consumption per Billing Period by User Type Before and During Drought



Pre-Drought: 1-1-2000 to 4-30-2002; Drought 5-1-2002 to 8-31-2005

Households were classified based on their average summer use over the period 1997-1999. "Low" water users are those households whose average summer use was in the bottom 25% of all users during that period; "Med" in the middle 50% and "High" in the top 25%.



Aurora Water Demand Management Study: What we have learned...

- Households do respond to changes in price, but... demand is inelastic.
- Households were **less** responsive to changes in price when restrictions were in place.
- For the average household, *mandatory restrictions* reduced demand by approximately 25 percent, but...
- The response of households to both changes in price and the imposition of mandatory restrictions differed greatly by “type” of household.
- For some households, water use increased after they purchased a Water Smart Reader. Other rebate programs...

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- For more information on this project and others

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–or contact us at:

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