



SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES



WATER CONSERVATION MASTER PLAN 2004



WATER SYSTEM PROFILE

Organization

Salt Lake City Department of Public Utilities
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Planning

Water Conservation Master Plan; filed March 1999
 Water Shortage Contingency Plan; Adopted June 2003
 Water Conservation Master Plan, Updated; filed March 2004

Population

2002 Population: 326,293 (estimated based on 2002 U.S. Census Bureau, adjusted by new connections and number of unincorporated county customer connections multiplied by 3.2 (current average number of persons per household for SLC))

| | 2005 | 2010 | 2015 | 2020 | 2025 |
|---------------------------------|---------|---------|---------|---------|---------|
| Population Estimate | 349,051 | 364,393 | 409,094 | 428,920 | 432,926 |
| Average Water Use (mgd) | 97.6 | 103.1 | 108.6 | 113.8 | 130.5 |
| Average Water Use (1,000 AF/yr) | 109.3 | 115.5 | 121.7 | 127.5 | 130.5 |
| System Maximum Day (mgd) | 266.5 | 281.3 | 296.4 | 310.5 | 318.1 |
| System Peak Hour (mgd) | 333.1 | 351.7 | 370.6 | 388.2 | 397.6 |

Source: Salt Lake City Water Master Plan, 1997; Table 3-5 Estimated Future Demand Summary

| Demand Condition | Peaking Factor |
|--------------------|----------------|
| Maximum Day (MDD) | 2.73 |
| Maximum Hour (MHD) | 3.42 |

Connections and Use

2003 Total Connections 91,751

| CATEGORY | | City | County | Exchange | Total |
|--------------------------------|-----------|------------|-----------|-----------|------------|
| Total | | 53,189 | 24,595 | 6,471 | *87,745 |
| Residential | Single | 38,112 | 22,600 | 5,740 | 66,452 |
| | Duplex | 3,905 | 474 | 154 | 4,533 |
| | Triplex | 514 | 9 | 21 | 544 |
| | Fourplex | 1,046 | 17 | 8 | 1,071 |
| | Apartment | 1,212 | 342 | 34 | 1,588 |
| Business | | 6,623 | 802 | 213 | 7,638 |
| Hotel or Motel | | 168 | 7 | 0 | 175 |
| Hospital | | 40 | 12 | 0 | 52 |
| Industrial | | 171 | 7 | 1 | 179 |
| Church, School, or Charity | | 480 | 52 | 27 | 559 |
| Parks and Municipals | | 403 | 5 | 201 | 609 |
| Miscellaneous | | 515 | 268 | 72 | 855 |
| Canyon Contracts - Residential | | | | | 566 |
| Holliday Water - Residential | | | | | 2,924 |
| Water Usage (ccf) | | 23,202,445 | 9,066,363 | 2,312,362 | 34,581,170 |

* includes Canyon Contracts and Holliday Water Connections

Estimated Annual Water Supply

| Wet Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| WTPs | 97.0 | 97.0 | 97.0 | 97.0 | 95.0 | 95.0 | 80.0 | 66.0 | 41.0 | 41.0 | 97.0 | 97.0 |
| Wells | 46.6 | 46.6 | 46.6 | 46.6 | 55.0 | 55.0 | 55.0 | 55.0 | 55.0 | 55.0 | 46.6 | 46.6 |
| MWDSLS1 | 94.3 | 94.3 | 94.3 | 94.3 | 85.0 | 85.0 | 85.0 | 85.0 | 85.0 | 85.0 | 94.3 | 94.3 |
| Jordan Aqueduct | 42.9 | 42.9 | 42.9 | 42.9 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 42.9 | 42.9 |
| Springs | 1.1 | 1.1 | 1.1 | 1.1 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 1.1 | 1.1 |
| Subtotal | 281.9 | 281.9 | 281.9 | 281.9 | 290.0 | 290.0 | 275.0 | 261.0 | 236.0 | 236.0 | 281.9 | 281.9 |
| Reduction due to well restrictions ² | 4.7 | 4.7 | 4.7 | 4.7 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 4.7 | 4.7 |
| Total | 277.2 | 277.2 | 277.2 | 277.2 | 284.5 | 284.5 | 269.5 | 255.5 | 230.5 | 230.5 | 277.2 | 277.2 |

| Normal Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| WTPs | 97.0 | 97.0 | 97.0 | 97.0 | 95.0 | 89.0 | 81.0 | 52.0 | 32.0 | 32.0 | 97.0 | 97.0 |
| Wells | 46.6 | 46.6 | 46.6 | 46.6 | 55.0 | 55.0 | 55.0 | 55.0 | 55.0 | 55.0 | 46.6 | 46.6 |
| MWDSLS1 | 94.3 | 94.3 | 94.3 | 94.3 | 85.0 | 85.0 | 85.0 | 85.0 | 85.0 | 85.0 | 94.3 | 94.3 |
| Jordan Aqueduct | 42.9 | 42.9 | 42.9 | 42.9 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 42.9 | 42.9 |
| Springs | 1.1 | 1.1 | 1.1 | 1.1 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 1.1 | 1.1 |
| Subtotal | 281.9 | 281.9 | 281.9 | 281.9 | 290.0 | 284.0 | 276.0 | 247.0 | 227.0 | 227.0 | 281.9 | 281.9 |
| Reduction due to well restrictions ² | 4.7 | 4.7 | 4.7 | 4.7 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 4.7 | 4.7 |
| Total | 277.2 | 277.2 | 277.2 | 277.2 | 284.5 | 278.5 | 270.5 | 241.5 | 221.5 | 221.5 | 277.2 | 277.2 |

| Dry Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| WTPs | 97.0 | 97.0 | 97.0 | 97.0 | 41.0 | 25.0 | 21.0 | 22.0 | 11.0 | 11.0 | 97.0 | 97.0 |
| Wells | 46.6 | 46.6 | 46.6 | 46.6 | 55.0 | 55.0 | 55.0 | 55.0 | 55.0 | 55.0 | 46.6 | 46.6 |
| MWDSLS1 | 94.3 | 94.3 | 94.3 | 94.3 | 85.0 | 85.0 | 85.0 | 85.0 | 85.0 | 85.0 | 94.3 | 94.3 |
| Jordan Aqueduct | 42.9 | 42.9 | 42.9 | 42.9 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 42.9 | 42.9 |
| Springs | 1.1 | 1.1 | 1.1 | 1.1 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 1.1 | 1.1 |
| Subtotal | 281.9 | 281.9 | 281.9 | 281.9 | 236.0 | 220.0 | 216.0 | 217.0 | 206.0 | 206.0 | 281.9 | 281.9 |
| Reduction due to well restrictions ² | 4.7 | 4.7 | 4.7 | 4.7 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 4.7 | 4.7 |
| Total | 277.2 | 277.2 | 277.2 | 277.2 | 230.5 | 214.5 | 210.5 | 211.5 | 200.5 | 200.5 | 277.2 | 277.2 |

Note: Numbers are in millions of gallons

1 MWDSL1C anticipated capacity increase of 32 mgd in the year 2010.

2 Assumed reduction in well capacity for downtime due to malfunction and routine maintenance and repair.

Source: Salt Lake City Water System Master Plan, 1997

Annual Water Purchases

Please consult the State Engineers Division of Water Rights Database

Peak Water Demand

| | 1999 | | | 2000 | | | 2001 | | | 2002 | | | 2003 | | |
|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | Jun | Jly | Aug | Jun | Jly | Aug | Jun | Jly | Aug | Jun | Jly | Aug | Jun | Jly | Aug |
| Average Daily | 146.71 | 186.47 | 167.67 | 161.38 | 189.12 | 171.96 | 160.01 | 173.63 | 171.61 | 151.96 | 176.84 | 164.49 | 133.22 | 162.64 | 147.17 |
| Maximum Day | 208.57 | 204.15 | 196.23 | 198.20 | 208.74 | 222.63 | 187.81 | 205.80 | 193.43 | 180.29 | 193.98 | 180.89 | 163.48 | 181.47 | 167.78 |
| System Capacity | 278 | 270 | 242 | 278 | 270 | 242 | 278 | 270 | 242 | 278 | 270 | 242 | 278 | 270 | 242 |

Measured in millions of gallons per day

Pricing

Base Rate: Varies with meter size

Free Water: na

Billing Frequency: monthly

Salt Lake City began the water rate review process in July of 2002. The Department of Public Utilities approached its advisory board, the Public Utility Advisory Committee (PUAC), in order to secure support for the rate review and for suggestions relating to the process. The PUAC recommended that a consultant be hired to guide the Utility through the process, and that a subcommittee of customers and stakeholders be formed at the appointment of the Mayor and the City Council. The Rate Restructuring Subcommittee met six times during the fall of 2002 and submitted to the PUAC its recommendations, which were approved by the PUAC and forwarded to the Mayor. The recommendations were then submitted to the City Council for review. Formal public hearings were conducted by the City council, as were as numerous presentations and hearings conducted for neighborhood community councils by the Utility. A 24-hour phone line was established, as were as an email address for public comment. The Council approved the Proposed Rate Restructuring, passing the required ordinances in May of 2003. The new rate structure was implemented in July of 2003.

Copies of the Rate Ordinance and transcripts of the Council work sessions and public hearings are provided in the Water Conservation Master Plan Appendices.

System Deficiencies

Loss Prevention: In 2002, the Utility hired an independent consultant to conduct a Water Loss Audit, expected to be completed in August of 2003. This audit will provide information relevant to developing and implementing initiatives related to water loss prevention.

Treatment and Distribution Capacity: With continued growth, even with conservation, it has been identified that additional treatment and conveyance capacity will be necessary to meet Salt Lake City's future demands. To meet this future need, the City is a partner in the Point of the Mountain Water Treatment Plant and Water Conveyance Project. This project will provide an additional 4,000 acre feet of water each year for four years commencing in 2005, culminating with a total annual allotment of 20,000 acre feet annually. This project also includes new conveyance canals, increasing the volume of water that can be transported and providing needed redundancy.

Checklist of Conservation Practices

Please see attached.