



# Front Range Water Meter

Water Conservation  
Ratings and Recommendations  
for 13 Colorado Communities

## EXECUTIVE SUMMARY

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**WESTERN RESOURCE  
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## Water Conservation Ratings and Recommendations for 13 Colorado Communities

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## Executive Summary

Water conservation on Colorado’s Front Range has changed dramatically over the past five years. After responding to the record drought of 2002, water utilities have set their sights on widespread conservation programs, not just as a drought-management tool, but also as a means to secure permanent water conservation savings. These savings can increase system reliability, serve new growth, and decrease the need for new water development that can have detrimental impacts on Colorado’s river environment, water recreation, and rural communities.

To gain a clearer picture of water conservation, we embarked on months of research and asked for significant assistance from many water utilities. We are happy to present the fruits of that research—this *Front Range Water Meter* report, which provides an up-to-date snapshot of how Colorado Front Range cities compare across many water conservation categories, including rates of per capita use, breadth and depth of implementation of conservation programs, water loss, conservation funding, and many others.

The *Water Meter’s* scoring criteria provide a thoughtful and useful basis for comparison and a “score” for each utility. The *Water Meter* also provides a specific set of recommendations for how each utility can improve its conservation portfolio.

Four cities—Aurora, Boulder, Denver, and Colorado Springs—took top honors. Four more—Broomfield, Erie, Louisville, and Longmont—are making tremendous progress in achieving greater water efficiency. Five more cities—Berthoud, Evans, Fort Morgan, Fort Lupton, and Loveland—are relatively small but fast-growing cities that have substantial room for improvement, which is important because they will soon be home to many new Colorado residents.

### The Top Four

Denver, Aurora, and Colorado Springs are home to the three largest water utilities in Colorado. While not having the fourth largest utility in the state, Boulder has many conservation and efficiency measures in place that are comparable to those seen at bigger utilities. All four have demand-side management programs that are

THE TOP FOUR	Maximum Points Allotted	City of Aurora	City and County of Denver (Denver Water)	City of Boulder	City of Colorado Springs (Colorado Springs Utilities)
<b>Per Capita Water Use</b>	[30]				
<b>SFR Trend</b>	15	8	8	8	15
<b>SW GPCD</b>	15	15	10	15	10
<b>Rate Structure</b>	[30]				
<b>Slope</b>	16	8	6	12	4
<b>Thresholds</b>	4	4	2	4	2
<b>Fixed Service Charge</b>	10	4	4	0	4
<b>Unaccounted-for Water</b>	10	7	10	2	3
<b>Conservation Measures</b>	6	6	6	6	4
<b>Penetration and Implementation of Conservation Measures</b>	6	6	6	6	6
<b>Funding for Conservation</b>	6	6	4	5	2
<b>Goals For Conservation Savings</b>	6	2	6	6	6
<b>Supply-Side Efficiency Measures</b>	6	6	6	2	4
<b>Total Points</b>	<b>100</b>	<b>72</b>	<b>68</b>	<b>66</b>	<b>60</b>



successfully reducing per capita demand throughout their service areas. All four have comprehensive education and outreach programs, offer free Xeriscape™ clinics and demonstration gardens, and have leak detection programs. Customers served by these three entities are subject to inclining block rate structures that send a conservation price signal. Conservation in all four of these communities has become an integral part of the water utility.

Denver Water—which serves 1.2 million people, making it the largest utility in Colorado—has the greatest number of conservation incentives in place. While many of these incentives target residential users, Denver Water differs from utilities in Aurora, Colorado Springs, and Boulder in that it has prolific commercial and industrial incentives, offering 12 commercial and industrial rebates as well as its Conservation Incentives for Commercial and Industrial Customers program. In 2006, 13 contracted commercial and industrial accounts saved 166 acre-feet (AF), or 54 million gallons, and 10 more accounts signed contracts. Despite Denver's many conservation measures, it has higher levels of per capita use than many of the neighboring large cities. While this is to be expected system-wide as a result of Denver's major international airport and many arenas, stadiums, and convention centers, we would not expect to see this in the single-family residential (SFR) sector. One reason may be its water rate structure. While Denver Water has adopted a more progressive water rate structure over the last few years, it does not send as strong a conservation price signal as does the water departments in Aurora and Boulder.

In addition to a progressive water rate structure that sends a strong conservation price signal, Aurora Water also has residential, commercial, and industrial incentive programs; however, the city also utilizes regulatory ordinances more than the other three utilities, with five city ordinances from lawn permits and irrigation standards to turf restrictions and car wash reclamation requirements. These ordinances require mandatory compliance for all qualified entities and are enforced by the city. Ordinances addressing new development are particularly important in Aurora because it is experiencing extremely rapid growth. Over the last few years, Aurora Water has seen SFR water use drop. Use in 2006 was 127 gallons per capita per day (GPCD), down from 149 GPCD in 2000.

Colorado Springs Utilities has a water rate structure similar to that of Denver Water, as well as both commercial ordinances and consumer incentives. Colorado Springs has also focused much of its conservation program on the residential sector and outdoor use. While this has proven successful in reducing per capita demand in the SFR sector, expanding the conservation program to include the commercial and industrial sectors may help to achieve even greater savings.

The City of Boulder, like the three largest utilities, has numerous rebates as well as some giveaways and free audits for customers. Boulder has also adopted a number of ordinances, including a soil amendment and landscape ordinance that, among other things, limits turf to 25% of irrigable acreage for all but SFR accounts. Boulder also has the most progressive water rate structure of all the communities studied. In 2007, Boulder implemented a water budget that acts as an individualized inclining block rate structure for each account; the increase from one block to another within the budgets is quite noticeable.

## Making Progress

While the three largest utilities in Colorado all have water rate structures and conservation programs that are essential components of the water utility, other smaller communities have not integrated water conservation to quite the same extent. Broomfield, Erie, Louisville, Evans, and Longmont are all growing communities that do not have as extensive conservation programs. For the most part, conservation stands alone and is not yet integrated into the long-term planning processes for the utilities in these other four cities.

The City and County of Broomfield has a few giveaway programs for indoor residential fixtures and tree mulch. It also offers a Xeriscape demonstration garden and clinics with master gardeners throughout the year. However, Broomfield, like Evans, offers no incentive-based programs for the residential, commercial, or industrial sector. Unlike Longmont and Louisville, Broomfield does have a number of rather progressive city ordinances, including a turf restriction and a soil amendment requirement. Both of these affect new growth, which the city has plenty of. However, the city lacks a conservation budget or a water rate structure that sends an effective price signal to consumers—both of which are present



in Longmont and Louisville. Evans also has adopted a soil amendment ordinance and time-of-day watering restrictions that prohibit watering during the hottest hours of the day. The lack of a long-term conservation savings goal in both Broomfield and Evans illustrates that conservation is not viewed as a critical long-term water management component by the utility. Given that both communities are embarking upon very costly traditional water development projects, we strongly encourage the cites to more closely integrate conservation into their long-term planning process.

Longmont, a slightly larger community than Broomfield, offers some incentive-based programs, such as toilet, clothes washer, and dishwasher rebates, but has no ordinances dealing with water efficiency. Like Broomfield and Evans, the city has low unaccounted-for water (UFW). Unlike Broomfield and Louisville, which have water reuse programs, Longmont has not implemented any supply-side efficiency measures.

Louisville and Erie, like Longmont, have small water conservation budgets, roughly \$8,000 each in 2006, and some incentive-based programs for consumers. While Erie has an inclining block rate structure that sends a slight conservation price signal to consumers, Louisville has a more progressive water rate structure that sends a strong price signal to consumers. An effective water rate structure likely plays a role in Louisville’s low per capita use for the single-family residential sector.

Ordinances are not heavily utilized in either of these communities. Given that Louisville and Erie are rapidly growing communities, ordinances similar to those adopted in Broomfield would help to ensure that new growth does not place an undue burden on the community’s water resources. Furthermore, Louisville has a high rate of unaccounted-for water—15.6% in 2006 and a whopping 20.7% in 2005. While the city claims that some of its reused water is included in its UFW figure, it lacks accurate information on the total amount of reused water sold. Gaining a firm understanding of where water goes is the first step to a successful conservation program, and we would encourage Louisville to improve its accounting practices. Conversely, Erie has a low level of unaccounted-for water as well as an active leak detection program.

Evans has relatively low rates of unaccounted-for water, but no active leak detection program. Evans also lacks a dedicated conservation budget. Recently, Evans altered its water rate structure, moving the thresholds to higher volumes. This was done in response to customer complaints of elevated water rates. The new structure does not send a conservation price signal to consumers who use less than 16,000 gallons. Given that average monthly use is just below 10,000 gallons, most customers lack any price incentive during a large part of the year.

<b>MAKING PROGRESS</b>	<b>Maximum Points Allotted</b>	<b>City of Evans</b>	<b>City of Louisville</b>	<b>Town of Erie</b>	<b>City of Longmont</b>	<b>City and County of Broomfield</b>
<b>Per Capita Water Use</b>	[30]					
<b>SFR Trend</b>	15	10	8	8	0	5
<b>SW GPCD</b>	15	15	10	10	8	8
<b>Rate Structure</b>	[30]					
<b>Slope</b>	16	6	8	2	2	0
<b>Thresholds</b>	4	0	4	2	2	0
<b>Fixed Service Charge</b>	10	0	0	0	10	0
<b>Unaccounted-for Water</b>	10	4	0	6	5	8
<b>Conservation Measures</b>	6	2	4	2	4	3
<b>Penetration and Implementation of Conservation Measures</b>	6	1	1	1	4	6
<b>Funding for Conservation</b>	6	0	1	1	1	0
<b>Goals For Conservation Savings</b>	6	0	0	2	2	0
<b>Supply-Side Efficiency Measures</b>	6	2	4	4	0	6
<b>Total Points</b>	<b>100</b>	<b>40</b>	<b>40</b>	<b>38</b>	<b>38</b>	<b>36</b>



## Opportunities ABOUND for Conservation

Berthoud, Fort Morgan, Fort Lupton, and Loveland are all relatively small communities along the Front Range, but many have seen significant growth over that last few years. These communities have yet to establish comprehensive demand-side management plans or adopt supply-side efficiency measures. However, these communities can take more active roles in sustainable water management by adopting water rate structures that more closely convey the true cost of water to consumers, measures that create incentives and educate, plus progressive ordinances that address water efficiency in new homes and businesses.

The City of Berthoud has a rate structure that sends a conservation price signal as consumers exceed 24,000 gallons per month, but provides no signal for those consumers who do not reach that threshold. Among these five communities, Berthoud has the lowest rate of unaccounted-for water, at 2.6%. Like Evans, Berthoud lacks any dedicated conservation budget. Berthoud also has similar soil and time-of-day ordinances as well as a landscaping ordinance that limits the steepness of areas where sod is planted.

The City of Loveland does have a dedicated water conservation budget of \$51,000, with a Xeriscape demonstration garden and Xeriscape education programs as its primary conservation measures. However, Loveland’s flat rate structure provides no price incentive for customers to increase their efficiency. Additionally, the city has high levels of unaccounted-for water. Reducing this would be a cost-effective way to ensure more water reaches customers’ taps.

Fort Morgan had an inclining block rate structure, but reverted back to a flat rate structure due to concerns voiced by consumers with high water bills. Fort Morgan would have increased its long-term sustainability had it helped consumers increase their efficiency to decrease their water bills, rather than regress to a flat rate structure that provides no incentive for efficient water use. Fort Morgan, like Loveland, has a dedicated conservation budget, which supports the community’s only conservation measure—a \$100 toilet rebate. Currently, Fort Morgan has set no conservation savings goals.

Fort Lupton has seasonal time-of-day watering restrictions that go into effect each spring, but has no conservation budget and very high rates of unaccounted-for water—17% in 2006. Fort Lupton has recently had a new conservation plan approved by the state and plans to use state grants to purchase new meters that will help it better understand where water is being used throughout its system.

OPPORTUNITIES ABOUND FOR CONSERVATION	Maximum Points Allotted	City of Loveland	Town of Berthoud	City of Fort Lupton	City of Fort Morgan
<b>Per Capita Water Use</b>	[30]				
<b>SFR Trend</b>	15	8	0	0	0
<b>SW GPCD</b>	15	5	5	10	0
<b>Rate Structure</b>	[30]				
<b>Slope</b>	16	0	4	2	0
<b>Thresholds</b>	4	0	0	0	0
<b>Fixed Service Charge</b>	10	0	0	0	0
<b>Unaccounted-for Water</b>	10	0	9	0	6
<b>Conservation Measures</b>	6	4	2	1	2
<b>Penetration and Implementation of Conservation Measures</b>	6	3	0	0	0
<b>Funding for Conservation</b>	6	3	0	0	1
<b>Goals For Conservation Savings</b>	6	0	0	2	0
<b>Supply-Side Efficiency Measures</b>	6	2	0	0	0
<b>Total Points</b>	<b>100</b>	<b>25</b>	<b>20</b>	<b>15</b>	<b>9</b>



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