

Meeting the Water Challenges of the Future

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Tucson Water

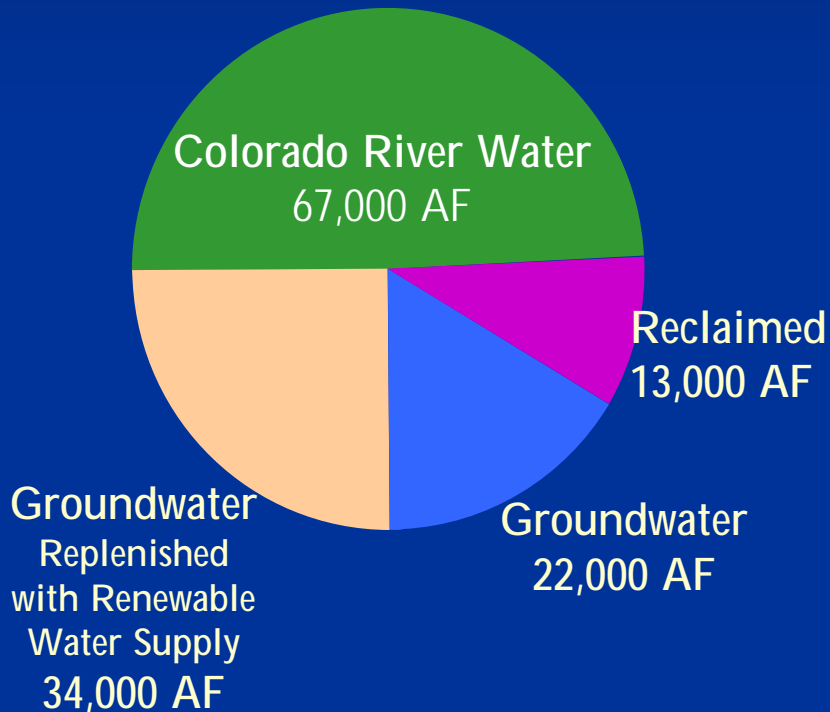
Presented by Council Member Karin Uhlich



Current and Projected Water Demand

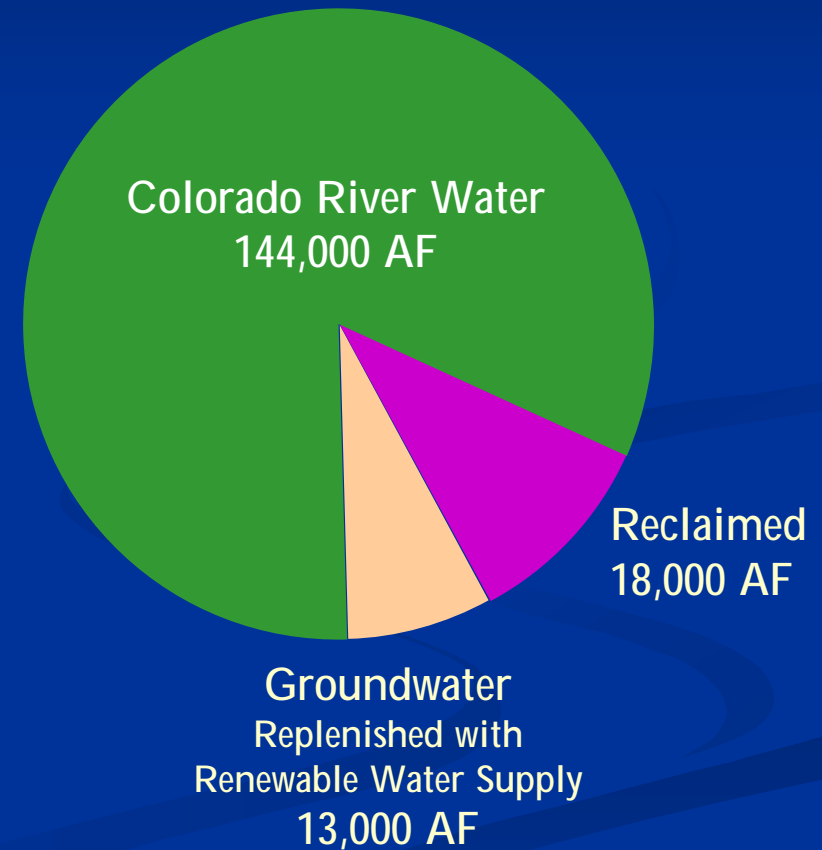
Year 2007

136,000 AF



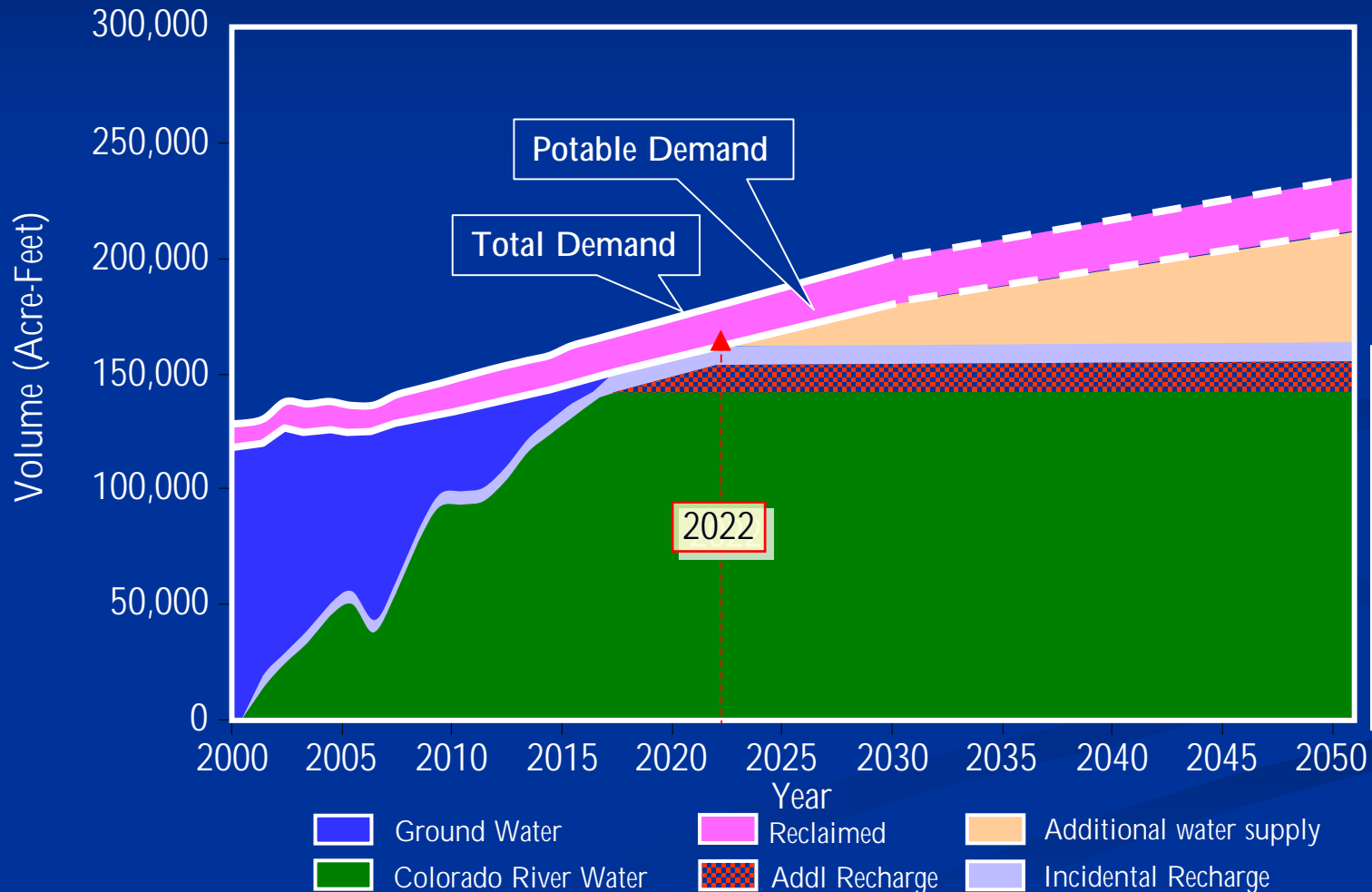
Year 2020

175,000 AF

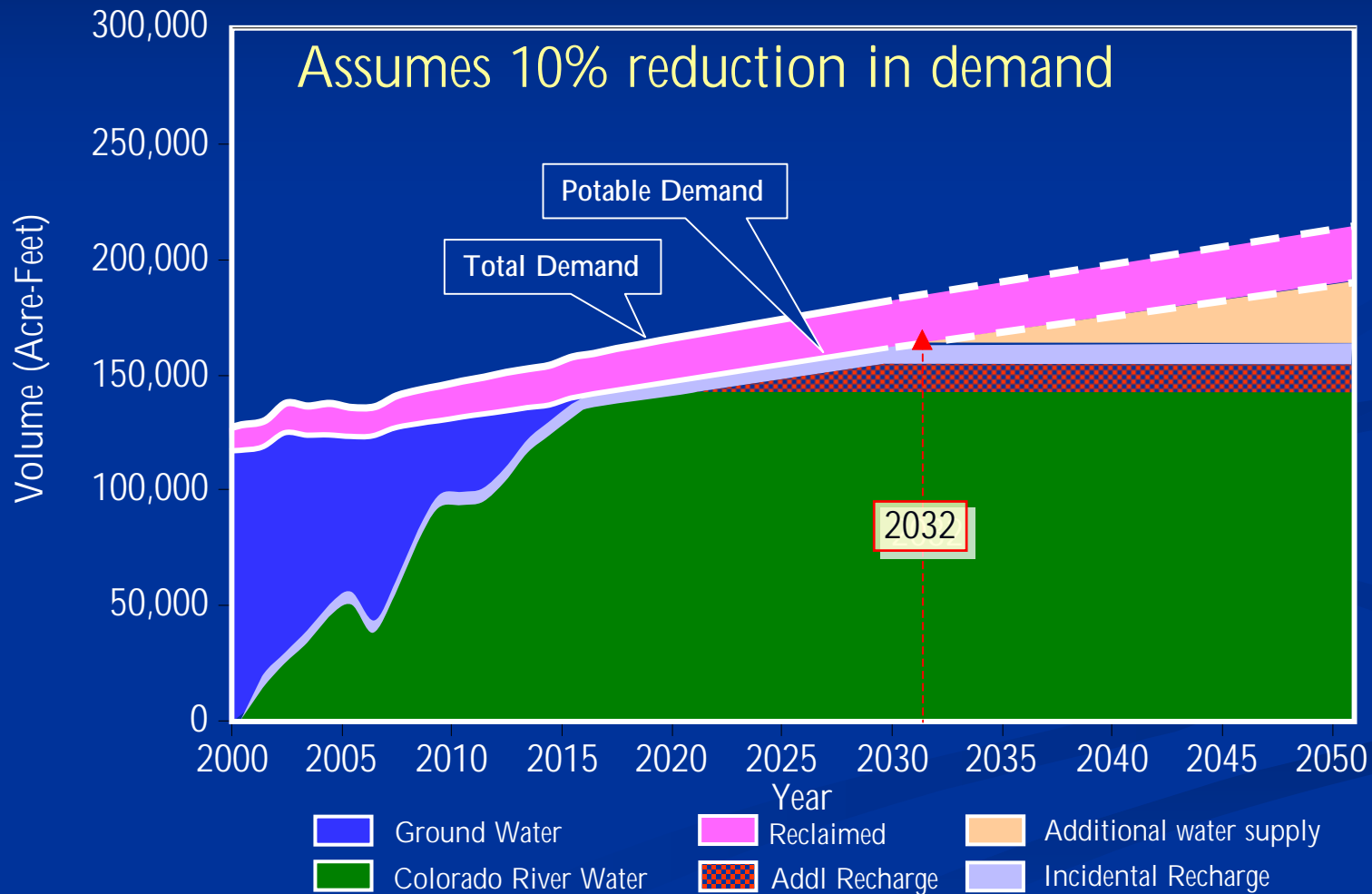


Total 2007 Water Usage: 44 Billion Gallons

Water Demand Without Additional Conservation



Water Demand With Additional Conservation



Additional Water Supply Options

- Additional Groundwater Supplies
- Additional CAP Water Supplies
- Increased Reclaimed Water for Non-Potable Uses
- Working with others to identify additional resources

- Issues
 - *Water Quality Changes*
 - *Cost*

What/When is driven by Community Choices

So Why Conserve?

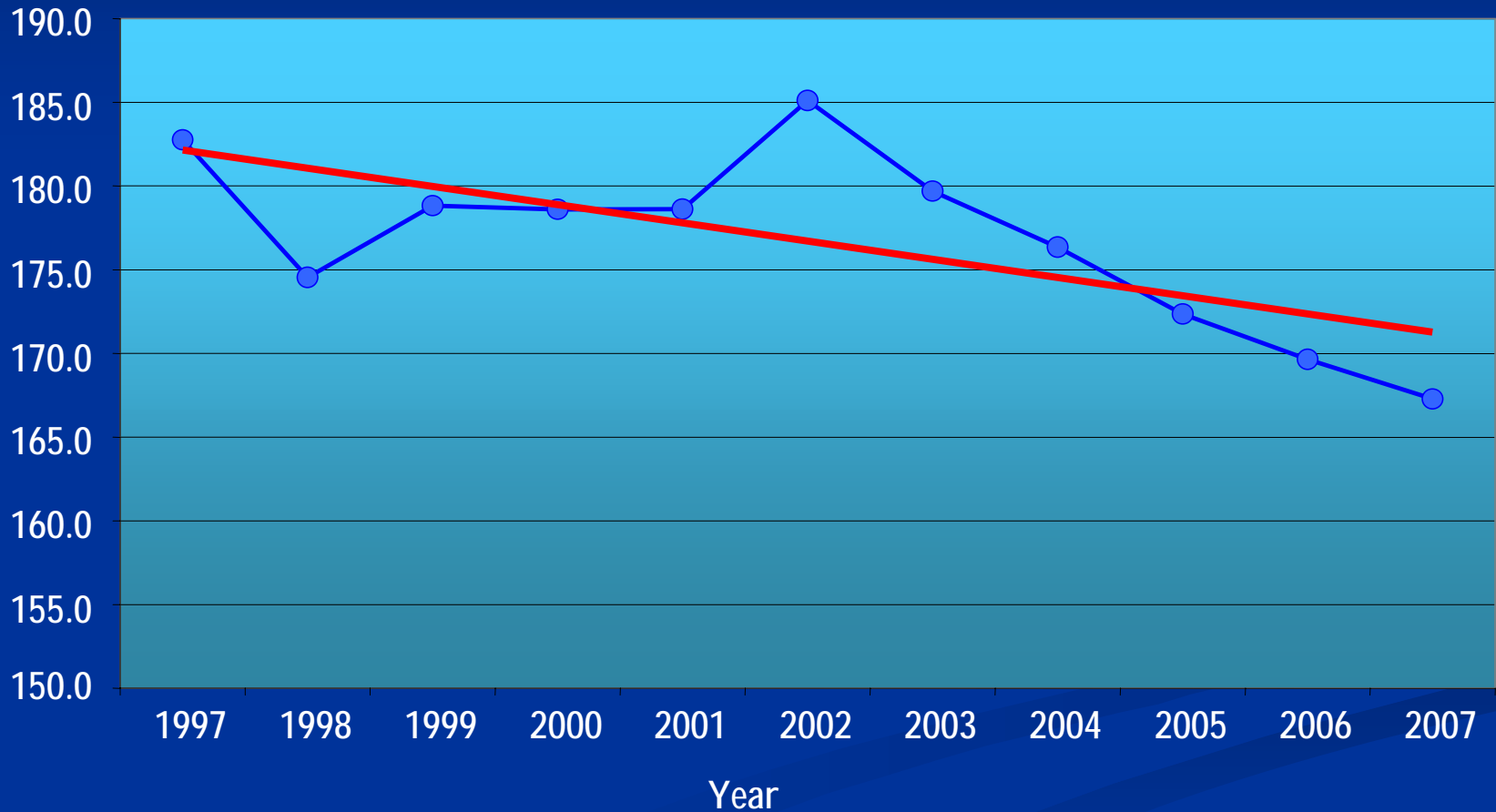
Current Conservation Programs

Level 1	General Public Information	Beat the Peak, Bill Insert articles, general advertising/ promotion
Level 2	Education and Training	Low 4 Program, Water\$mart Workshops, SmartScape Program, In-School Programs
Level 3	Direct Assistance	Zanjero Program, Commercial Audits
Level 4	Incentives	Rebate Programs, Water Rate Structure
Level 5	Ordinances	Water Waste, Plumbing Codes, Xeriscape Landscaping, Mandatory Conservation

The Result...

Per Person Use is Falling

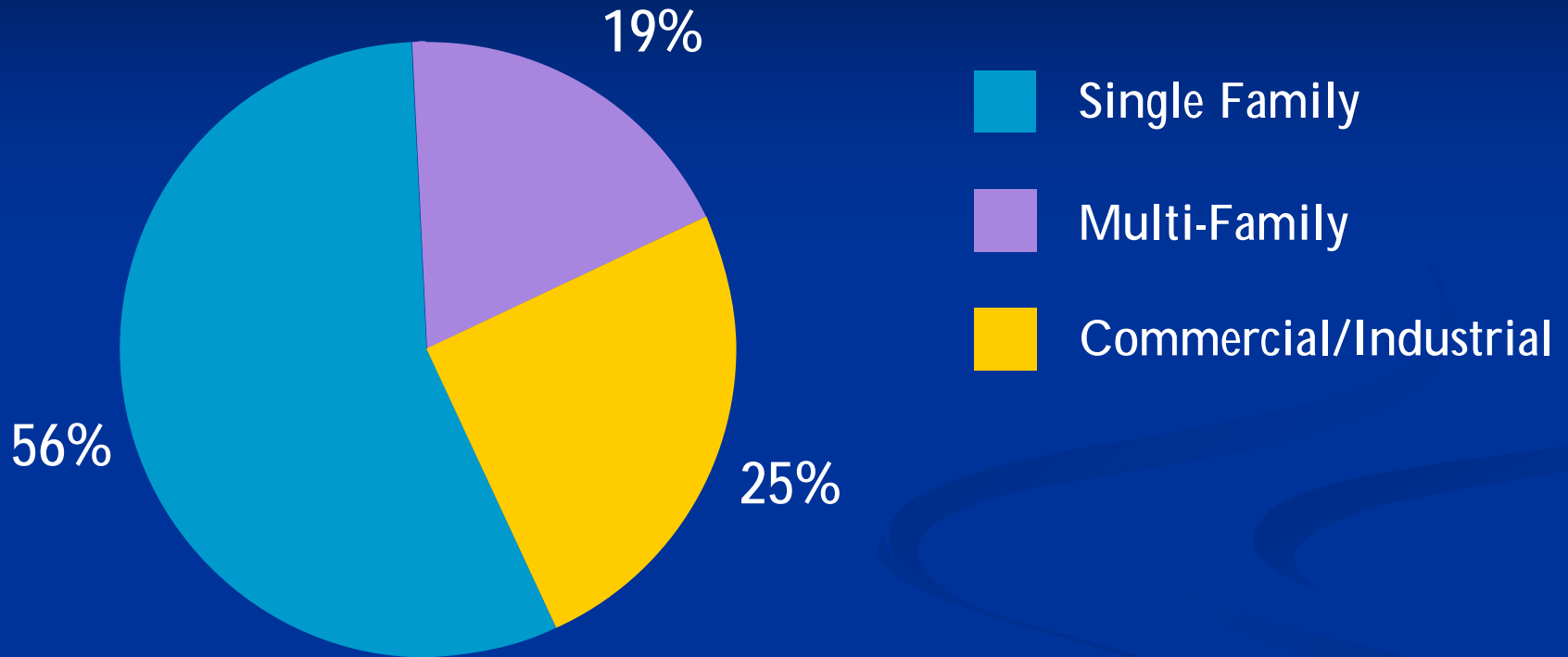
Total Per Capita Usage 1997-2007



Next Steps in Water Conservation

- Community Conservation Task Force
 - Reviewed 123 Potential Conservation Strategies
 - Strategies Must Reduce Water Use
 - Selected 48 Strategies for Further Investigation
- Cost/Benefit Analysis
 - Evaluate the Cost, Who Pays, Potential Water Savings
- Task Force Recommended 22 Strategies
 - Approved by Mayor and Council Feb 2008
 - Now Asking Consumers... *what do you think?*

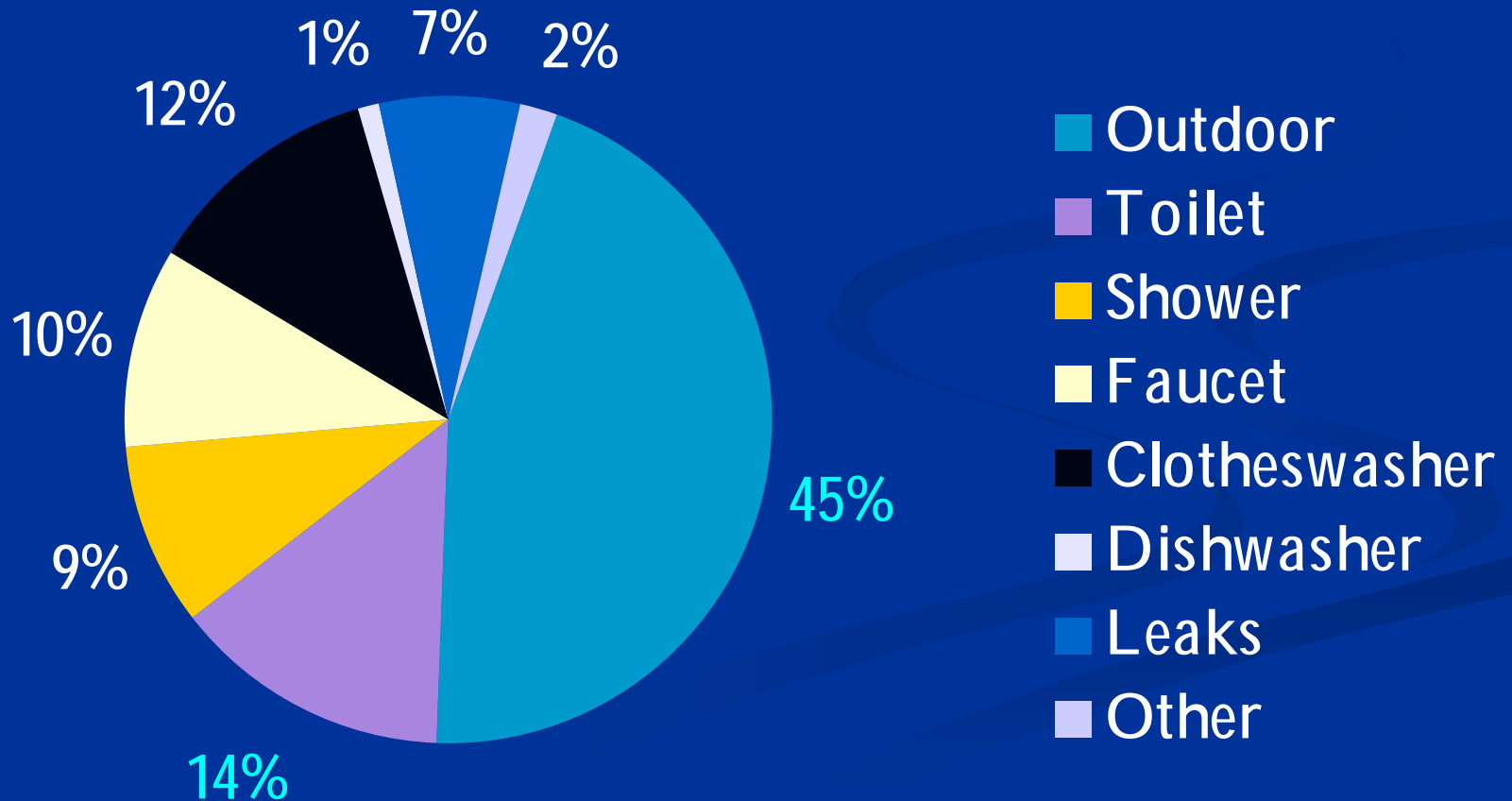
Who Uses Tucson's Water?



All Customer Classes Can Save Water

Typical Single Family Use

- Single family homes use 56% of water
- Older homes average 3500 gallons/month/person
- New homes average 3000 gallons/month/person



Reducing Single Family Outdoor Use

Conservation Task Force Recommendation:

- Grey water incentive



Saves up to 16 M gallons per year

Other opportunities (How Can I Conserve?)

Water harvesting

Irrigation system upgrades

No grass, drought-tolerant landscape

Cover swimming pools

Reducing Single Family Indoor Use

Conservation Task Force Recommendation:

- Single Family targeted low-flow toilet rebate

Mayor and Council Addition to program:

- Low-income toilet replacement

Saves up to 255 M gallons per year

Other opportunities:

Low-flow shower heads and faucets

Hot water recirculation systems

Efficient dishwashers and clothes washers

Fix leaks



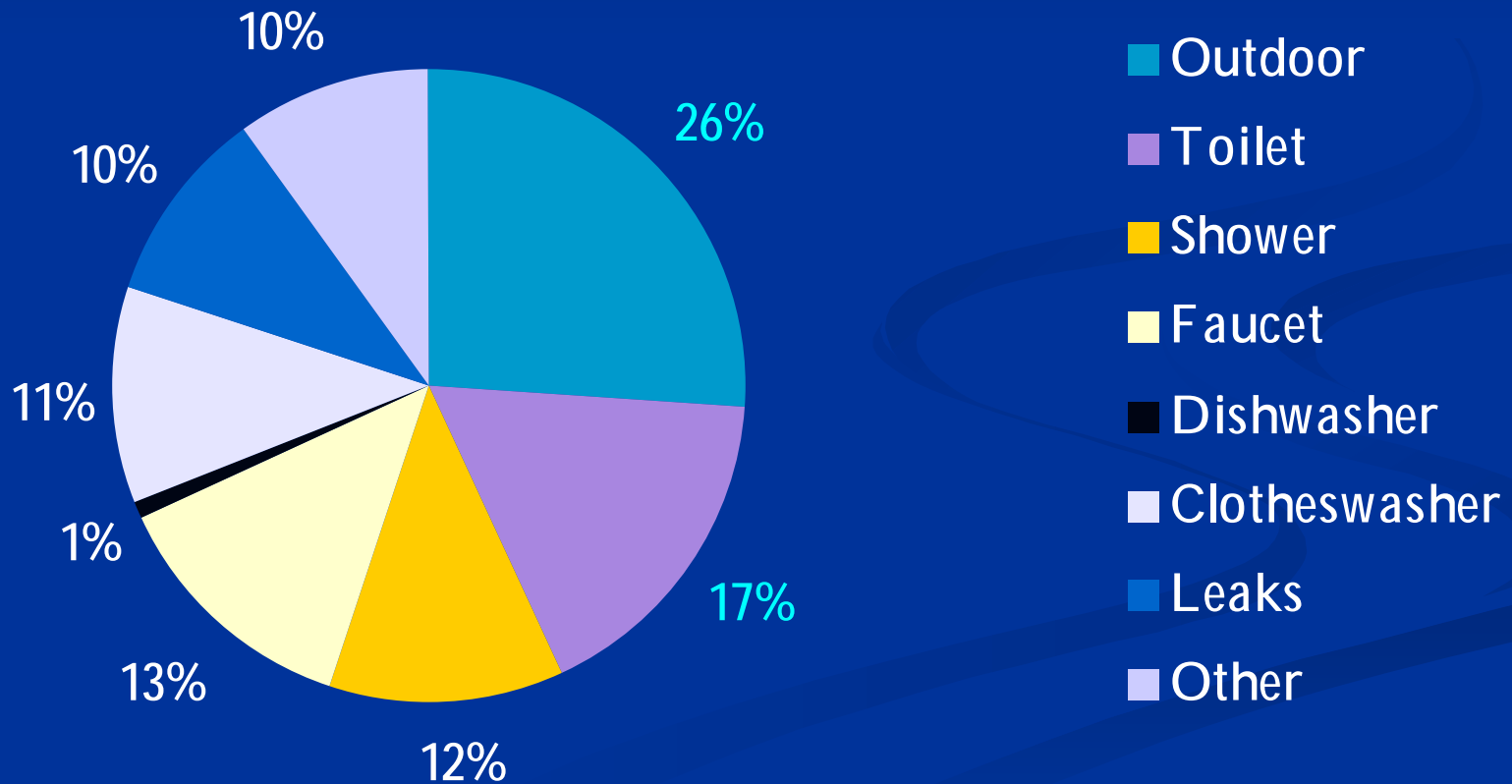
Using Ultra Low Flow Toilets

- Older toilets: 3.5+ gallons per flush
- ULF toilets: <1.6 gallons per flush
- Savings:
 - 1.9+ gallons per flush
 - 10,000 gallons per year in average home
 - \$48 per year in average home
- Cost of ULF toilet: \$155
- Rebate for ULF toilet: \$75
- Payback: < 2 years



Typical Multi-Family Use

- Multi-family uses 19% of water
- Older multi-family averages 3000 gallons/month/person
- New multi-family averages 2400 gallons/month/person



Reducing Multi-Family Outdoor Use

Conservation Task Force Recommendations:

- Irrigation system upgrade rebate
- Irrigation system retrofit-on-resale
- Condo Conversion sub-metering retrofit-on-resale
- New construction ordinances for submetering, landscape design, irrigation design

Saves up to 770 M gallons per year

Other opportunities:

Water and gray water harvesting



Reducing Multi-Family Indoor Use

Conservation Task Force Recommendations:

- High-efficiency toilet rebate
- Community-based ULF toilet distribution
- Vendor-driven ULF toilet distribution
- ULFT retrofit-on-resale

Saves up to 343 M gallons per year

Other opportunities:

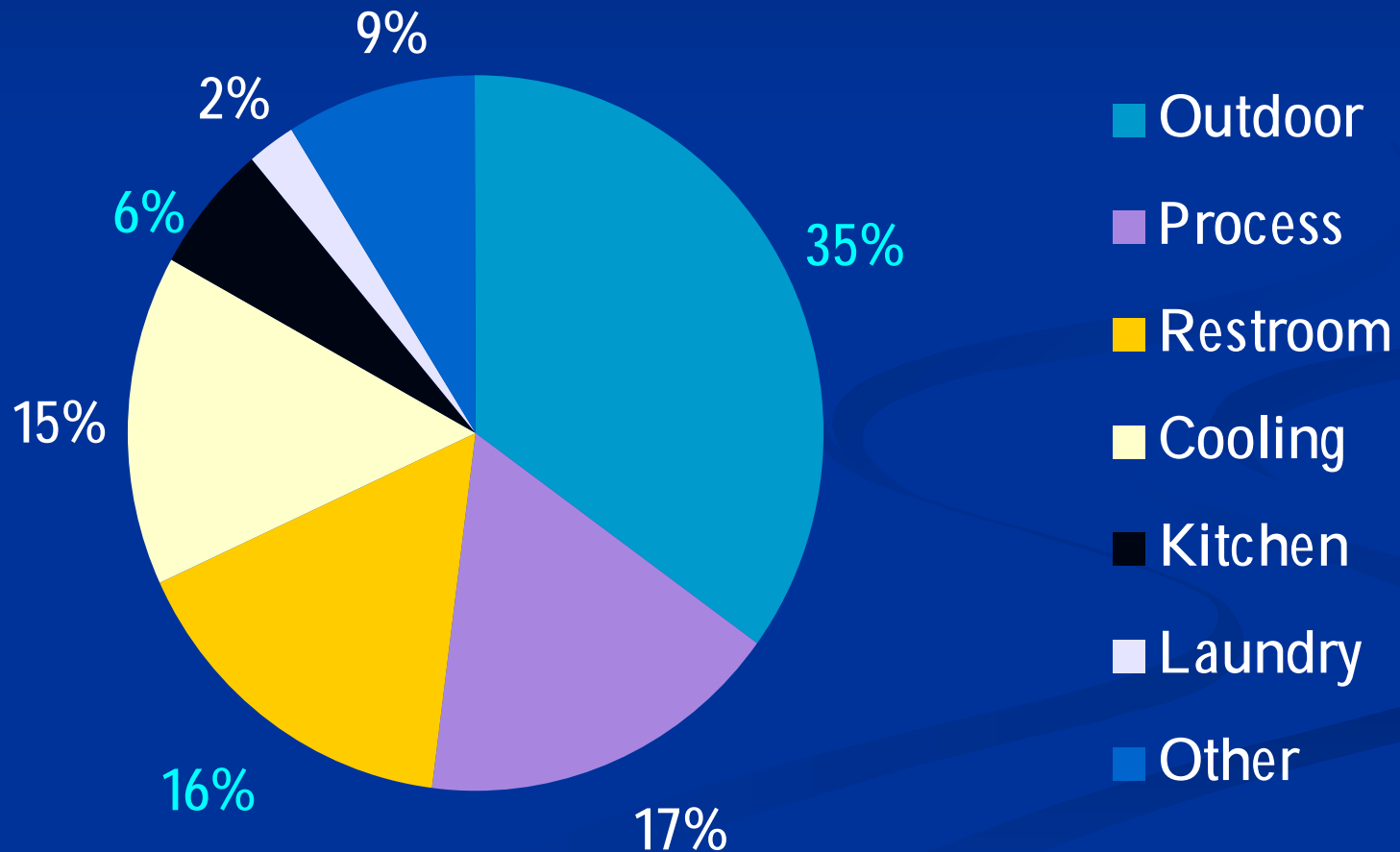
Hot water recirculation systems

Low-flow shower heads and faucets



Typical Commercial/Industrial Use

- Commercial/industrial uses 25% of water
- Commercial/industrial averages 45,000 gallons/month



Reducing C/I Outdoor Use

Conservation Task Force Recommendations:

- Water harvesting and irrigation system retrofit-on-resale
- Submetering incentive
- New construction water harvesting and gray water ordinance

Saves up to 90 M gallons per year

Other opportunities:

- No grass, drought-tolerant landscape
- Use air conditioning condensate



Smart Irrigation Controller

Reducing C/I Indoor Use

Conservation Task Force Recommendations:

- ULF toilet, waterless urinal, and spray valve (faucet) rebates

Saves up to 97 M gallons per year

Other opportunities:

Hot water recirculation systems

Car washes improve efficiency

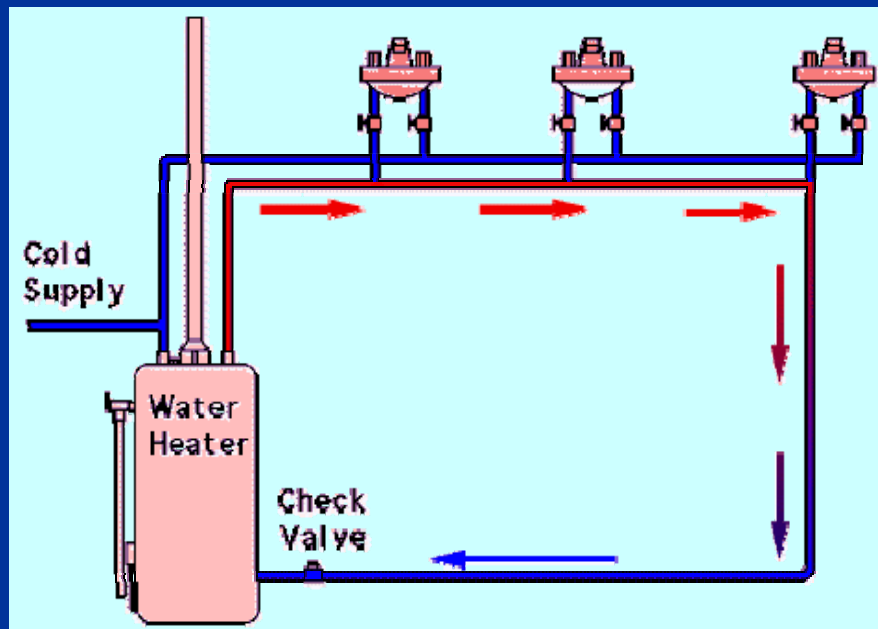
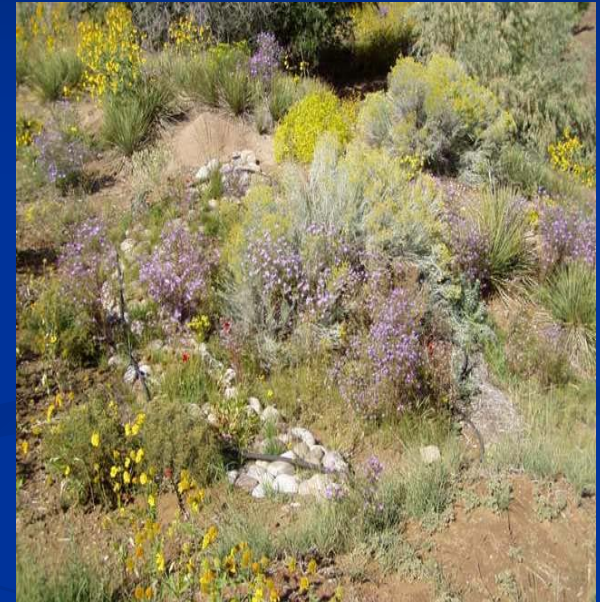
More efficient equipment



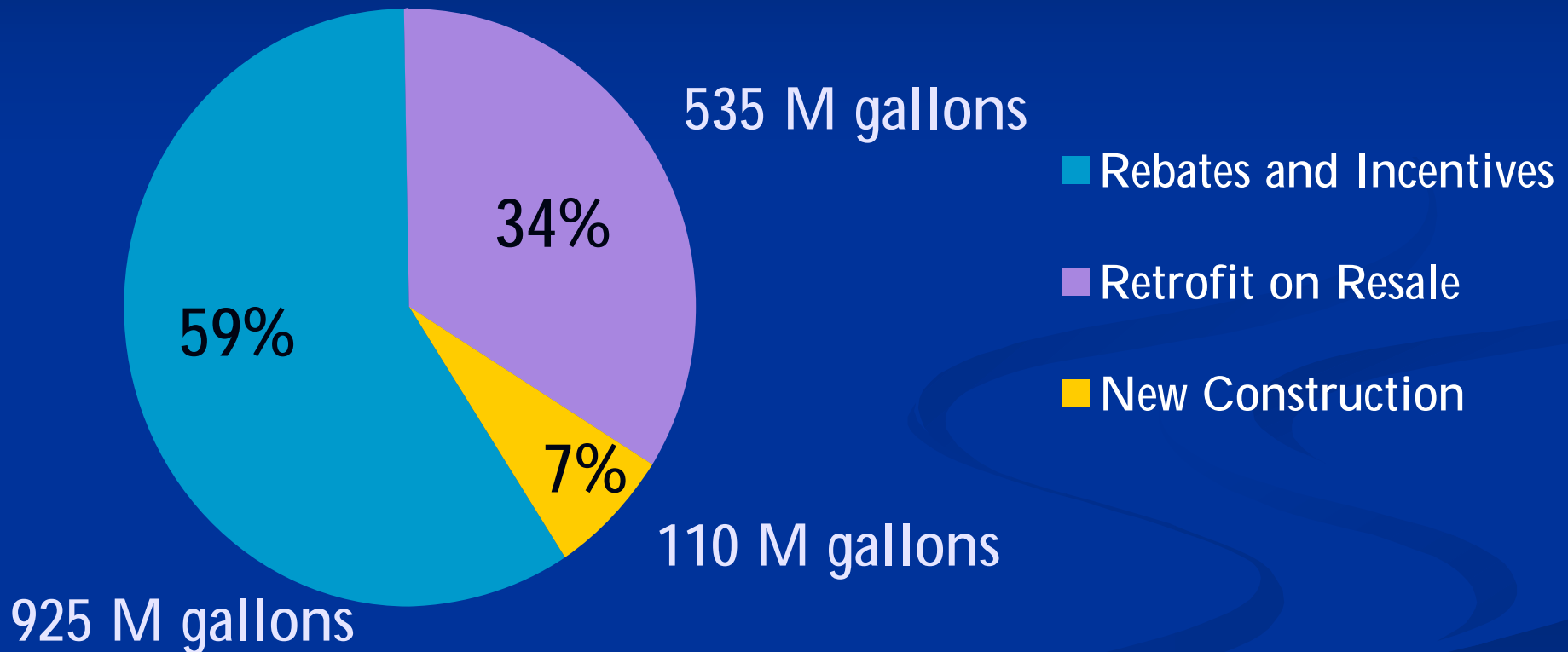
Water Conservation Education

Conservation Task Force Recommendations: Demonstration programs

- Hot water re-circulation program
- Smart irrigation controller program
- Water harvesting program



Total Water Savings (All Task Force Programs) up to 1.6 Billion Gallons



Overall Reduction in Potential Water Usage: 3.5%

Overall Cost of Recommended Programs: \$2.1 Million

Keeping Our Water Affordable

Water rates promote conservation and protect low income customers

Average Residential Monthly Water Bill
for 9,000 gallons of use

1997	2008	\$ Change	% Change
\$19.84	\$20.06	\$0.22	1%

Nearly 75% of Residential Customers are in
the lowest water rate block

Your Monthly Utility Statement

- More Than Just Water -

Tucson Water

\$20.88 (for 9,000 gallons monthly average)

Pima County Wastewater

\$20.03 (for 6,700 gallons monthly winter average)

City of Tucson Environmental Services \$14.00

TOTAL \$54.91

Low Income Assistance Program

- For customers who earn less than 125% of the Federal poverty level
- Offered by the City of Tucson in partnership with Pima County Community Action Agency
- Provides full payment of Utility Statement up to 2x each year
- Call 243-6700 to apply

What Do You Think?

- Do you agree with the Task Force recommendations?
- Would you participate in any of them?
- How should these programs be paid for?
- How much should our community spend to increase conservation even further?
- What other conservation measures do you suggest?

For more information, or to complete a survey, please visit the tables or www.tucsonaz.gov/water

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Questions?

