Conserving Water with a Rebate Threshold Rate Structure

MAG Greening Water and Wastewater Infrastructure Workshop

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Global Water

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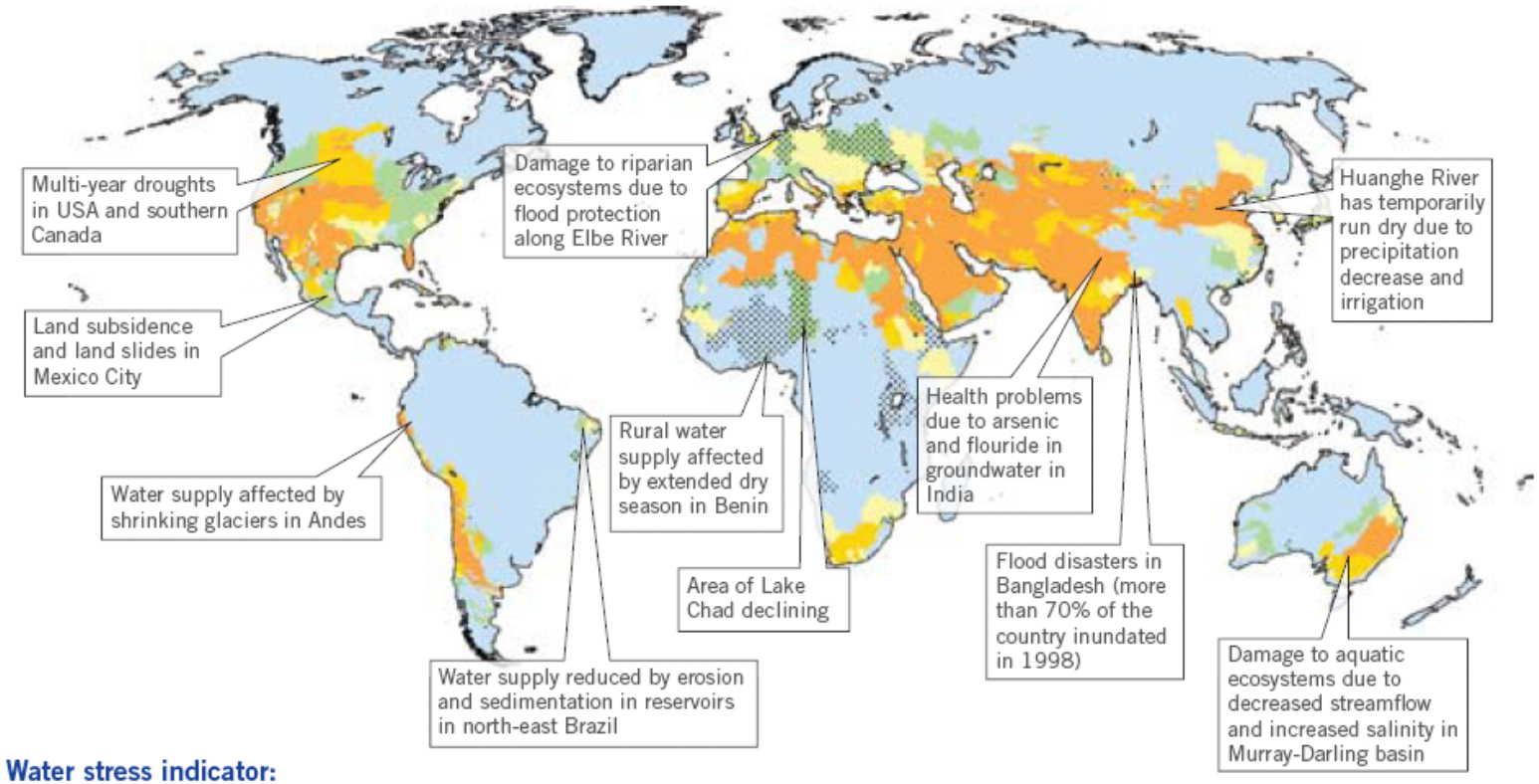
Conservation

- We must raise the awareness of the general public about water and scarcity.
- Increase the awareness of water use
- In general, water's intrinsic value is disproportionate to its monetary value.
- We must encourage and champion ways to get people to conserve.

- The role of rates in conservation is to get consumers to think about the ***next*** gallon and make an active choice in that regard.

Should I Use it or Conserve it?

Water Stress Worldwide



Water stress indicator: withdrawal to availability ratio

no stress — mid stress — very high stress

0 0.1 0.2 0.4 0.8

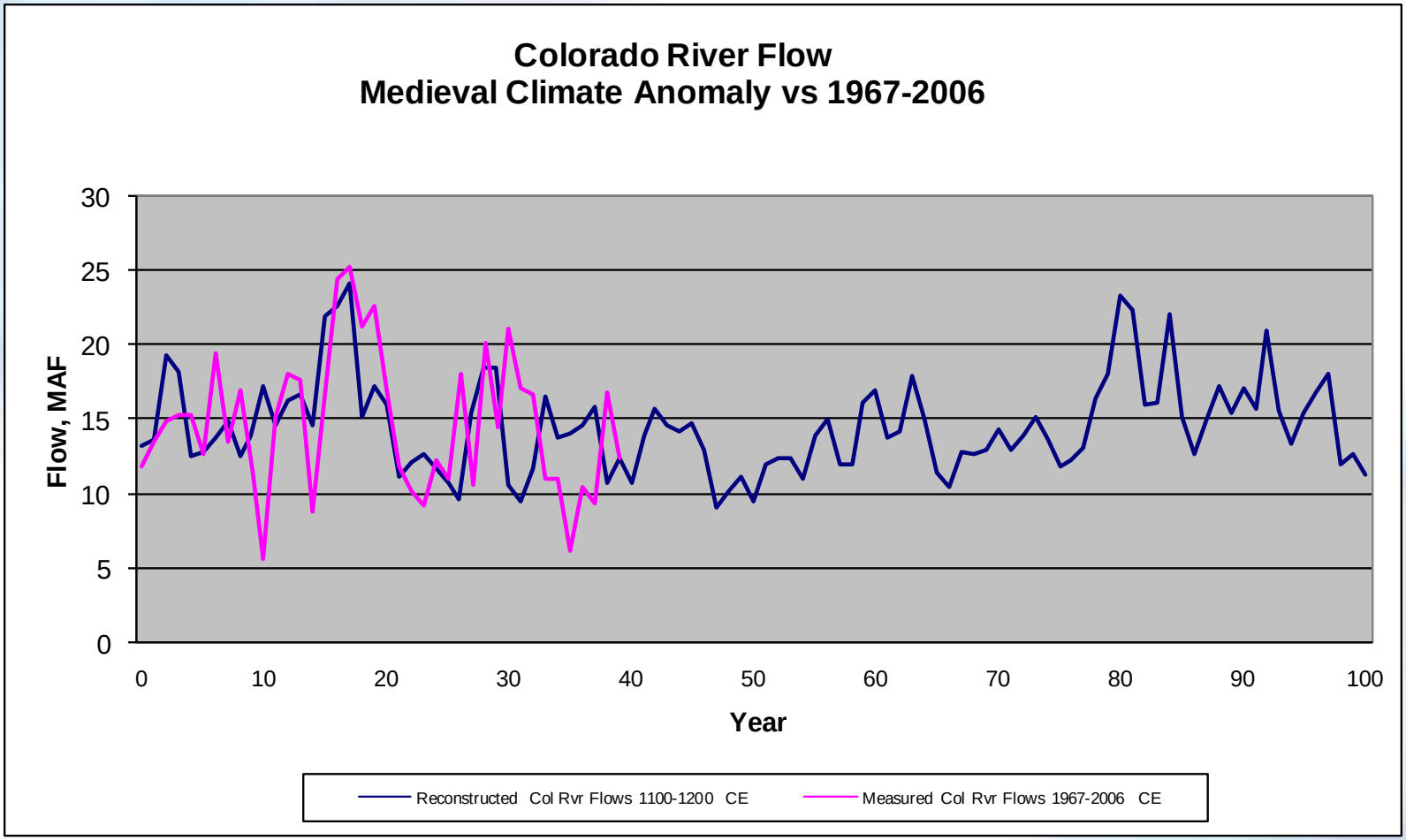
No/low stress and per capita water availability <1,700m^3/yr

Water withdrawal: water used for irrigation, livestock, domestic and industrial purposes (2000)

Water availability: average annual water availability based on the 30-year period 1961–90

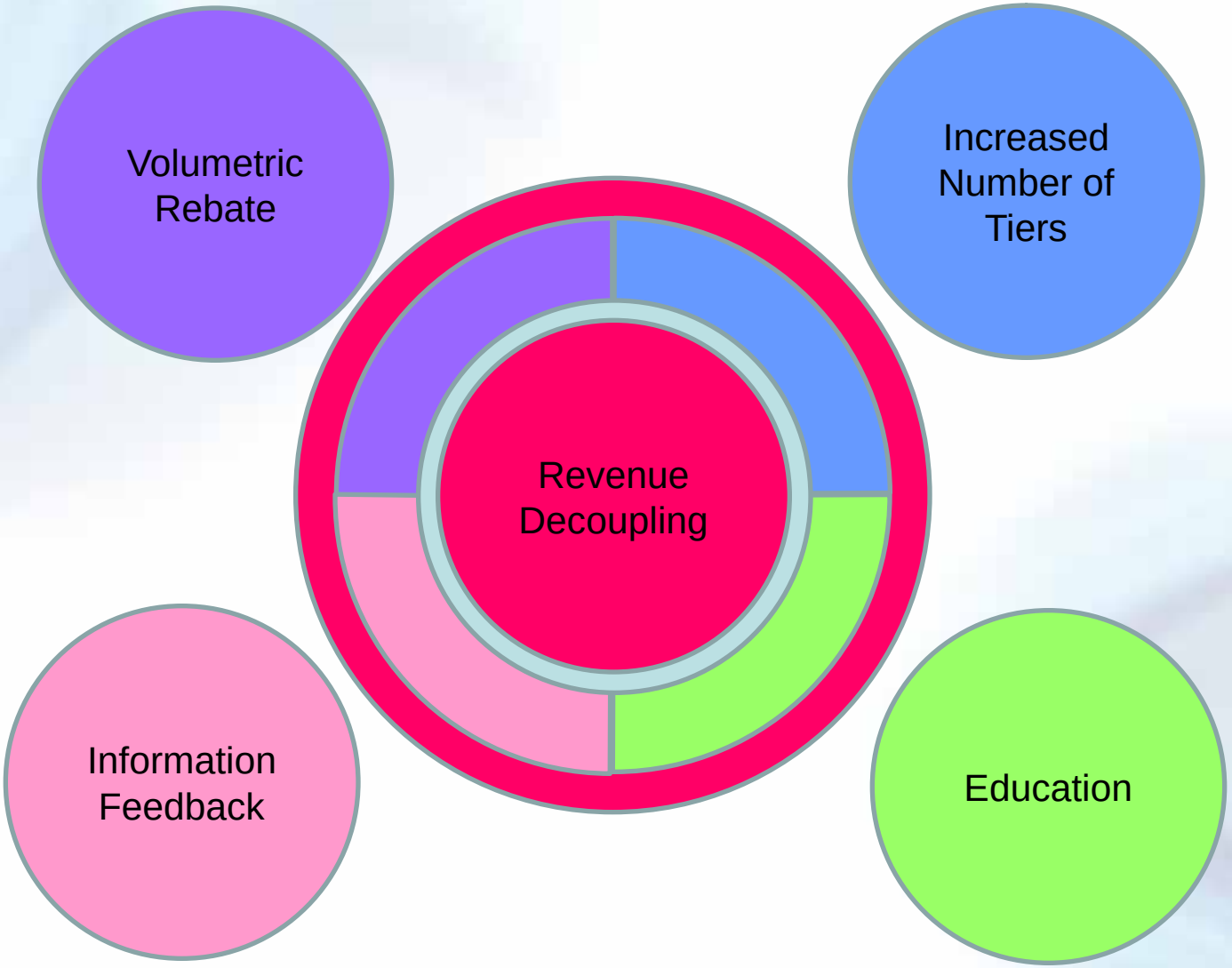
Source: B.C. Bates et al. "Climate Change and Water IPCC," Technical Paper VI of the Intergovernmental Panel on Climate Change.

Colorado River Water Scarcity
A Millennial Perspective

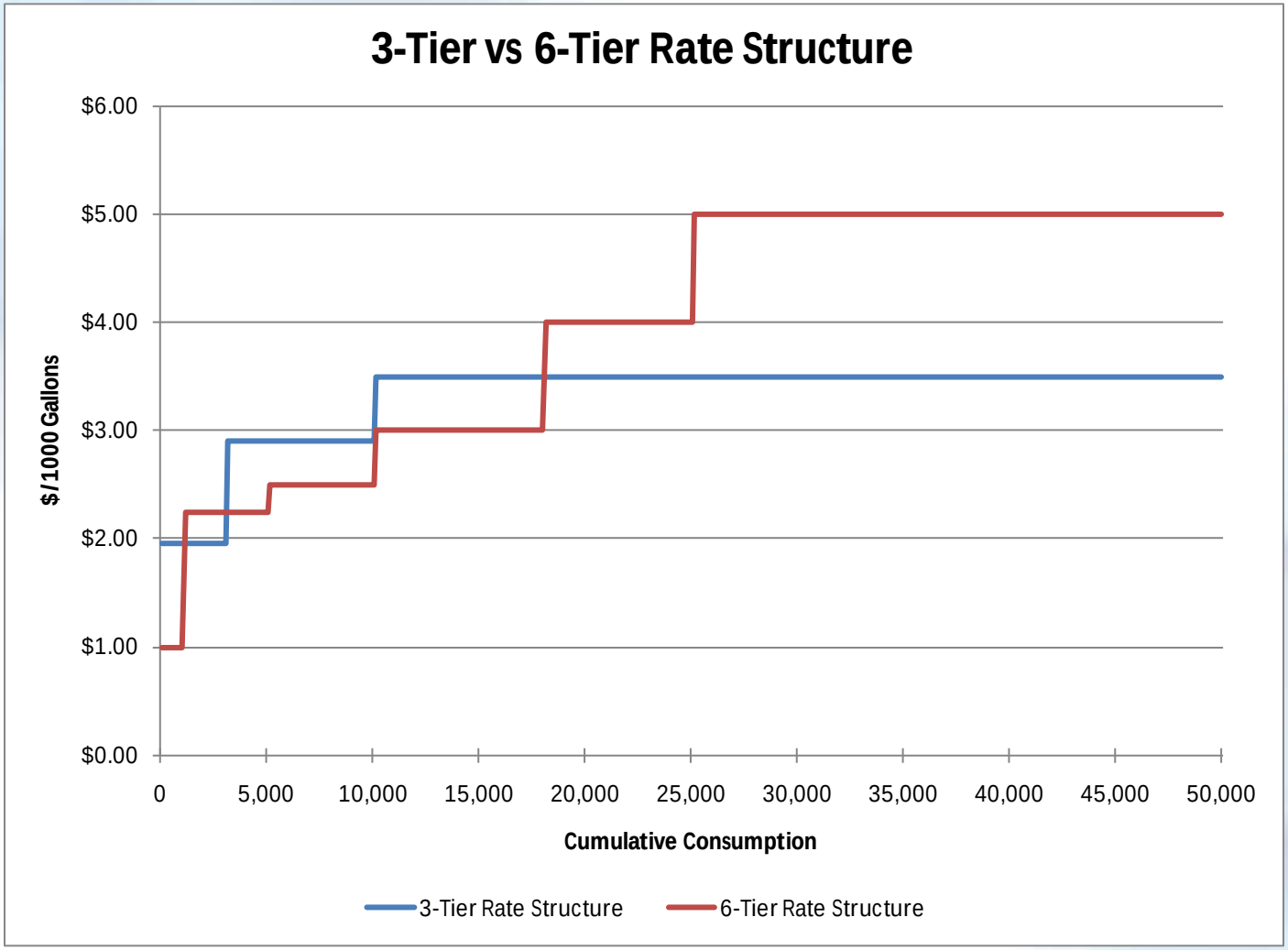


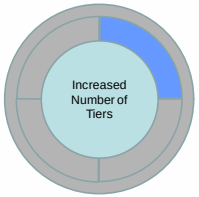
Source: Adapted from Meko, et al (2007)

Rebate Threshold Rate



6-Tier System





Volumetric Rebate

Provide incentives for active conservation

- Volumetric Rebate
  - Any time a customer achieves a consumption level below that of the Rebate Threshold, that customer is entitled to receive a reduction in volumetric charges (commodity charges).

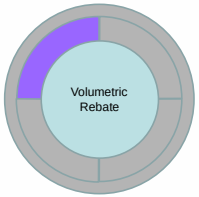
Establish the Goal:

- 90% of Average Residential Consumption
- If this is met, the consumer is entitled to a rebate of 65% of the volumetric cost of the water.

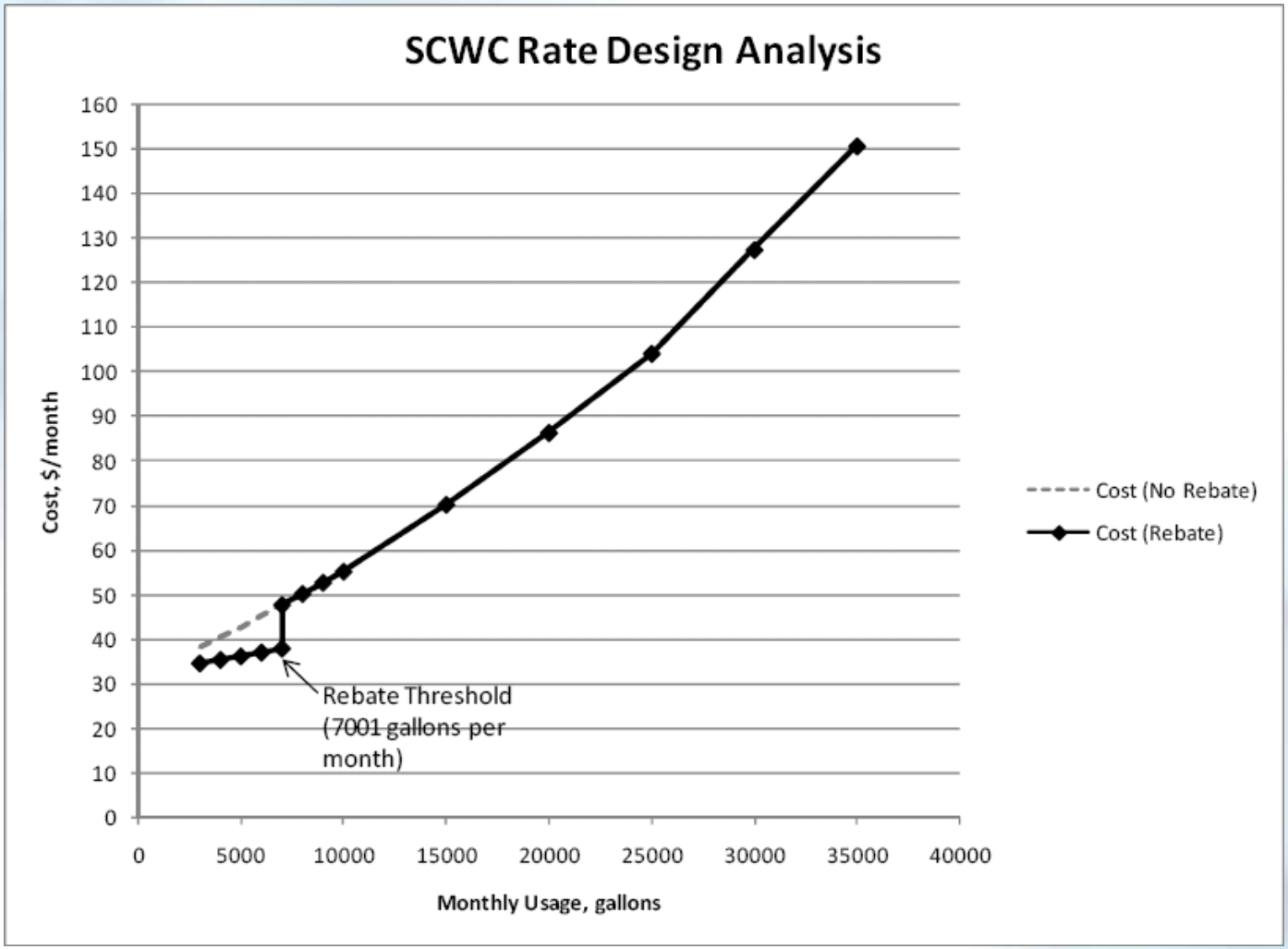
SCWC Res. Avg = 7700 gallons per month

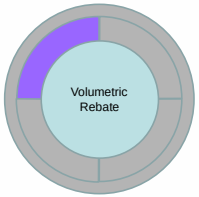
Rebate Threshold = 7000 gallons per month

- A customer meeting the Rebate Threshold in Santa Cruz can save $9.75 per month – or $117.04 per year.



Volumetric Rebate

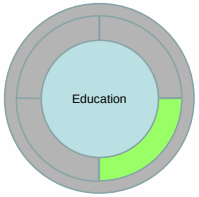




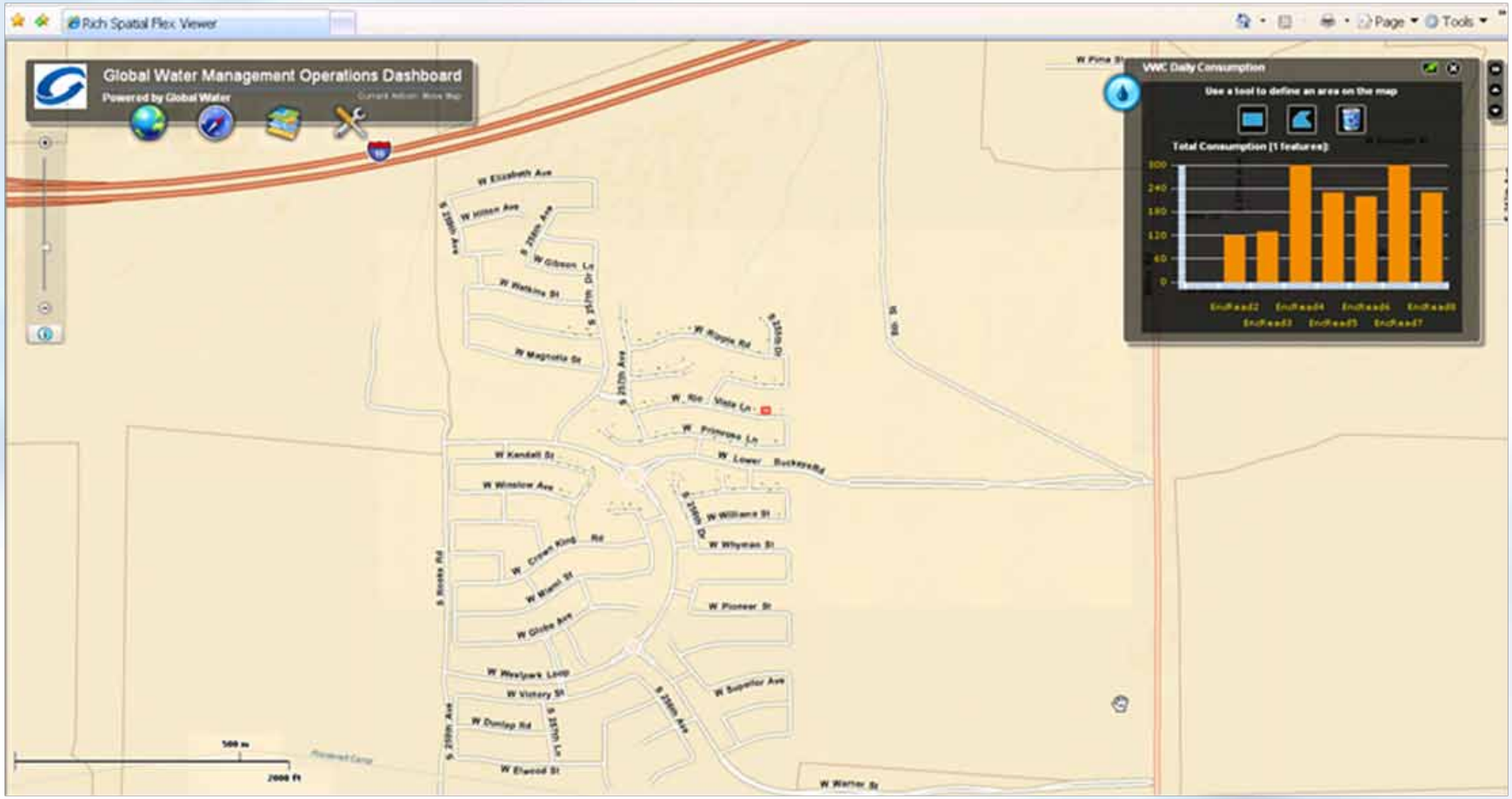
Source: Global Water

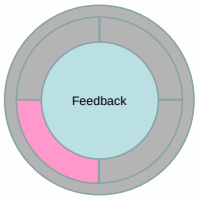
Education

- Increase the overall knowledge of water
- Increase the understanding of the costs of water
- Increase the awareness of how to conserve
- Increase the understanding of the effects of conservation
  - Reduced demand on sources
  - Reduced size of infrastructure
  - Reduced treatment demands
  - Hedge against future contaminant treatment requirements



Feedback – AMR/AMI





Decoupling

Revenue Decoupling

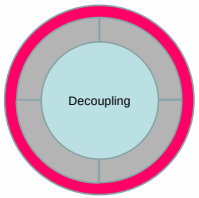
The monthly charge allows the utility to effect meaningful, measurable and repeatable resource conservation without the implosion of utility revenue.

To achieve conservation goals, we must break the cycle of selling more water. By allowing for the recovery of fixed costs with a bias toward the monthly minimum, we can achieve both goals.

0 %age of Fees from Volumetric Sales 100

Consumer has Low Incentive to Conserve

Utility has Low Incentive to Conserve



Conclusion

With the Rebate Threshold Rate Structure consumers can save over 10% of the costs of their water.

A Community like Maricopa can save up to 400,000,000 gallons per year.