



Metropolitan Area Water Supply Advisory Committee

Water Use and Water Conservation

Presented by: Chris Elvrum, Metropolitan Council

April 27, 2006

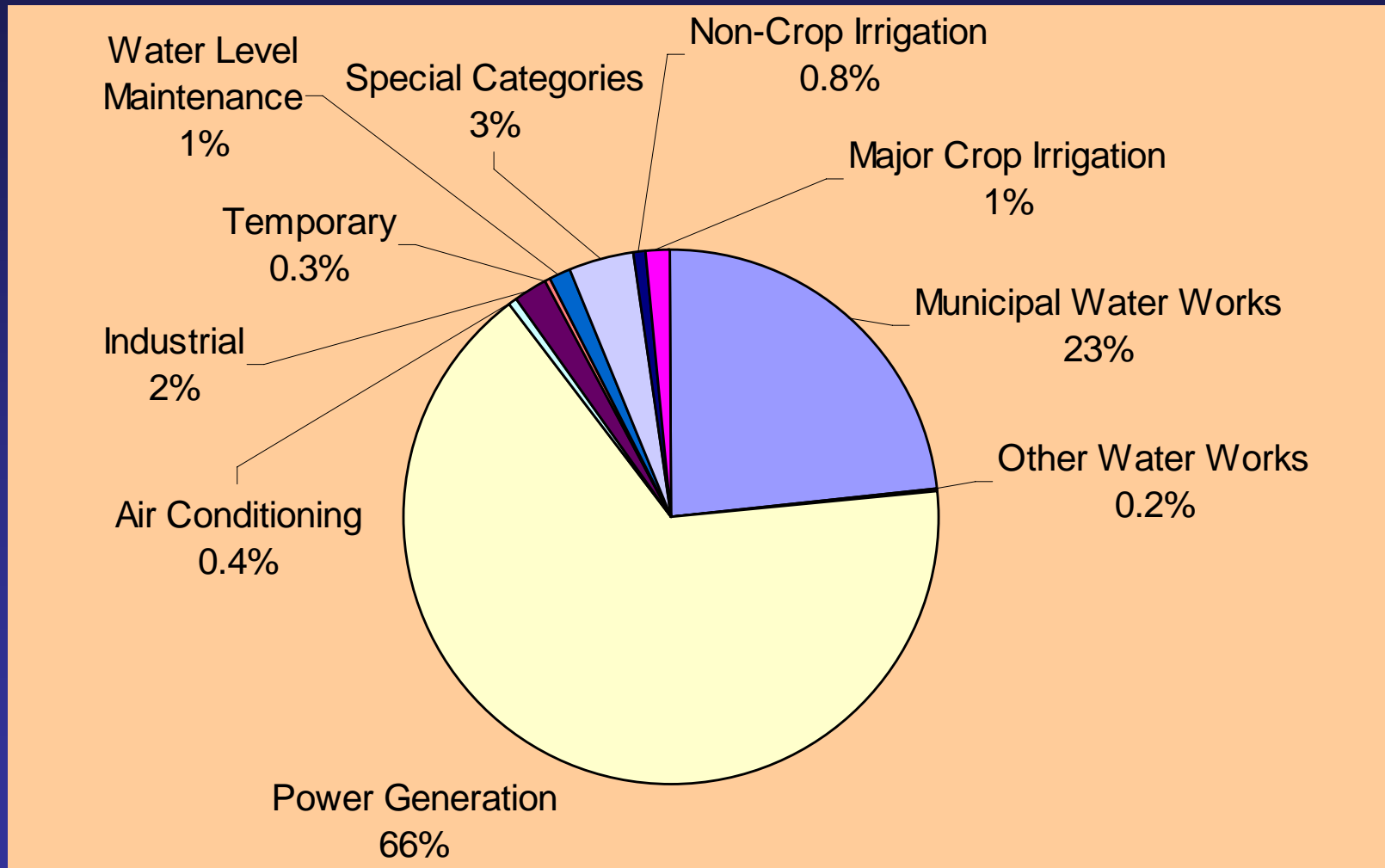


2004 Municipal Metro Water Use

- Total 316 MGD or 115,000,000,000 gallons
- Residential 183 MGD
- Commercial/Industrial/Institutional 108 MGD
- Unmetered/Unaccounted 25 MGD

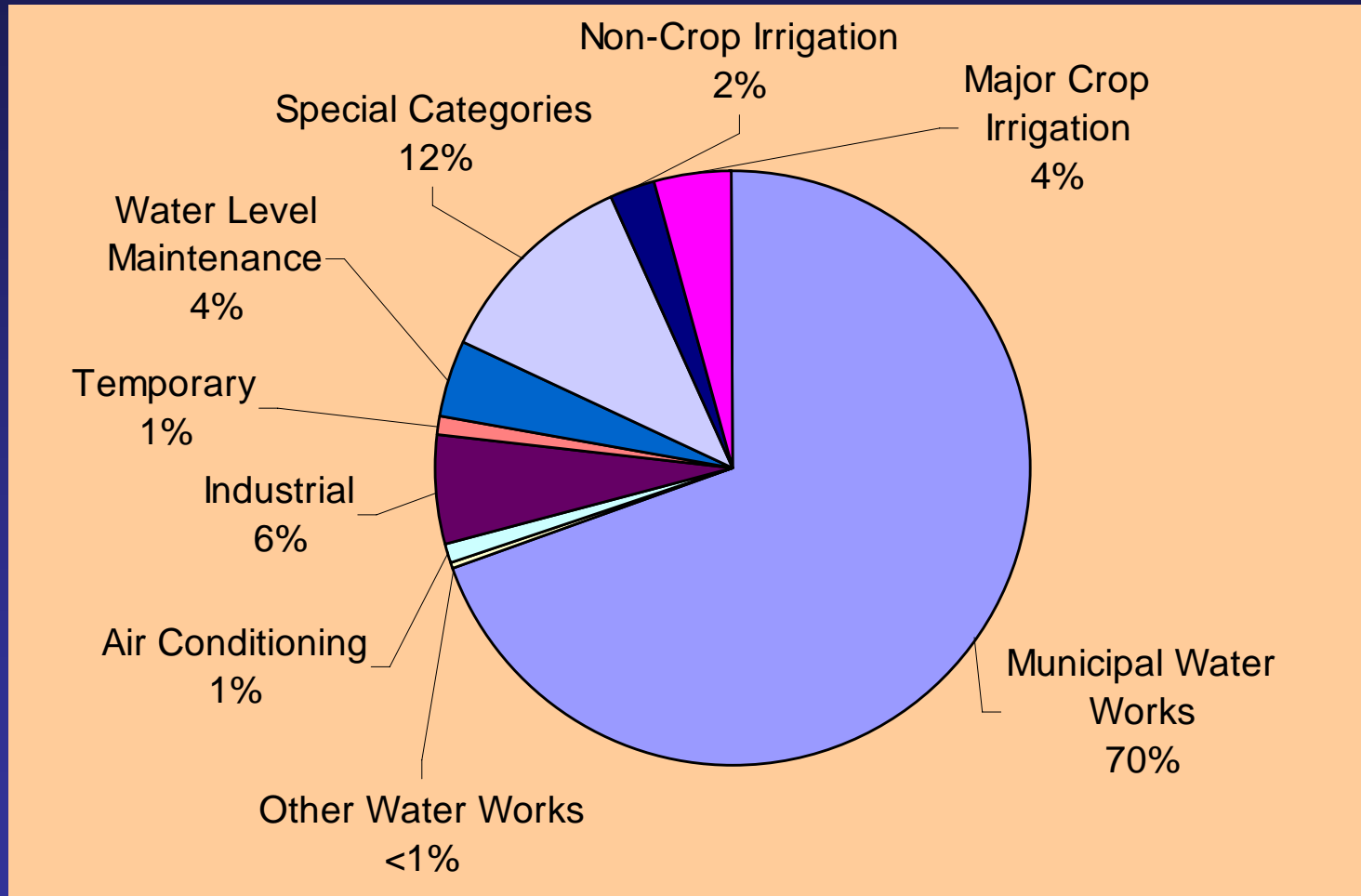
Source: Minnesota Department of Natural Resources

Twin City Water Use 2004



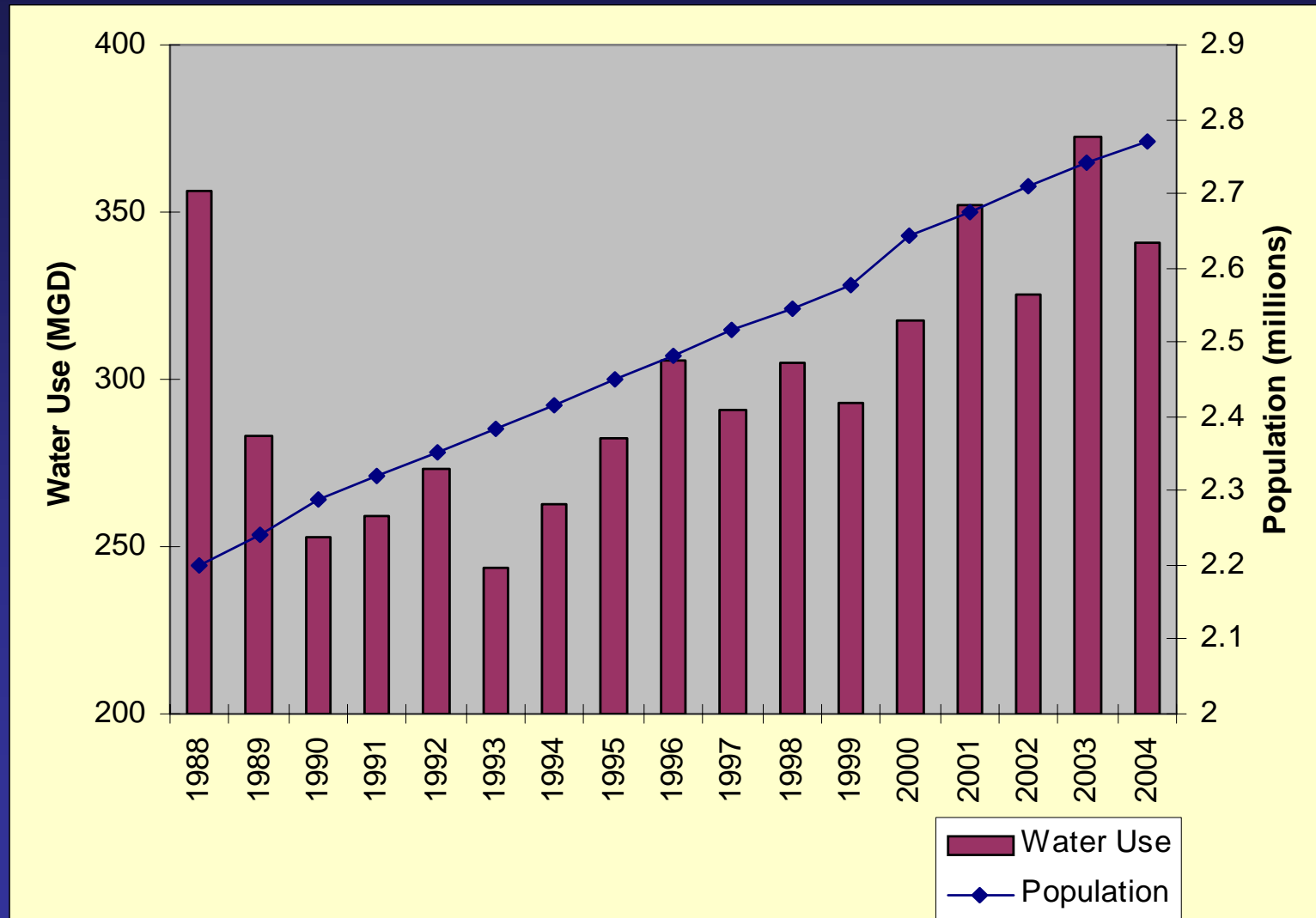
Source: Minnesota Department of Natural Resources

Twin City Water Use 2004 w/o Power Generation



Source: Minnesota Department of Natural Resources

Municipal Water Use and Population

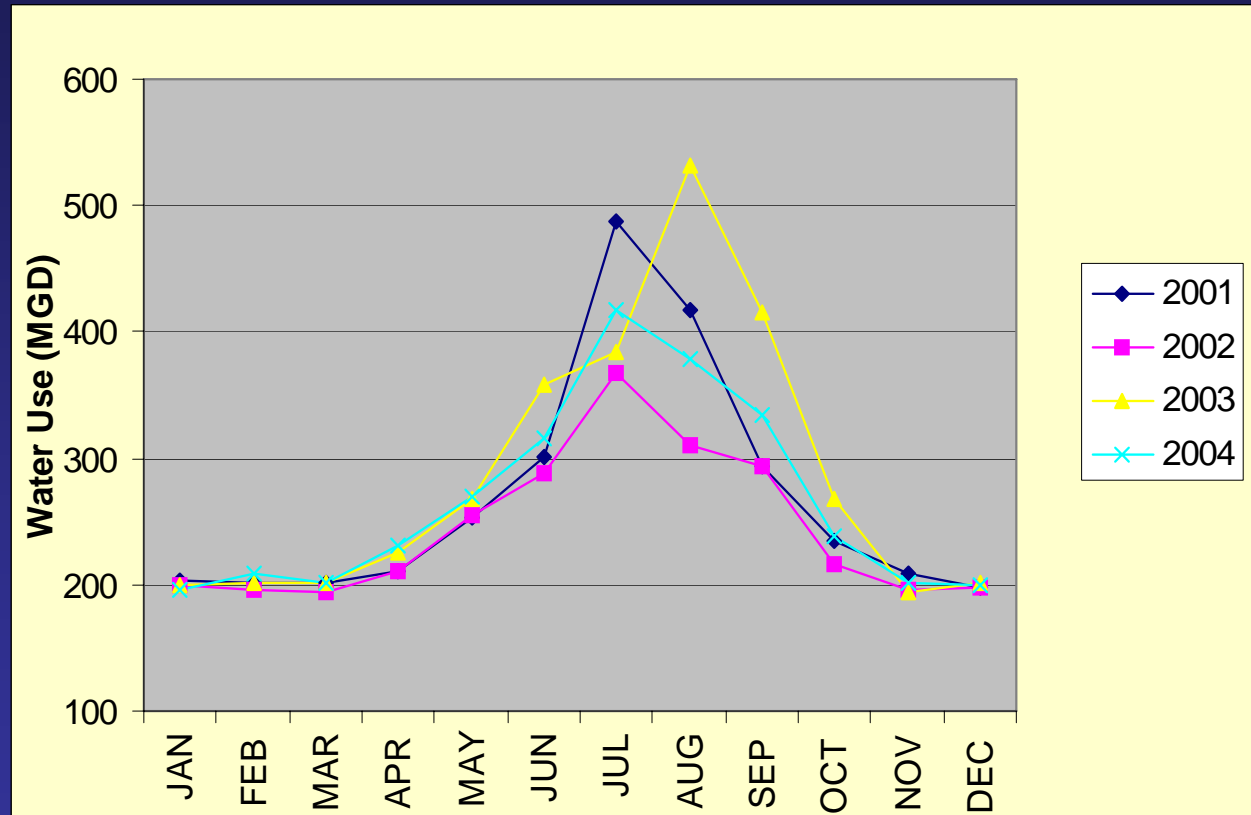


Source: Minnesota Department of Natural Resources and Metropolitan Council

Monthly Water Use



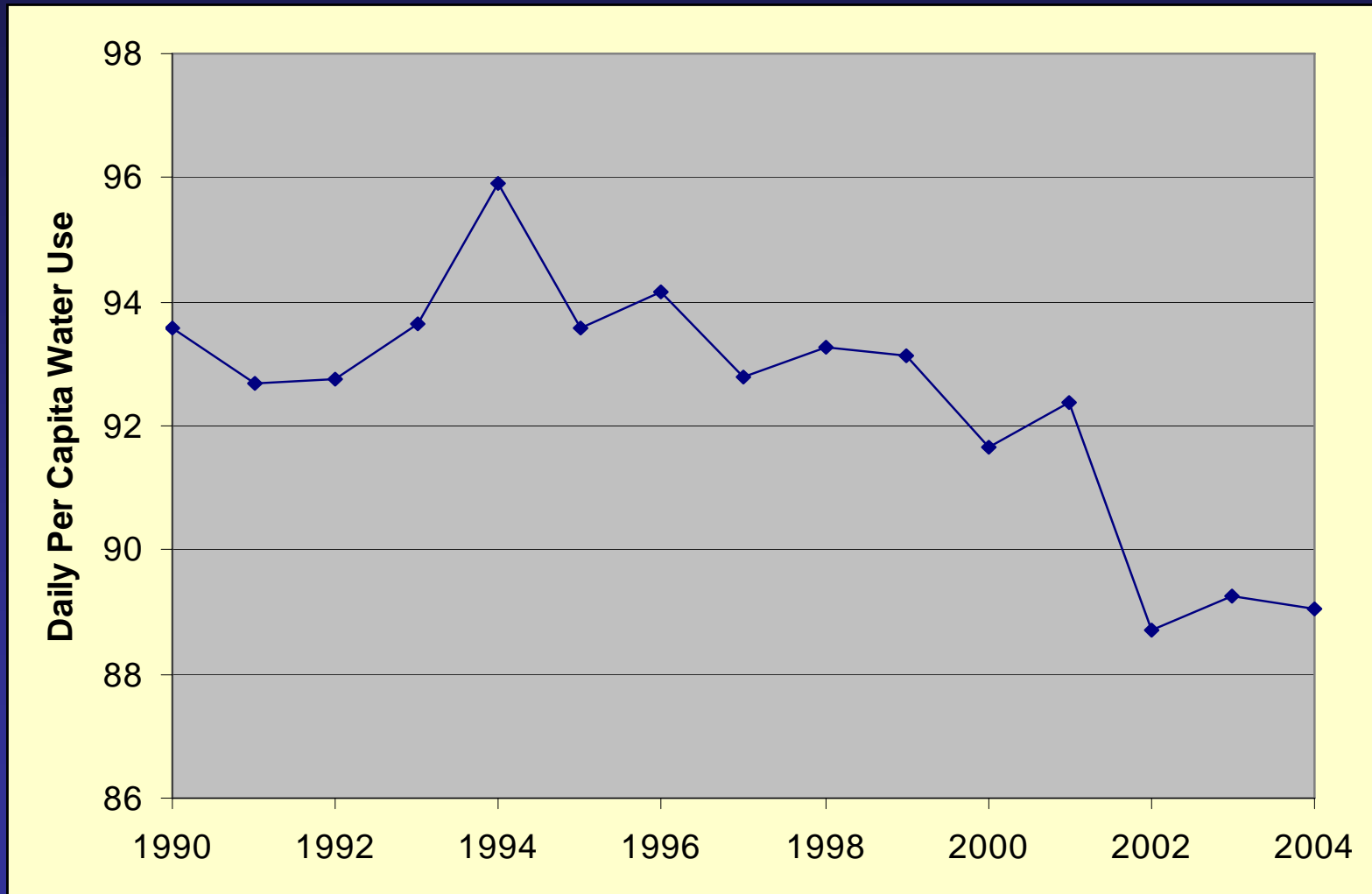
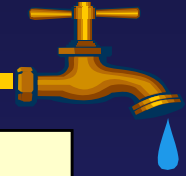
- Peak Day to Average Day Ratio Metro Average 2.5
- Storage and Treatment need to meet Peak Day demands including fire flow



19-30% of water use for 'summer use'

Source: Minnesota Department of Natural Resources

Per Capita Winter Water Use



Source: Minnesota Department of Natural Resources

Benefits of Water Conservation



■ Costs (Water and Wastewater)

- Facility Expansion
- O&M
- Chemicals
- Energy

■ Environmental

- Stormwater runoff
- Impact to resources

■ Avoid Conflicts



Water Conservation Plans



■ Water Supply Plan

- Metro Area Local Comprehensive Plan, §473.859 (Metropolitan Council)

■ Emergency and Conservation Plan

- Serving >1000, §103G.291 (DNR - Statewide)

■ Both require

- Conservation rate structure evaluation
- Public education program which may include fixture retrofit program

Metropolitan Area Water Conservation



■ Watering restriction (Full time or Emergency)

- Odd/Even
- Time of Day

■ Education

- Bill Stuffers
- Website
- Newsletters/Newspapers

■ Conservation Pricing

- Increasing Block
- Seasonal



Metropolitan Area Water Conservation (continued)



- Metering/Billing
- Leak Detection
- Top Soil/Tree Requirements
- Moisture Sensors



Metro Area Municipal Water Price (2002)



- Average cost for 10,000 gallons = \$19.71
- Family of 4 assuming 80 gpcd:
116,800 gal/year or \$230/year
- Other cost/10,000 gallons:
 - Chicago \$12.35
 - Las Vegas \$18.21
 - Atlanta \$25.87
 - Seattle \$45.37



Water Conservation Program Examples



- **Xeriscape™**
 - Education
 - Assistance
- **Rebate Program**
 - Plumbing Fixtures
 - Appliances
- **Residential Audits**
- **Commercial and Industrial Efficiency Assistance**
- **Wastewater Reuse**



Coordinated Water Conservation Planning



- **California Urban Water Conservation Council**
 - Coalition of 345 organizations
 - Pledge to develop and implement 14 conservation Best Management Practices

- **Water Conservation Coalition of Puget Sound**
 - >60 Water Suppliers
 - Coordinate, Educate and Promote Water Conservation

- **Portland: Regional Water Providers Consortium**
 - Regional planning including conservation

