Model Input Data

**Demand**

* Demand Sites
  + Annual activity level = 285000 people
  + The average use per capita in Utah is about was 100 m3/year.
  + Monthly variation:

|  |  |
| --- | --- |
| Month | Monthly variation (% share) |
| October | 8.4 |
| November | 8.2 |
| December | 8.4 |
| January | 8.5 |
| February | 7.6 |
| March | 8.5 |
| April | 8.2 |
| May | 8.5 |
| June | 8.2 |
| July | 8.5 |
| August | 8.5 |
| September | 8.2 |

* Consumption = 15%

**Hydrology**

* Water Year Method

**Supply and Resources**

* River
  + Head flow: USGS 10168499 Big Cottonwood Creek NR Salt Lake City, UT monthly discharge data from 1980-1991. Filename: monthly streamflow USGS.csv
* Return Flow
  + Return Flow Routing: 100 %

**Argenta Dam:**

Storage: 12,000 ac-ft

See Argenta Dam Info.xlsx

**Cost:**

Little Dell reservoir

Cost $$65,000,000 in 1991 (<http://www.slcdocs.com/utilities/NewsEvents/news2000/news03142000.htm>)

Adjusted for inflation, this is $64,147,846 in 2016. This is the cost we will use for reservoir construction.

Annual improvement cost: $45,000/year (<http://www.slcdocs.com/council/agendas/2013Agendas/May7/050713A4d.pdf>)

Annual operating cost of LD reservoir: $200,785 (LittleDell.doc).

Argenta Dam:

In 1929, cost $191/ac-ft of water.

Artificial Groundwater Recharge:

**Supply and Resources**

* River
  + Groundwater Outflow: 5, 10 20, 25% of streamflow to groundwater

**Climate Scenarios:**

Average Annual Runoff Volume Decrease:

For 1 degrees C, 2.5% flow decrease

For 3 degrees C, 7.5% flow decrease for Big Cottonwood Creek

Mountain Accord, 2014, Existing Conditions and Future Trendlines of the Environment System, System Group Recommendations,

http://mountainaccord.com/wp-content/uploads/2015/06/MA\_Env\_Existing\_Conditions\_Future\_Trends\_FINAL.pdf