WHAT IS THE REAL VALUE OF WATER?
<table>
<thead>
<tr>
<th>General Economic Indicators</th>
<th>Peak</th>
<th>Present</th>
<th>%△</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (Millions)</td>
<td>2014 3.1</td>
<td>2014 3.1</td>
<td>0.0%</td>
</tr>
<tr>
<td>Total Nonfarm Employment, S.A. (Millions)</td>
<td>Jul-15 1.4</td>
<td>Jul-15 1.4</td>
<td>0.0%</td>
</tr>
<tr>
<td>Unemployment Rate, S.A.</td>
<td>Mar-07 2.3%</td>
<td>Jul-15 3.6%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Initial Unemployment Claims</td>
<td>Sep-06 3,441</td>
<td>Jul-15 4,932</td>
<td>43.3%</td>
</tr>
<tr>
<td>Avg. Weekly Wages - Private</td>
<td>Dec-09 $937.16</td>
<td>Jul-15 $839.69</td>
<td>-10.4%</td>
</tr>
<tr>
<td>Avg. Weekly Hours - Private</td>
<td>Aug-09 36.7</td>
<td>Jul-15 34.9</td>
<td>-4.9%</td>
</tr>
<tr>
<td>Taxable Retail Sales (Billions)</td>
<td>Jun-15 $48.2</td>
<td>Jun-15 $48.2</td>
<td>0.0%</td>
</tr>
<tr>
<td>SLC Int’l Airport Passengers (Millions)</td>
<td>2005 22.2</td>
<td>2014 21.1</td>
<td>-4.9%</td>
</tr>
<tr>
<td>Housing Price Index</td>
<td>Q4-07 384.0</td>
<td>Q2-15 368.6</td>
<td>-4.0%</td>
</tr>
<tr>
<td>General Economic Indicators</td>
<td>Prior Year</td>
<td>Present</td>
<td>% △</td>
</tr>
<tr>
<td>---------------------------------------------------------</td>
<td>------------</td>
<td>---------</td>
<td>------</td>
</tr>
<tr>
<td>Population (Millions)</td>
<td>2013</td>
<td>2014</td>
<td>3.5%</td>
</tr>
<tr>
<td>Total Nonfarm Employment, S.A. (Millions)</td>
<td>Jul-14</td>
<td>Jul-15</td>
<td>4.4%</td>
</tr>
<tr>
<td>Unemployment Rate, S.A.</td>
<td>Jul-14</td>
<td>Jul-15</td>
<td>-0.1%</td>
</tr>
<tr>
<td>Initial Unemployment Claims</td>
<td>Jul-14</td>
<td>Jul-15</td>
<td>53.3%</td>
</tr>
<tr>
<td>Avg. Weekly Wages - Private</td>
<td>Jul-14</td>
<td>Jul-15</td>
<td>1.6%</td>
</tr>
<tr>
<td>Avg. Weekly Hours - Private</td>
<td>Jul-14</td>
<td>Jul-15</td>
<td>-0.9%</td>
</tr>
<tr>
<td>Taxable Retail Sales (Billions)</td>
<td>Jun-14</td>
<td>Jun-15</td>
<td>5.2%</td>
</tr>
<tr>
<td>SLC Int’l Airport Passengers (Millions)</td>
<td>2013</td>
<td>2014</td>
<td>4.7%</td>
</tr>
<tr>
<td>Housing Price Index</td>
<td>Q2-14</td>
<td>Q2-15</td>
<td>5.2%</td>
</tr>
</tbody>
</table>
FACT:
Utah was the seventh fastest-growing state in the nation from 2013-2014, down from second fastest the year prior. North Dakota continues to hold the top spot for growth.

Note: Calculations exclude the District of Columbia.
Source: U.S. Census Bureau, population estimates as of July 1 of each year.
CONSIDER:
Due to the relative size of the state, Utah’s incremental population growth from 2013 to 2014 was nearly three times that of North Dakota’s.

+15,625 (Utah)
+40,115 (North Dakota)

Source: U.S. Census Bureau, population estimates as of July 1 of each year.
Population
2004-2014

Source: Utah Governor's Office of Planning and Budget, Applied Analysis, Intercensal years have been estimated.
Population 2004-2014

Source: Utah Governor’s Office of Planning and Budget, Applied Analysis, Intercensal years have been estimated.

WHAT IS THE REAL VALUE OF WATER?
Population Growth
State Comparisons | 2013-2014

United States: 0.7%

Source: U.S. Census Bureau, population estimates as of July 1 of each year, 2013-2014
Employment 2005-2015

Currently at Peak (July 2015)

Employment Growth by Sector
Year-over-Year

Leisure & Hospitality: 13,700
Professional & Business Services: 11,700
Education & Health Services: 9,600
Trade, Transportation & Utilities: 8,600
Manufacturing: 5,800
Financial Activities: 3,300
Government: 2,400
Construction: 1,800
Information: 1,700
Other Services: 1,300
Mining & Logging: -800

Net Job Growth: +59,100

Employment Growth
State Comparisons | 2014-2015

United States: 1.9%

Unemployment Rate
2005-2015

Utah
National Average

Personal Income 2004-2014

Billions

Source: U.S. Bureau of Economic Analysis

WHAT IS THE REAL VALUE OF WATER?
Personal Income 2004-2014

Billions

<table>
<thead>
<tr>
<th>Year</th>
<th>Personal Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>'04</td>
<td>$60 B</td>
</tr>
<tr>
<td>'05</td>
<td>$67 B</td>
</tr>
<tr>
<td>'06</td>
<td>$73 B</td>
</tr>
<tr>
<td>'07</td>
<td>$78 B</td>
</tr>
<tr>
<td>'08</td>
<td>$85 B</td>
</tr>
<tr>
<td>'09</td>
<td>$88 B</td>
</tr>
<tr>
<td>'10</td>
<td>$88 B</td>
</tr>
<tr>
<td>'11</td>
<td>$88 B</td>
</tr>
<tr>
<td>'12</td>
<td>$91 B</td>
</tr>
<tr>
<td>'13</td>
<td>$103 B</td>
</tr>
<tr>
<td>'14</td>
<td>$111 B</td>
</tr>
</tbody>
</table>

+26.1% increase from 2004 to 2014

Source: U.S. Bureau of Economic Analysis
Personal Income Per Capita
State Comparisons | 2014

United States: $46,129

Mississippi: $37,766

Source: U.S. Bureau of Economic Analysis

WHAT IS THE REAL VALUE OF WATER?
Taxable Retail Sales

Billions

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>'08</td>
<td>$36.5 B</td>
<td></td>
</tr>
<tr>
<td>'09</td>
<td>$35</td>
<td>+32.3%</td>
</tr>
<tr>
<td>'10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>'11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>'12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>'13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>'14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>'15 TTM</td>
<td>$48.2 B</td>
<td></td>
</tr>
</tbody>
</table>

Source: Utah State Tax Commission
Inflation Adjusted Taxable Retail Sales

Per Capita; 2008 = Base Year

Source: Utah State Tax Commission
Inflation Adjusted Taxable Retail Sales

*Per Employee; 2008 = Base Year*

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>'08</td>
<td>$33,000</td>
</tr>
<tr>
<td>'09</td>
<td>$32,000</td>
</tr>
<tr>
<td>'10</td>
<td>$31,000</td>
</tr>
<tr>
<td>'11</td>
<td>$30,000</td>
</tr>
<tr>
<td>'12</td>
<td>$34,000</td>
</tr>
<tr>
<td>'13</td>
<td>$34,000</td>
</tr>
<tr>
<td>'14</td>
<td>$34,000</td>
</tr>
</tbody>
</table>

Source: Utah State Tax Commission
Utah Heads the Best States for Business 2014

“Leading the way is Utah, which previously ranked first between 2010 and 2012 before dropping to third last year…Utah’s economy expanded 2.4% a year over the past five years—fifth best in the U.S. It is the only state to rank in the top 10 in five of the six main categories we used to determine the Best States.”

“Twelve years ago, we didn’t see Utah as a competitor at all.”

- Tom Clark, CEO, Metro Denver Economic Development Corp.

Source: The Denver Post, Online Edition 10/19/2014
Utah is the Happiest State in the Country

• #1 in job satisfaction
• #1 in lowest median number of hours worked per week
• #1 for volunteerism
• #1 for lowest divorce rate

Utah Economy ‘Running on All Cylinders,’ expert says

“The Zions Bank Utah Consumer Attitude Index rose 5.9 points from 105.3 in July to 111.2 in August. In comparison, the national Consumer Confidence Index increased 10.5 points to 101.5. “Utah is running on all cylinders economically, an index of 110 or greater connotes a particularly robust economy.”

-Randy Shumway, Zions Bank Economic Adviser

Utah’s Competitive Advantage

• Among the strongest economies in the United States

• The most diversified economy of its size in the United States

• Strong cluster development and commercialization of research, with universities being a major driver

• High rates of population growth, but more importantly, population retention
The U.S. Drought Monitor is jointly produced by the National Drought Mitigation Center at the University of Nebraska-Lincoln, the United States Department of Agriculture, and the National Oceanic and Atmospheric Administration. Map courtesy of NDMC-UNL.
Water Consumption (Domestic Supply) vs. Precipitation
Utah Counties

Source: USGS and NOAA’s National Climatic Data Center

WHAT IS THE REAL VALUE OF WATER?
Major Uses of the State’s Total Precipitation

- **Natural Environment/ Groundwater Recharge**: 88.7%
- **Agricultural Depletions**: 4.5%
- **Municipal & Industrial Depletions**: 2.2%
- **Wetlands/Reservoir Depletions**: 3.8%
- **Net Outflow (includes flow to GSL)**: 1.1%
- **Potential Developable Supply**: 0.8%

Source: Utah Division of Water Resources

**WHAT IS THE REAL VALUE OF WATER?**
Use of Diverted Water

Source: Utah Division of Water Resources

- Agriculture: 82%
- Residential indoor use: 6%
- Residential outdoor use: 4%
- Commercial, industrial, institutional: 8%

What is the real value of water?

Source: Utah Division of Water Resources
Water Productivity
(in GDP Per Cubic Meter of Freshwater)

<table>
<thead>
<tr>
<th>Region</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>$14</td>
</tr>
<tr>
<td>Colorado</td>
<td>$20</td>
</tr>
<tr>
<td>Utah</td>
<td>$25</td>
</tr>
<tr>
<td>Arizona</td>
<td>$34</td>
</tr>
<tr>
<td>Nevada</td>
<td>$37</td>
</tr>
<tr>
<td>United States</td>
<td>$41</td>
</tr>
<tr>
<td>California</td>
<td>$54</td>
</tr>
</tbody>
</table>

Water Productivity – Exc. Irrigation (in GDP Per Cubic Meter of Freshwater)

- United States: $65
- Nevada: $91
- Utah: $112
- Arizona: $134
- Colorado: $176
- California: $203

Water Shortage Impacts

WHAT IS THE REAL VALUE OF WATER?
WHAT IS THE REAL VALUE OF WATER?
2011
COLORADO

DROUGHT PLAGUED AGRICULTURAL PRODUCERS THROUGHOUT SOUTHERN COLORADO

WHAT IS THE REAL VALUE OF WATER?
2011
OKLAHOMA
LOW LAKE LEVELS IMPACTED RECREATIONAL ACTIVITIES

WHAT IS THE REAL VALUE OF WATER?
2011
TEXAS
OUTDOOR WATERING
RESTRICTIONS ADVISED
DUE TO DROUGHT
CONDITIONS

WHAT IS THE REAL VALUE OF WATER?
2011
LAS VEGAS, NEW MEXICO

AFTER EIGHT YEARS OF WATER RESTRICTIONS, AN EMERGENCY WAS DECLARED

WHAT IS THE REAL VALUE OF WATER?
2012
KANSAS
CROPS WERE DESTROYED DUE TO SEVERE DROUGHT

WHAT IS THE REAL VALUE OF WATER?
WHAT IS THE REAL VALUE OF WATER?
DUE TO DROUGHT CONDITIONS, LAKE MCCONAUGHY IS JUST 51 PERCENT FULL.
NEW MEXICO IS FACING THE WORST DROUGHT IN THE U.S., WITH THREE-QUARTERS OF THE STATE CATEGORIZED AS SEVERE OR EXCEPTIONAL.
FIFTY-ONE MAJOR UNCONTAINED WILDFIRES ARE BURNING THROUGHOUT THE WEST.

WHAT IS THE REAL VALUE OF WATER?
2013
COLORADO RIVER

THE COLORADO RIVER IS FACING ITS WORST DROUGHT IN A CENTURY.

WHAT IS THE REAL VALUE OF WATER?
TAMPA FACING UNQUEENCHABLE WATER DEMAND DUE TO CYCLICAL DROUGHT ALONG POPULATION AND ECONOMIC GROWTH.
2015
CALIFORNIA

CALIFORNIA ENTERS ITS FOURTH YEAR OF SEVERE DROUGHT

WHAT IS THE REAL VALUE OF WATER?
Sierra Nevada’s “Snow Fail”

“This year’s snowpack is the driest it has been in at least 500 years, according to new research that examined cores from the long-lived oaks to calculate the water content of each year’s snowpack and found no other year was even close to as dry as 2015.”

Source: National Geographic, Online Edition 9/14/2015
WATER RESOURCE STABILITY

WHAT IS THE REAL VALUE OF WATER?
FACT:
Utah is one of the driest states in the nation and currently consumes 253 billion gallons of water each year.

Source: The Utah Governor's Office of Planning and Budget and Applied Analysis
CONSIDER:
With the state’s population expected to grow by another 2.9 million people by 2060, the state will need to be able to deliver an additional 244 billion gallons of water.

Source: The Utah Governor’s Office of Planning and Budget and Applied Analysis
Future Water Demand
In Billions of Gallons

CURRENT CONSUMPTION: 253

DEMAND BY 2060: 484

INCREMENTAL WATER REQUIRED: 244

Source: The Utah Governor’s Office of Planning and Budget and Applied Analysis

WHAT IS THE REAL VALUE OF WATER?
Forecasted Water Shortfall
2000 - 2060

Water Supply for Utah
736,300

Water Demand for Utah
811,000

Water Shortfall
749,700

Source: The Utah Governor's Office of Planning and Budget and Applied Analysis
Required Water Resource Investment

$14.7 Billion
New Resource Development

$17.9 Billion
Repair and Replacement

$32.7 Billion
Required Investment

Note: Totals may not sum due to rounding.

Source: The Utah Governor's Office of Planning and Budget and Applied Analysis
# Utah’s Economic Potential

**Potential With Comprehensive Water Resource Development and Conservation in 2060**

<table>
<thead>
<tr>
<th></th>
<th>Current Values (253 BILLION GALLONS)</th>
<th>Potential in 2060 (WITH ONLY EXISTING WATER RESOURCES)</th>
<th>Conservative Scenario (10% CONSERVATION)</th>
<th>Mid-Case Scenario (25% CONSERVATION)</th>
<th>Aggressive Scenario (35% CONSERVATION)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gross State Product</strong></td>
<td>$136 Billion</td>
<td>$202 Billion</td>
<td>$355 Billion</td>
<td>$407 Billion</td>
<td>$492 Billion</td>
</tr>
<tr>
<td><strong>Population</strong></td>
<td>3.1 Million</td>
<td>3.3 Million</td>
<td>5.2 Million</td>
<td>6.0 Million</td>
<td>7.2 Million</td>
</tr>
<tr>
<td><strong>Households</strong></td>
<td>701,281</td>
<td>1,039,745</td>
<td>1,830,279</td>
<td>2,098,412</td>
<td>2,534,233</td>
</tr>
<tr>
<td><strong>Personal Income</strong></td>
<td>$112.1 Billion</td>
<td>$166.1 Billion</td>
<td>$292.3 Billion</td>
<td>$355.1 Billion</td>
<td>$404.7 Billion</td>
</tr>
<tr>
<td><strong>Private Businesses</strong></td>
<td>86,402</td>
<td>128,102</td>
<td>225,501</td>
<td>258,536</td>
<td>312,233</td>
</tr>
<tr>
<td><strong>Employment</strong></td>
<td>1.4 Million</td>
<td>2.1 Million</td>
<td>3.7 Million</td>
<td>4.2 Million</td>
<td>5.1 Million</td>
</tr>
<tr>
<td><strong>Visitation</strong></td>
<td>11.3 Million</td>
<td>16.3 Million</td>
<td>28.7 Million</td>
<td>32.9 Million</td>
<td>39.8 Million</td>
</tr>
</tbody>
</table>

Source: The Utah Governor’s Office of Planning and Budget and Applied Analysis
### Mid-Case Scenario (25% Conservation)

<table>
<thead>
<tr>
<th>Ratio</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$6.27 : $1</td>
<td>Growth in Utah’s Total Economic Output for Every $1 Spent on Water Infrastructure</td>
</tr>
<tr>
<td>$5.17 : $1</td>
<td>Growth in Utah’s Personal Income for Every $1 Spent on Water Infrastructure</td>
</tr>
<tr>
<td>$15,472</td>
<td>Estimated Cost per Permanent Job Created by Additional Water Supply</td>
</tr>
<tr>
<td>$0.41 : $1</td>
<td>State and Local Tax Collections For Every $1 Spent on Water Infrastructure</td>
</tr>
</tbody>
</table>

Source: The Utah Governor’s Office of Planning and Budget and Applied Analysis
One-Time Construction Benefits
(Mid-Case Scenario)

One-time benefits to the state from implementing a $32.7 billion statewide water resource stability master plan will create jobs for Utah families, and stimulate economic activity statewide by relying on in-state vendors for materials, goods and services.

<table>
<thead>
<tr>
<th></th>
<th>Person Years of Employment (Thousands)</th>
<th>Labor Income</th>
<th>Output</th>
<th>Additional State Tax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct</td>
<td>194</td>
<td>$12.5B</td>
<td>$32.7B</td>
<td>$547M</td>
</tr>
<tr>
<td>Indirect</td>
<td>103</td>
<td>$4.9B</td>
<td>$16.6B</td>
<td>$812M</td>
</tr>
<tr>
<td>Induced</td>
<td>118</td>
<td>$4.7B</td>
<td>$15.3B</td>
<td>$795M</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>415</strong></td>
<td><strong>$22.1B</strong></td>
<td><strong>$64.5B</strong></td>
<td><strong>$2.1B</strong></td>
</tr>
</tbody>
</table>

Note: Totals may not sum due to rounding.

Source: The Utah Governor's Office of Planning and Budget and Applied Analysis

WHAT IS THE REAL VALUE OF WATER?
Utah’s $136 billion economy is remarkably complex and interwoven. The outputs of one industry become the inputs of another. Water resource instability in one sector runs the very real risk of destabilizing others.

Source: The Utah Governor’s Office of Planning and Budget and Applied Analysis
Water resources are an essential element of economic development and diversification.

Ensuring water resources is critical to protecting the state’s economy.

A comprehensive, master-planned approach is necessary and appropriate.