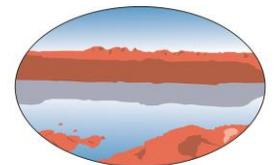




# Washington County Water Analysis

Ron Thompson  
General Manager

*Water for today and tomorrow.  
Conservation every day.*



WASHINGTON COUNTY  
WATER CONSERVANCY DISTRICT

# Overview

- Washington County has a limited water supply
- County's historical and forecasted growth
- Conservation efforts and accomplishments
- The need for the Lake Powell Pipeline
- Economic benefits of water development



# Our Approach

**WHAT** is the issue?

**HOW** does the WCWCD intend to address it?

**WHY** does it matter to Washington County and Utah?

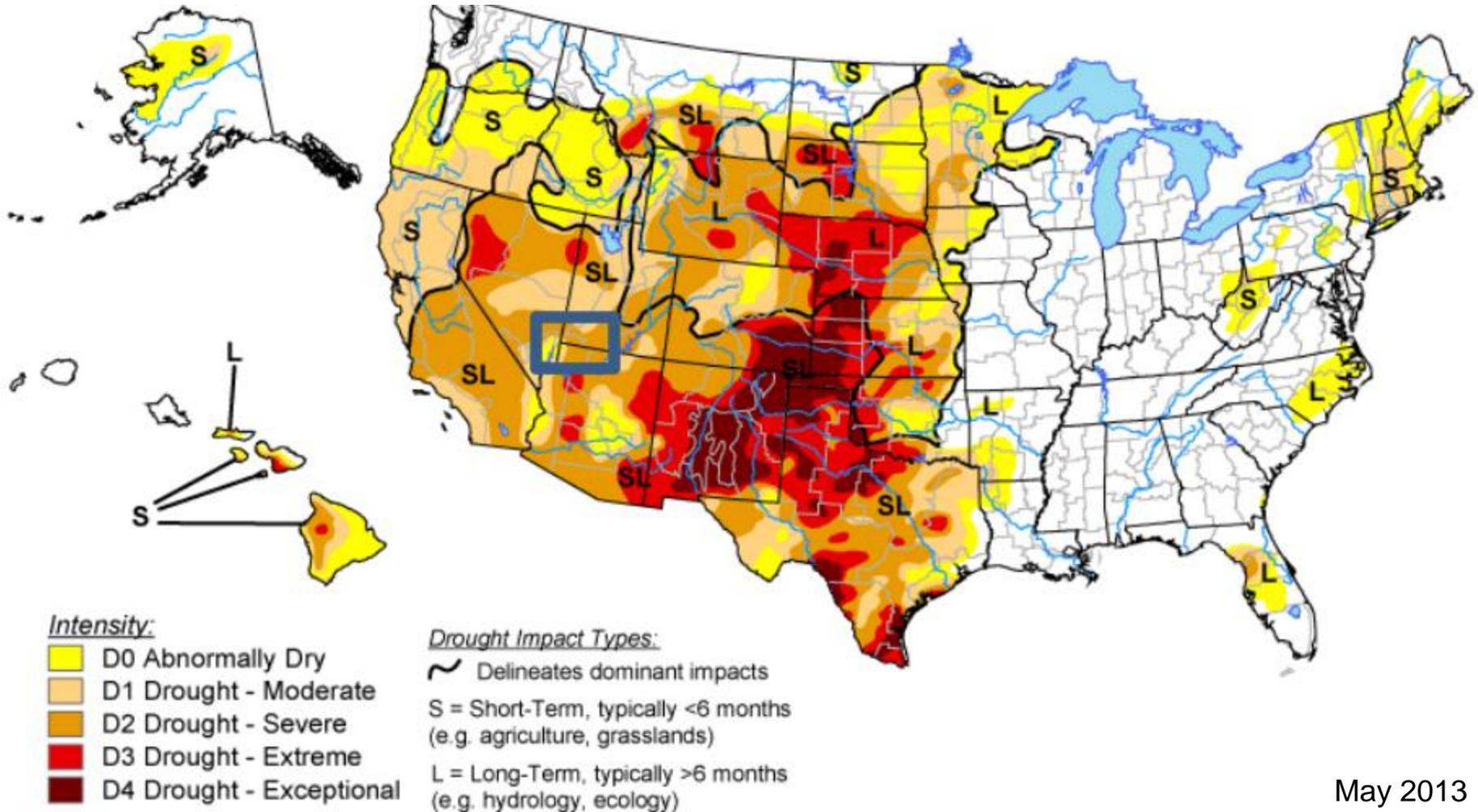


**WHAT** is the issue?

**HOW** does the WCWCD intend to address it?

**WHY** does it matter to Washington County and Utah?

# United States Drought Monitor



# Current Water Levels in Southwest Utah

<b>Source</b>	<b>Percent of Average</b>
Water Availability Index for the Virgin River	8%
Reservoir Storage Capacity	48%
Seasonal Accumulation (Oct – May)	69%
Soil Moisture	53%

# Growth Rate



Washington County is the fifth-largest county in Utah, and reports its third-highest population growth rate.

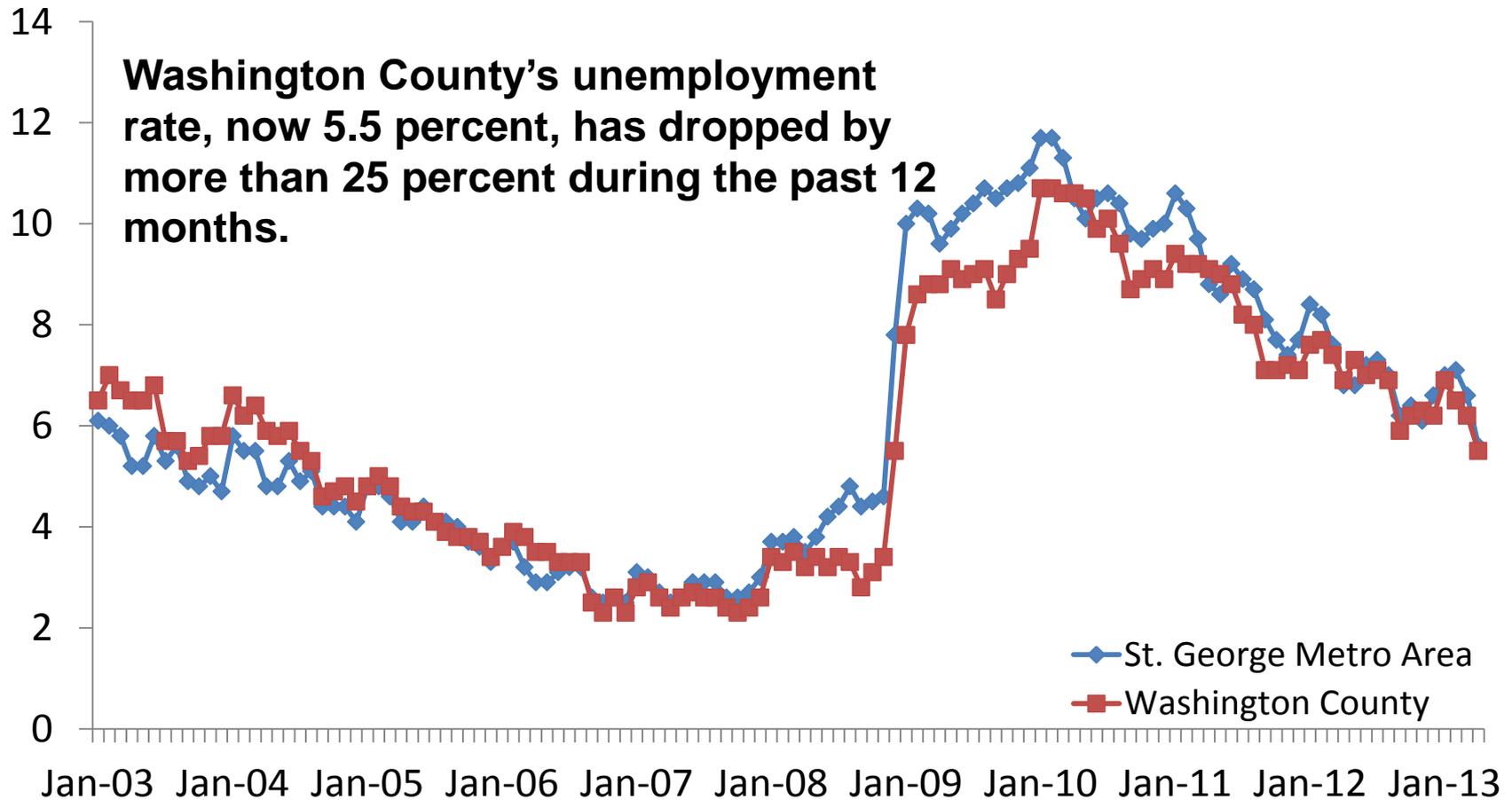
# Population

	Population Rank		Annual Growth Rate	
	Total	Rank	Total	Rank
Uintah County	34,524	11	4.08%	1
Wasatch County	25,273	13	3.82%	2
<b>Washington County</b>	<b>144,809</b>	<b>5</b>	<b>2.33%</b>	<b>3</b>
Duchesne County	19,244	16	2.00%	4
Utah County	540,504	2	1.96%	5
Morgan County	9,821	21	1.88%	6
Summit County	38,003	10	1.54%	7
Salt Lake County	1,063,842	1	1.54%	8
Davis County	315,809	3	1.26%	9
Weber County	236,640	4	1.09%	10
San Juan County	14,965	17	1.07%	11
Tooele County	59,870	7	1.01%	12
Cache County	115,520	6	0.84%	13
Grand County	9,328	22	0.59%	14
Piute County	1,524	28	0.46%	15
Iron County	46,750	9	0.21%	16
Juab County	10,341	20	0.08%	17
Box Elder County	50,171	8	-0.02%	18
Sanpete County	27,906	12	-0.25%	19
Kane County	7,221	23	-0.26%	20
Emery County	10,933	19	-0.28%	21
Millard County	12,569	18	-0.31%	22
Beaver County	6,501	24	-0.43%	23
Carbon County	21,246	14	-0.49%	24
Sevier County	20,784	15	-0.57%	25
Wayne County	2,737	26	-0.87%	26
Garfield County	5,095	25	-1.55%	27
Rich County	2,267	27	-2.16%	28
Daggett County	1,090	29	-6.03%	29

No county in Utah with a larger population reported a faster growth rate than Washington County

Source: United States Department of Commerce, Census Bureau, 2013

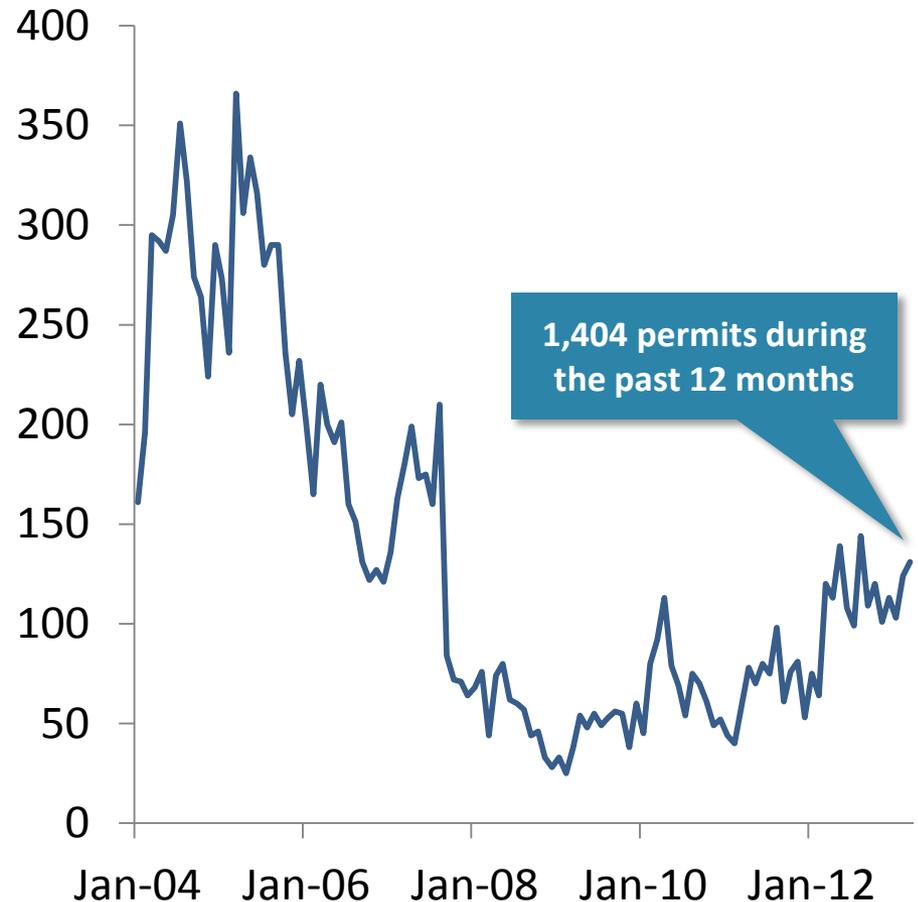
# Washington County Unemployment Rate



# Single Family Residential Permitting

## Growth Considerations

- Increasing Retirement
- Population Shift
- Labor Force
- Climate
- Metro Proximity
- Affordability
- Quality of Life

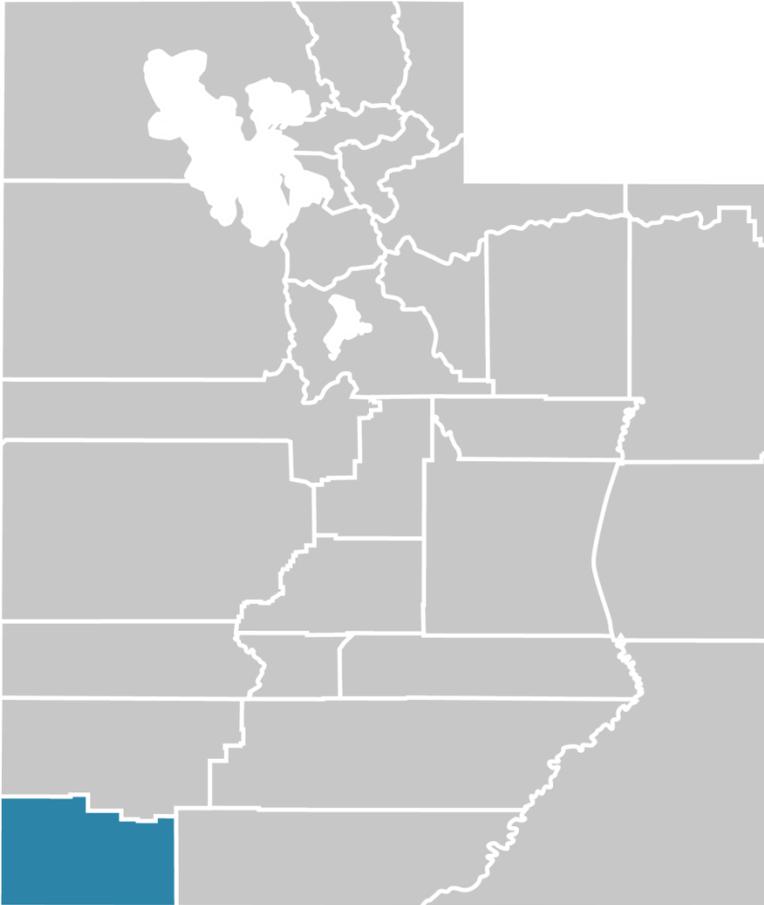


# Washington County Tourism

More than  
8 million annual  
visitors



# Water Resources

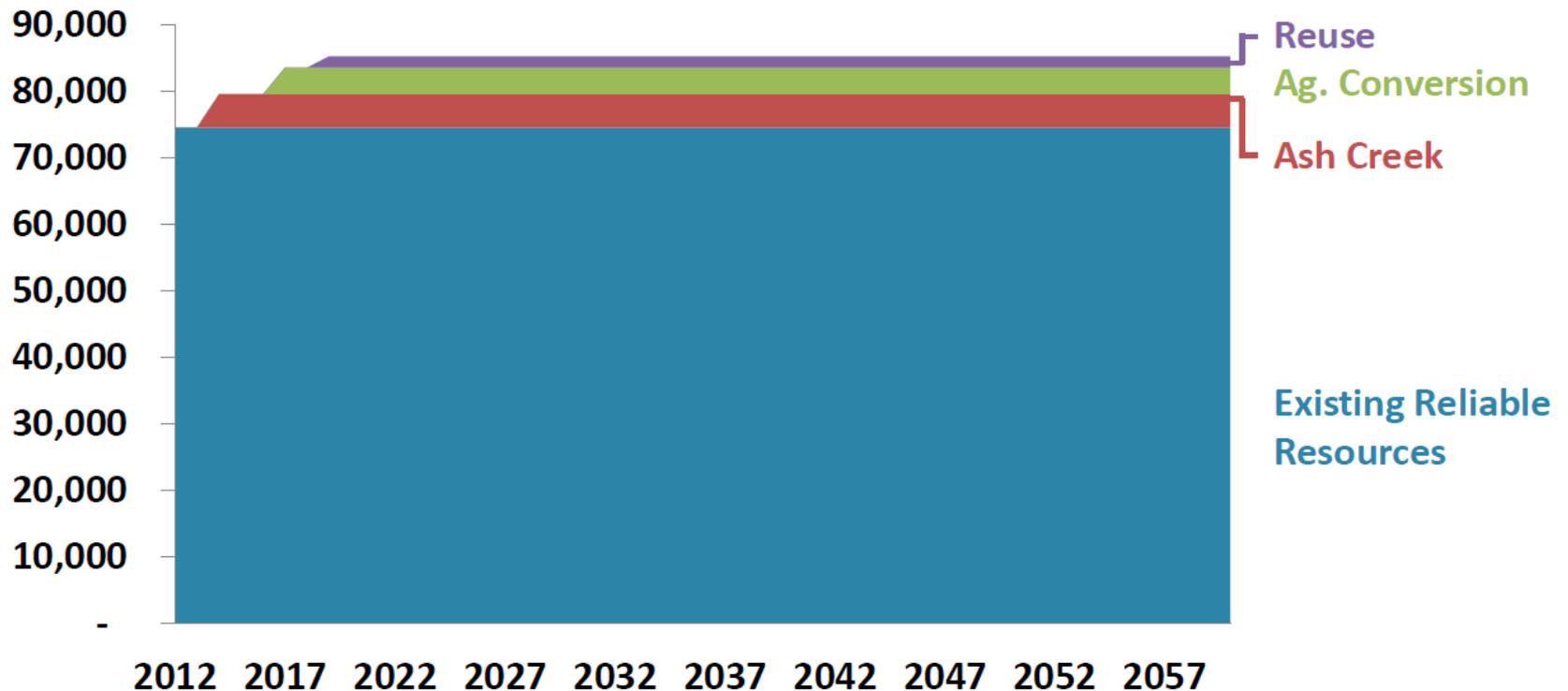


## **FACT:**

Washington County has a finite amount of water resources currently available.

# Renewable Water Resource Summary

Washington County currently has 74,600 acre feet of available, renewable water resources. This number is anticipated to grow to 85,300 acre feet as the balance of the WCWCD resource development plan is completed.



# Conservation



- First county in Utah to implement a plan in 1996
- More than 18-percent reduction in residential use since 2000
- On target to reach Governor Herbert's goal of conserving 25-percent by 2025
- Not a long-term alternative to water development

# Current Conservation Measures

- EPA WaterSense Partner
- Time-of-day watering ordinance and an increasing block rate structure
- Impact fee increases with size of irrigated landscape
- Wholesale customers must have water conservation plan
- Sponsor Annual Water Fair for 1,700 fourth graders
- County-wide free water checks
- Smart irrigation controller rebate program
- Water-efficient landscape workshops and training and certification of landscape professionals
- Demonstration garden
- Canal systems converted to pipelines eliminating loss from seepage and evaporation
- Supporter of state designated water week to create awareness of water issues facing our state
- Participates in Governor's Water Conservation Team and in State water-wise plant list and tagging program
- Local media campaign
- Ultra low flow toilet rebates
- Public athletic fields conversion to artificial turf grant program
- Telemetry project monitors diversions along both rivers

# Water Demand and Capacity

## Current Population

154,088

## Current Water Demand

45,683 Acre Feet

## Capacity Reached

2025-2030

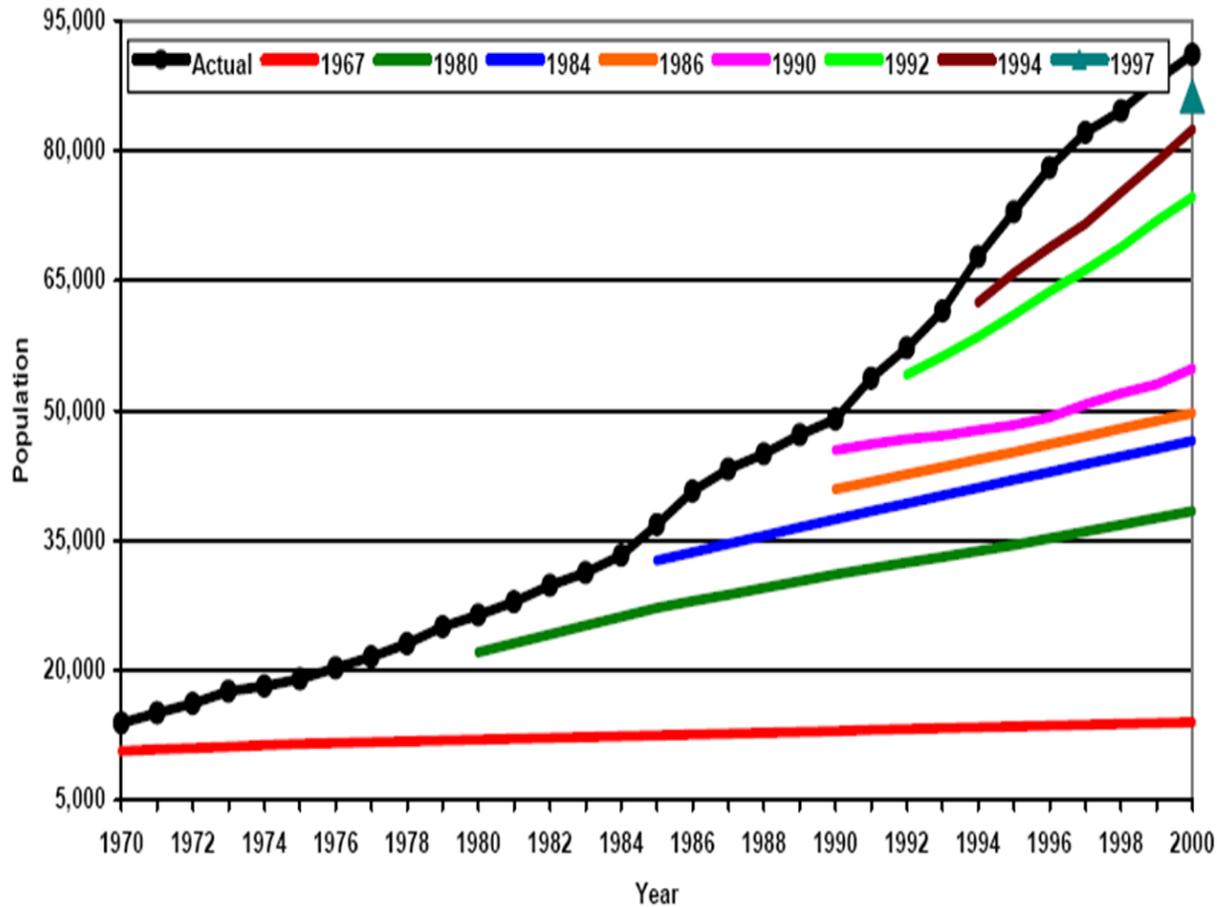




**What if the  
population  
grows faster  
than the state  
expects?**

# Population Projections Comparison

Figure 3-1  
Washington County Historical Population Projections Comparison (GOPB 2007a)



**GOPB Estimates (Plus)**

	<b>0.00%</b>	<b>0.50%</b>	<b>1.00%</b>	<b>1.50%</b>	<b>2.00%</b>	<b>2.50%</b>	<b>3.00%</b>
<b><u>AT CURRENT DEMAND LEVELS</u></b>							
Capacity Reached	2031	2029	2027	2025	2024	2023	2022
Years Remaining	18 years	16 years	14 years	12 years	11 years	10 years	9 years
Annual Population Growth (Next 20 Years)	7,400	8,901	10,546	12,348	14,320	16,478	18,838
Annual Population Growth Rate (Next 20 Years)	3.5%	4.0%	4.5%	5.0%	5.5%	6.0%	6.5%

**25% CONSERVATION BY 2025**

Capacity Reached	2035	2032	2030	2028	2027	2026	2025
Years Remaining	22 years	19 years	17 years	15 years	14 years	13 years	12 years
Annual Population Growth (Next 20 Years)	7,400	8,901	10,546	12,348	14,320	16,478	18,838
Annual Population Growth Rate (Next 20 Years)	3.5%	4.0%	4.5%	5.0%	5.5%	6.0%	6.5%

**30% CONSERVATION BY 2025**

Capacity Reached	2036	2032	2030	2028	2027	2026	2025
Years Remaining	23 years	19 years	17 years	15 years	14 years	13 years	12 years
Annual Population Growth (Next 20 Years)	7,400	8,901	10,546	12,348	14,320	16,478	18,838
Annual Population Growth Rate (Next 20 Years)	3.5%	4.0%	4.5%	5.0%	5.5%	6.0%	6.5%

**50% CONSERVATION BY 2025**

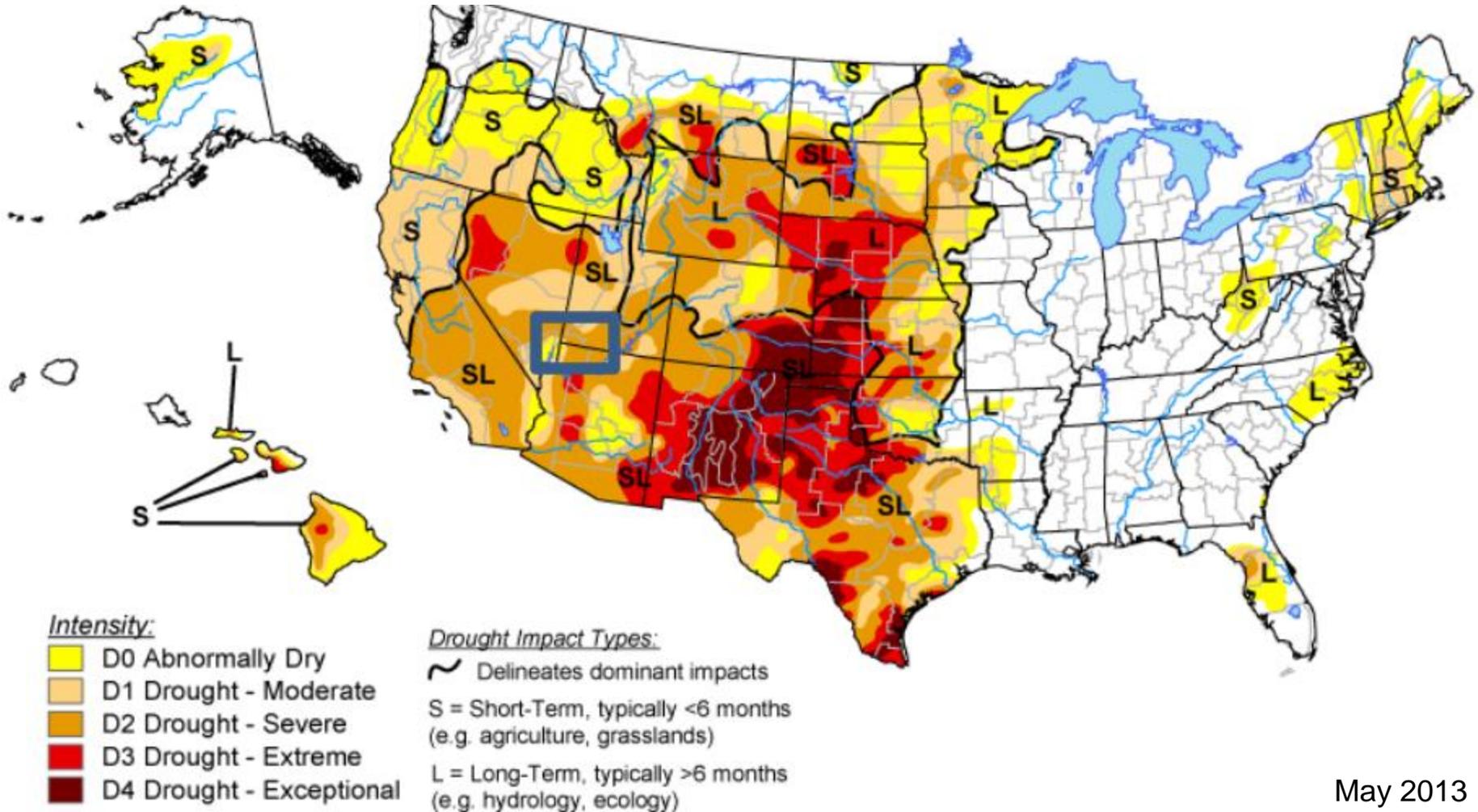
Capacity Reached	2044	2041	2039	2035	2033	2029	2028
Years Remaining	31 years	28 years	26 years	22 years	20 years	16 years	15 years
Annual Population Growth (Next 20 Years)	7,400	8,901	10,546	12,348	14,320	16,478	18,838
Annual Population Growth Rate (Next 20 Years)	3.5%	4.0%	4.5%	5.0%	5.5%	6.0%	6.5%

**Note: Preliminary estimates pending refinement.**



**What happens if  
Washington  
County is  
required to  
reduce its  
allocation from  
existing  
sources?**

# United States Drought Monitor



## **CONSIDER:**

It will take approximately eight years to design and build the Lake Powell Pipeline.





**TOUGH  
DECISIONS  
AHEAD**

**From an investor's point of view, potential water resource instability and actual water resource instability are essentially the same thing.**

# Point of view matters?

- ⇒ Retirees (short)
- ⇒ Bankers (term of the loan)
- ⇒ Business owners (long)
- ⇒ Water managers (very long)



# The Bottom Line

- Long-run water resource stability issues
- Clear plan of action required to address potential shortfalls (water risk)
- Without a plan: economic and fiscal consequences -- acute in the next decade

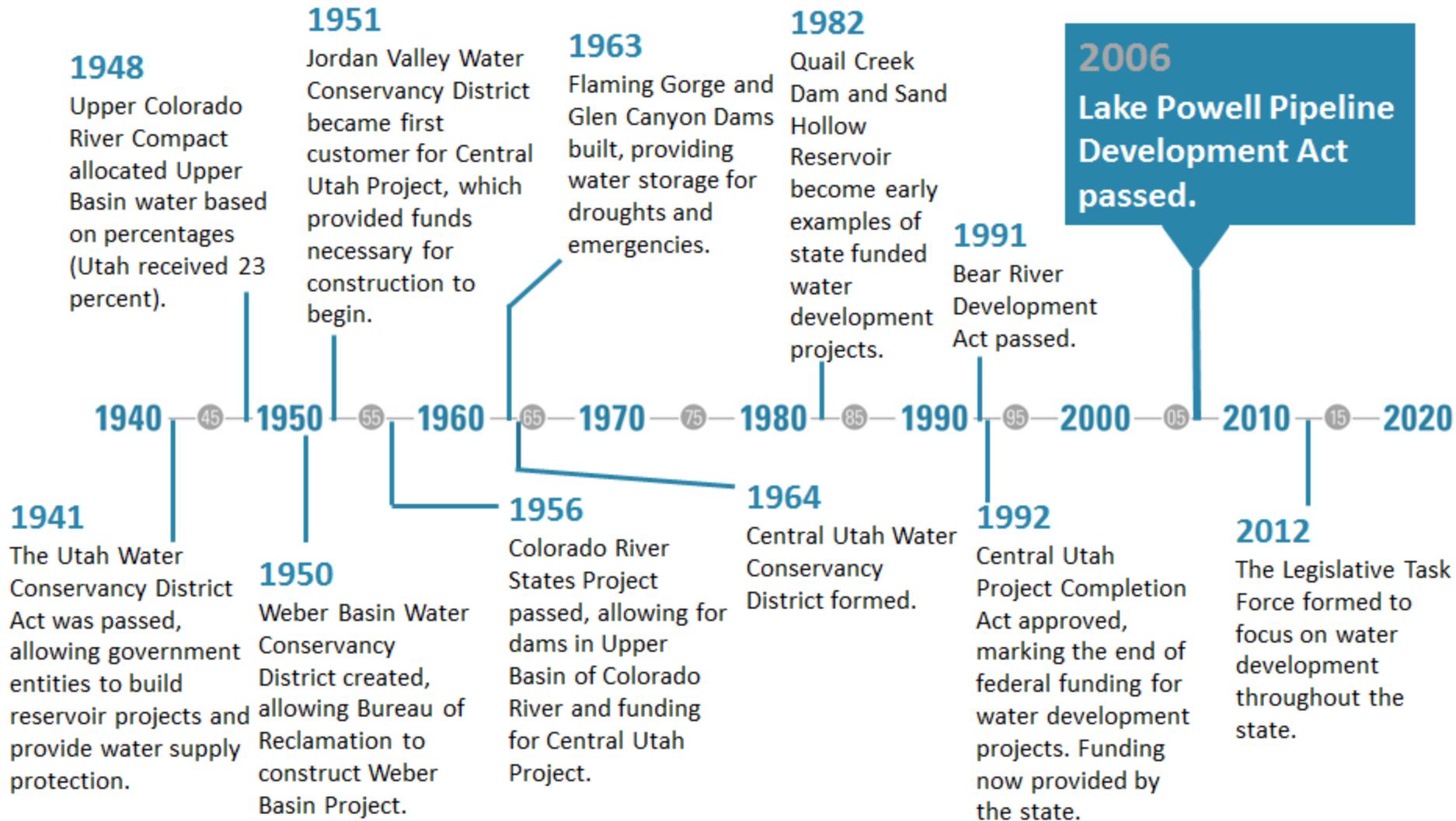


WHAT is the issue?

**HOW** does the WCWCD intend to address it?

WHY does it matter to Washington County and Utah?

# Water Resource Development Timeline



# Project Elements



- A long-run water resource development plan, which includes the development of the Lake Powell Pipeline Project (86,000 AF)
- Water treatment facilities
- Conveyance infrastructure

# Sources of Capital and Operating Funds



**Water Rates**



**Property Taxes**



**Impact Fees**

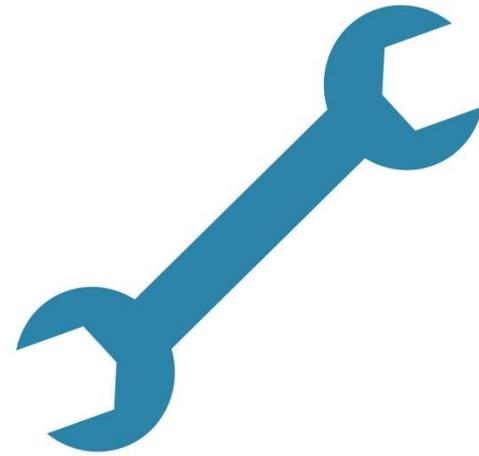


**WHAT** is the  
**issue?**  
**HOW** does the  
WCWCD intend to  
address it?

**WHY** does it matter  
to Washington  
County and Utah?



**One-Time  
Construction Impacts**



**Recurring  
Operational Impacts**



**What Does \$1.0  
Billion in  
Capital  
Investment  
Mean for  
Washington  
County, Utah?**



## **One-Time**

# **Construction Impacts**

## **Preliminary Impacts**

- ➔ Jobs:  $\pm 10,000$
- ➔ Wages:  $\pm \$425$  Million
- ➔ Output:  $\pm \$1.5$  Billion



**What Does  
86,000 Acre Feet  
Mean in Terms of  
Economic  
Potential?**

**Washington County benefits from those early leaders who built significant water projects over the past 165 years. Consider that one acre foot of water supports...**

- ➔ 3.4 Washington County Residents
- ➔ 1.2 Washington County Households
- ➔ 1.1 Washington County Employees
- ➔ 0.1 Washington County Business Establishments
- ➔ \$91,000 in Personal Income to Local Residents
- ➔ \$35,400 in Wages Paid to Local Residents
- ➔ \$84,800 in Gross Metro Area Product

***“Build because they will come.”***

# Baseline Assessment

## Ratio-based Impacts of Lake Powell Water Resources

	Washington County (2012)	Per Acre Foot	Lake Powell Pipeline (86,000 af)
Population	148,800	3.402	292,547
Households	50,612	1.157	99,506
Employment	49,460	1.131	97,240
Businesses	4,558	0.104	8,944
Total Personal Income	\$3,982,215,285	\$91,037	\$7,829,202,462
Wages and Salaries	\$1,547,558,144	\$35,379	\$3,042,564,293
Gross Metropolitan Product	\$ 3,710,475,000	\$84,825	\$7,294,949,651

**Note: With conservation measures WCWCD estimates the Lake Powell water resources will support approximately 350,000 residents.**



**Vital to the  
protection of  
the economy**



**Diversity  
Matters**



**80%**



**1000%**

# Economics of Water

“Throughout history, wherever water resources have been increased and made most manageable, navigable and potable, societies have generally been robust and long enduring.....Those unable to overcome the challenge of being farthest removed from access to the best water resources, by contrast, were invariably among history’s poor.”

# In Conclusion...

- Water is the major commodity of the 21<sup>st</sup> century
- Those who plan for it, will succeed. Those who don't, will fail.

