

# PLANNING FOR THE FUTURE IN AN ERA OF UNCERTAINTY

Seattle Operating Board Presentation

July 1, 2010

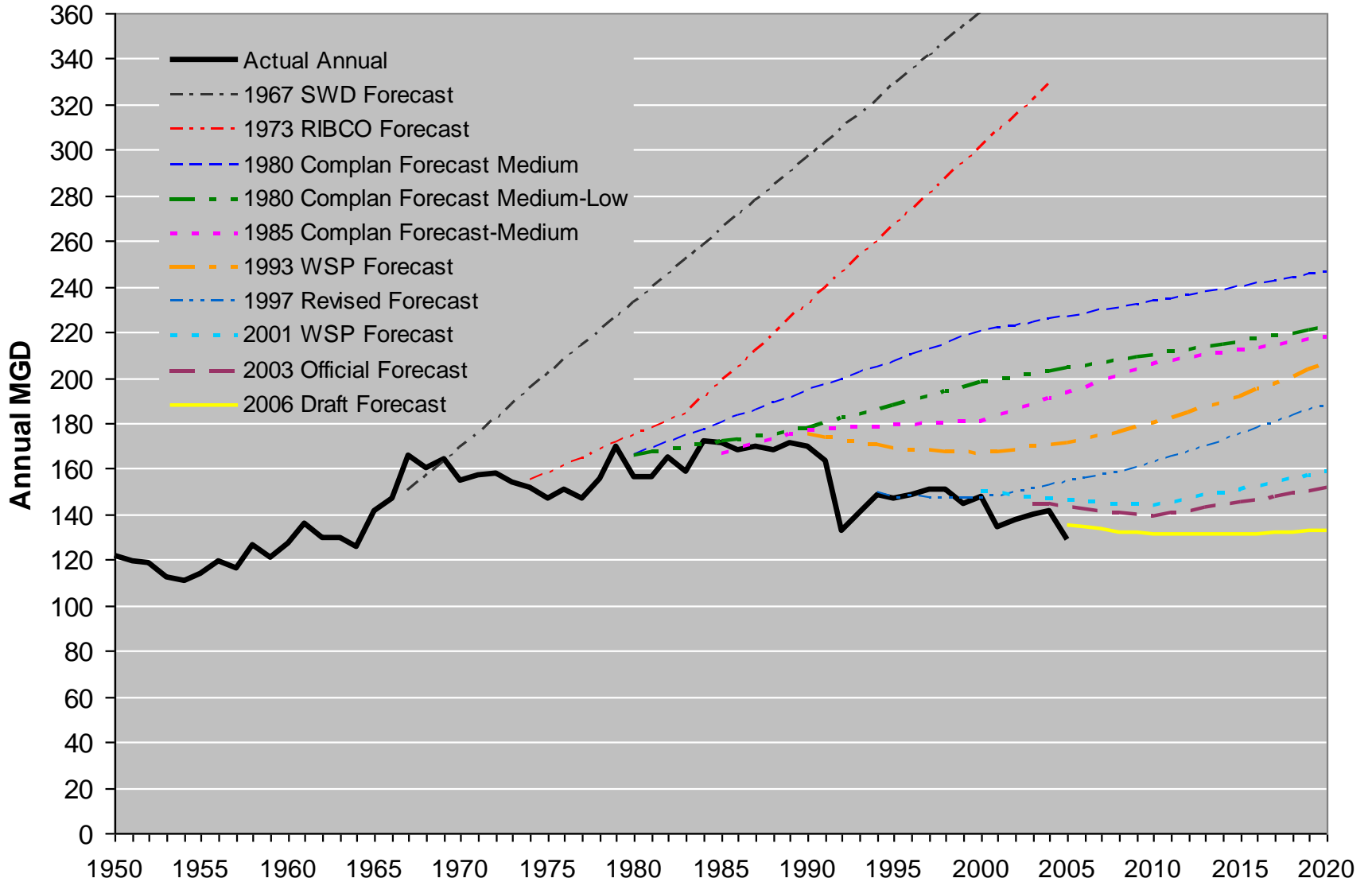
# Uncertainty Challenges

- Economy: What Does the Future Hold
- Demand and Supply Forecasting
- Infrastructure Repair and Replacement
- Climate Change/Variability
- Finances/Rates/Affordability
- Workforce Challenges

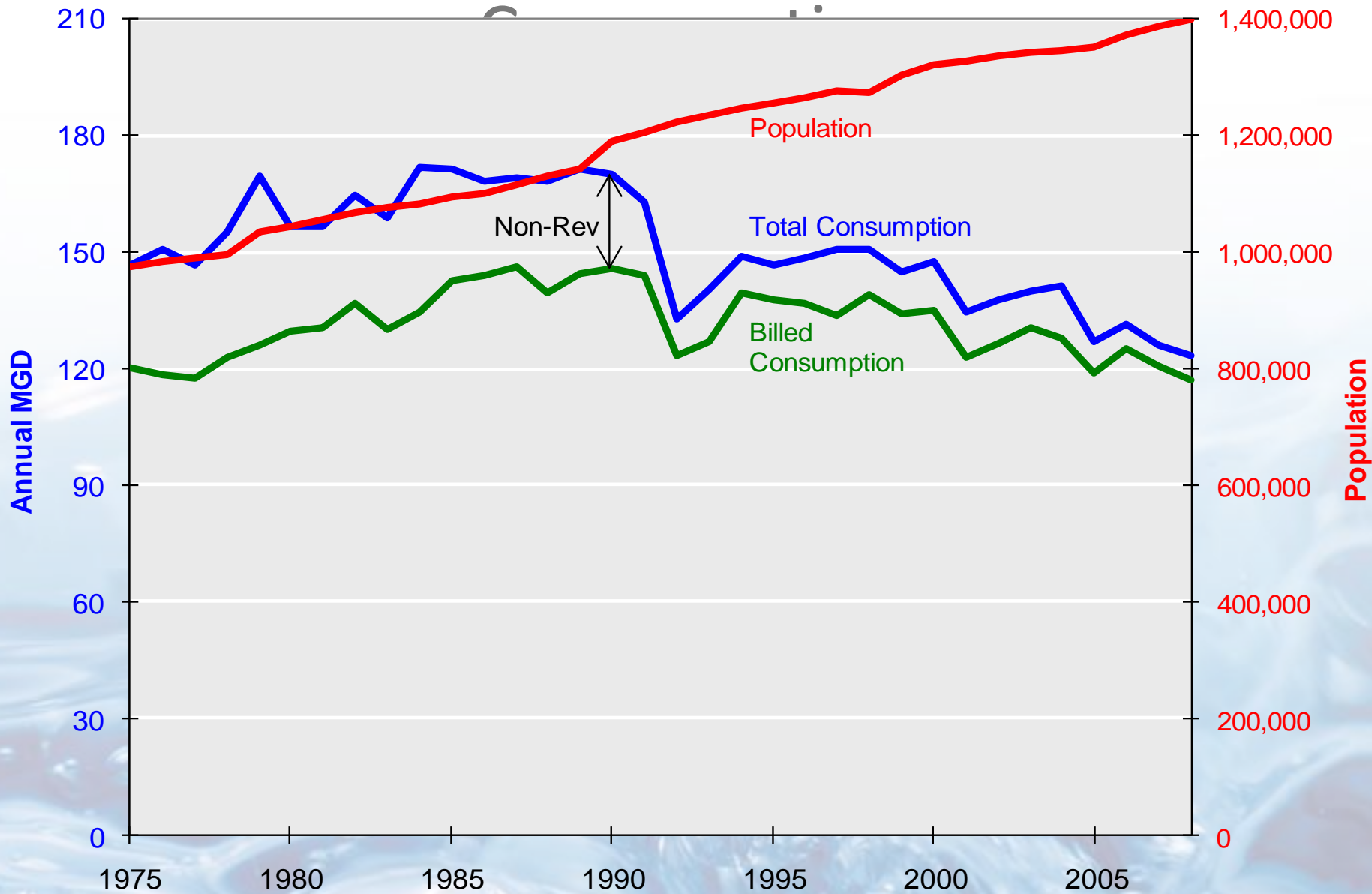
# Long Term Supply and Demand Planning

- One thing we know about demand forecasting is as soon as we do a new forecast it is wrong!
- Demand forecasting is both art and science
- Demand forecasting needs to be dynamic (i.e. updated frequently)

# Actual Water Demand and Past Forecasts

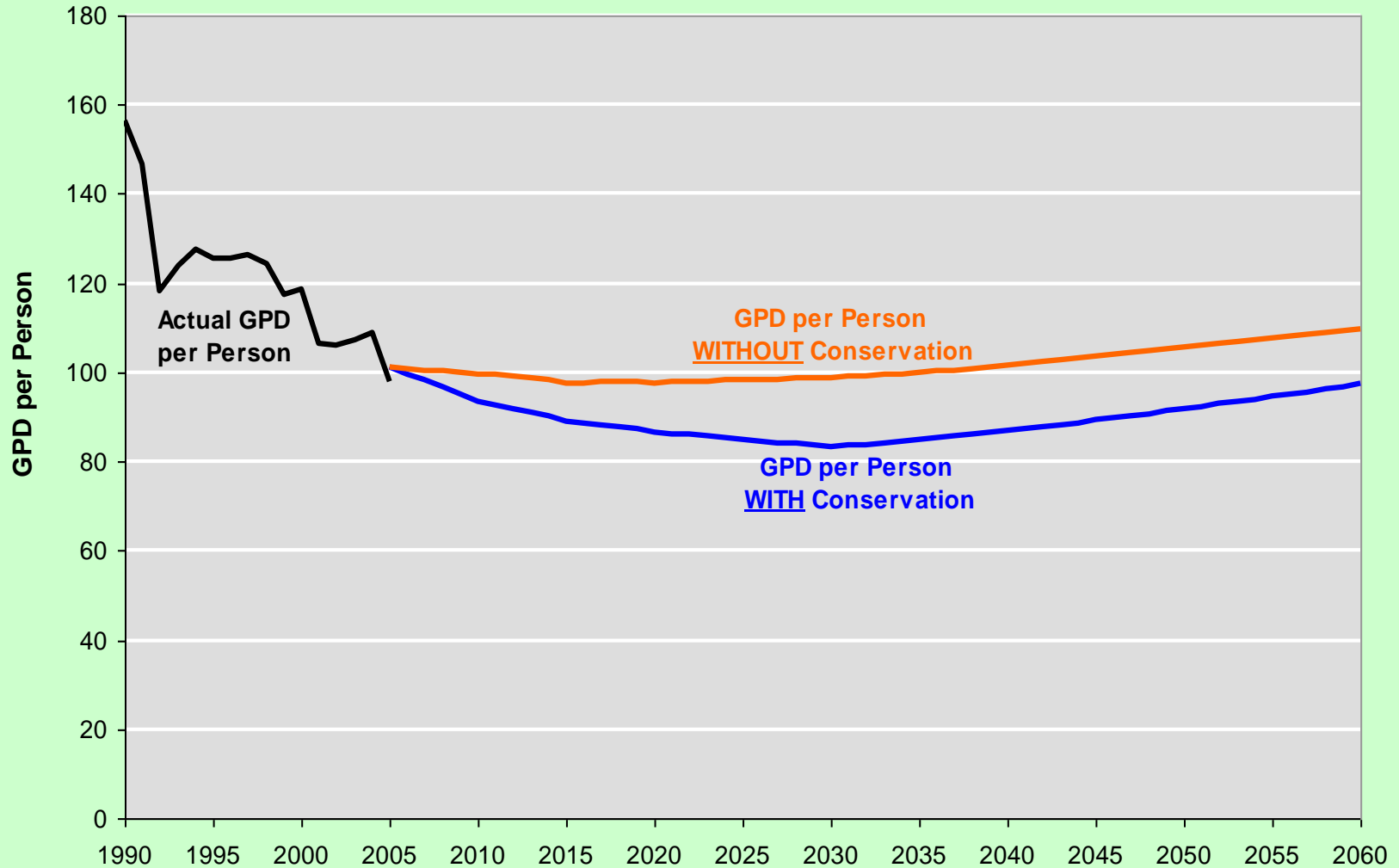


# Growth in Population & Water

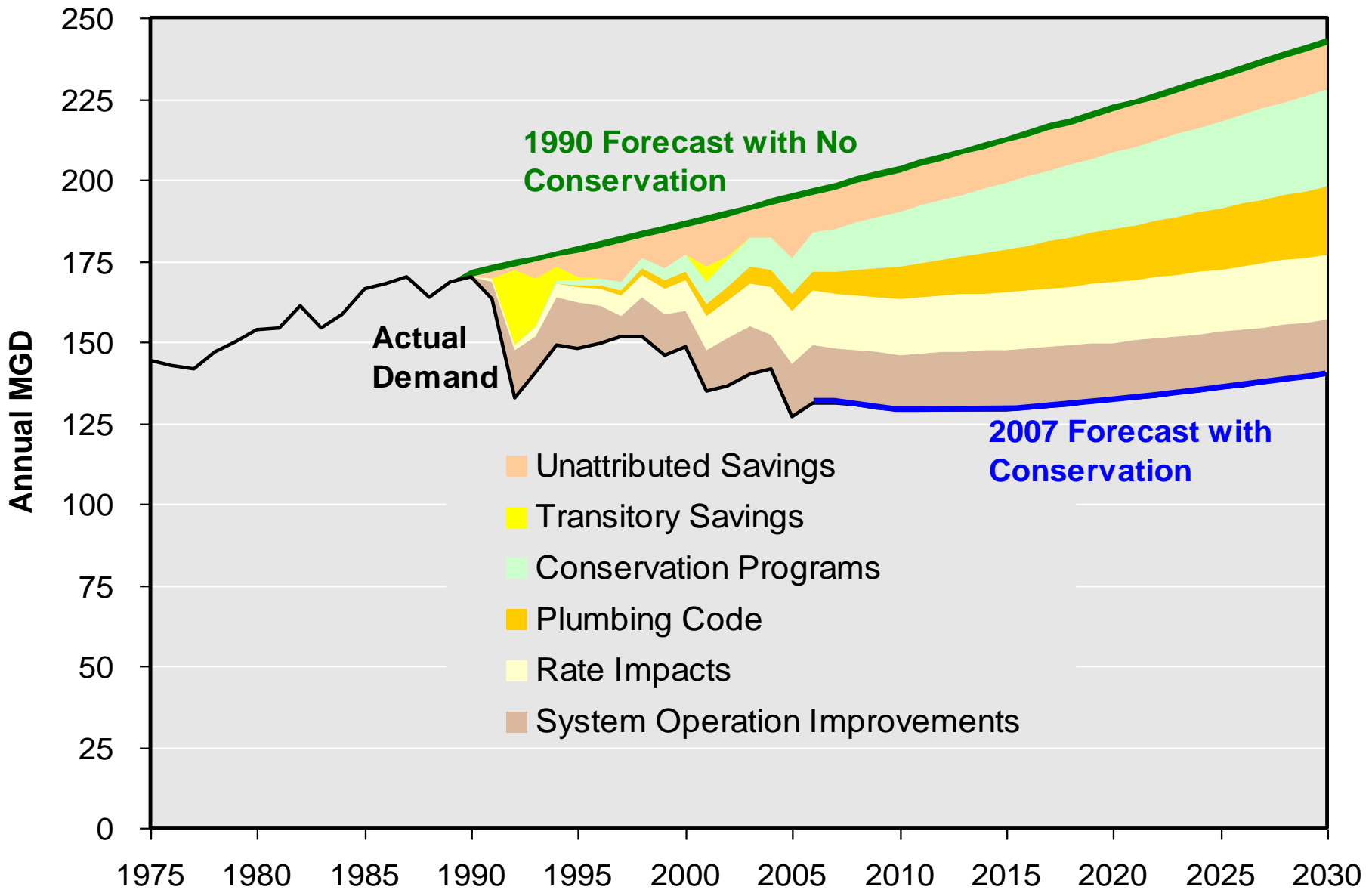


# Per capita Implications

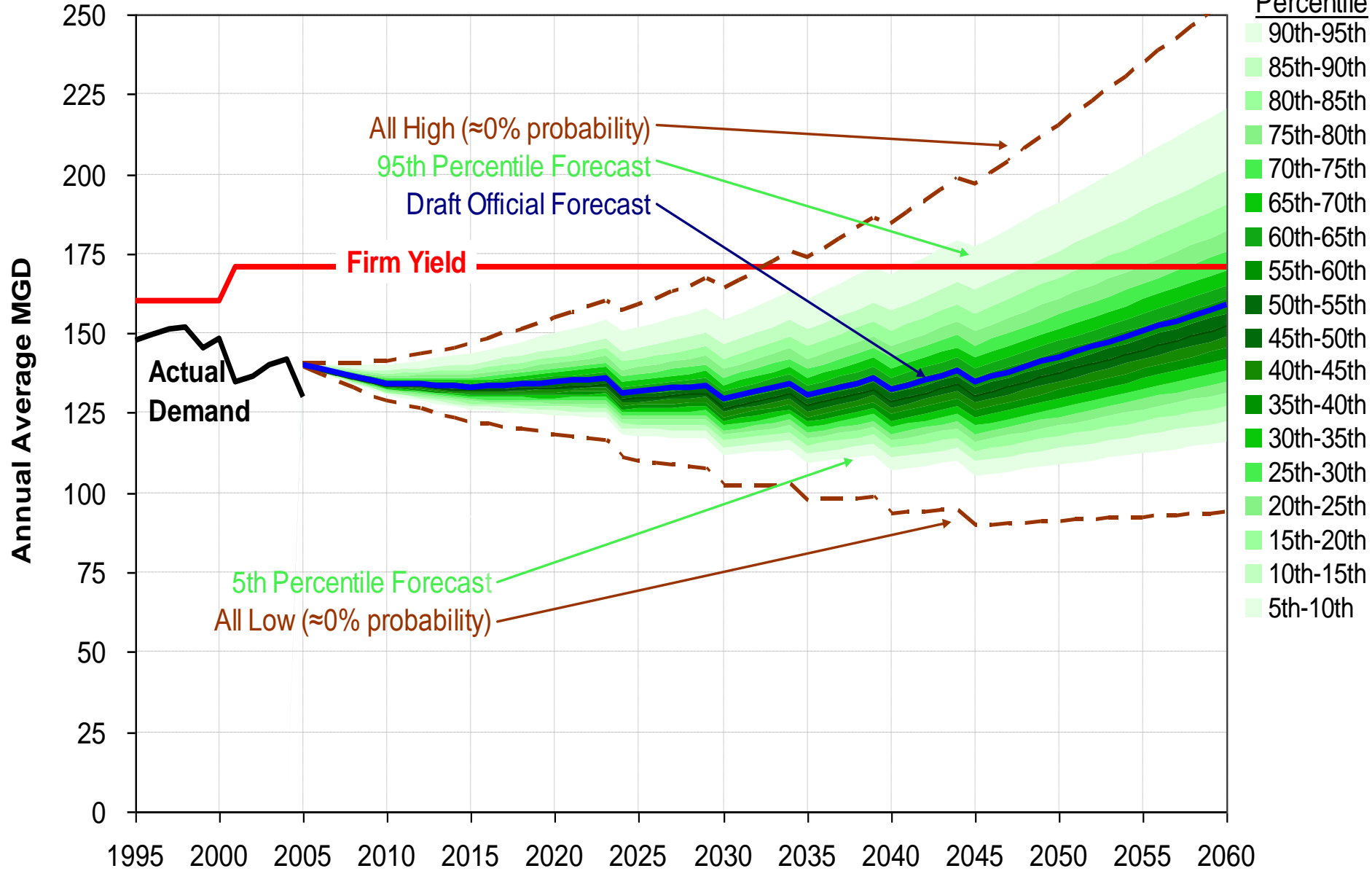
**Actual and Forecast Water Consumption Per Capita: Seattle & Non-CWA  
With and Without Programmatic Conservation after 2005**



# Impact of All Forms of Conservation

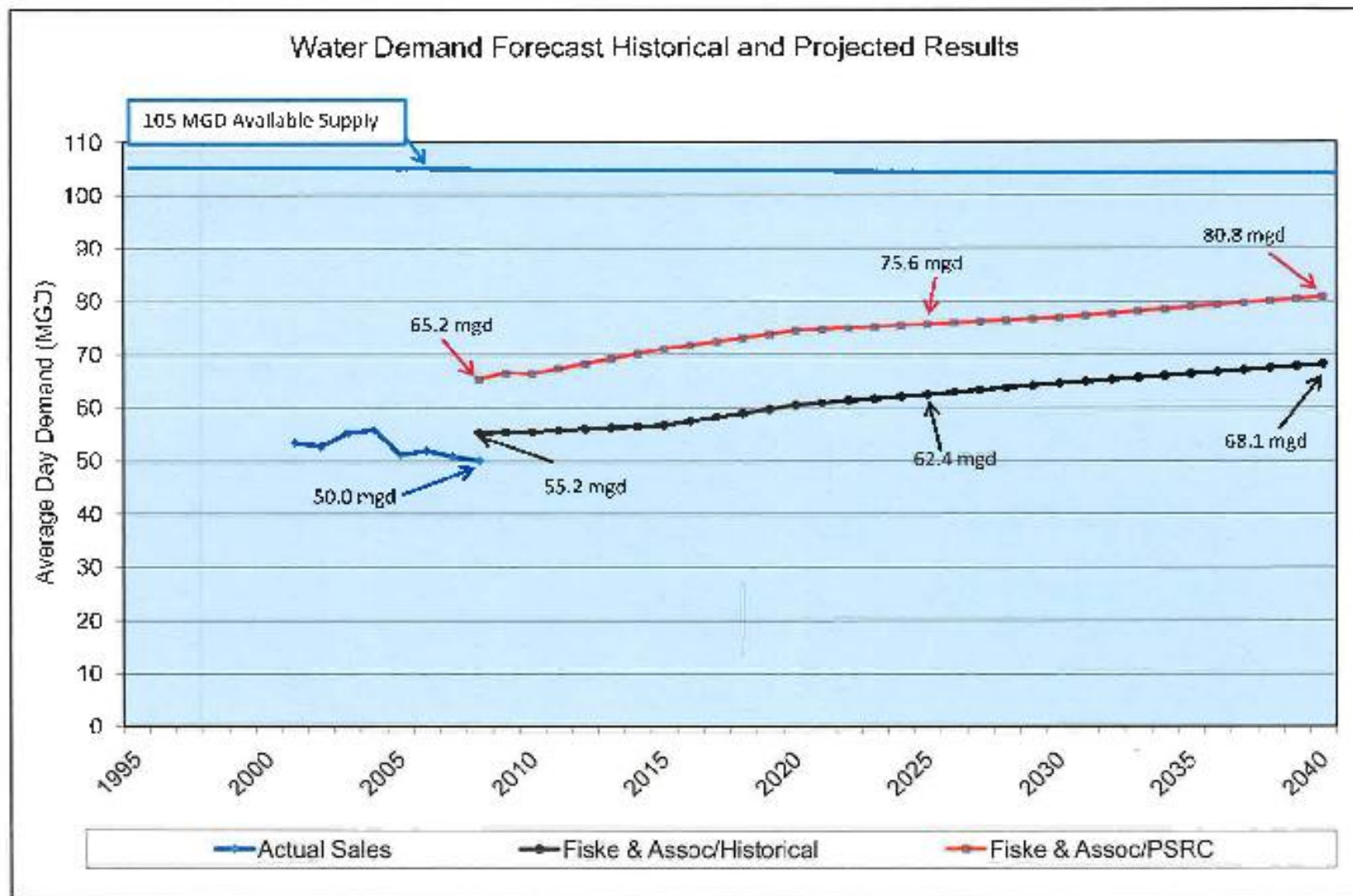


# Ranges of Uncertainty: @Risk Model vs. All High/All Low Assumptions

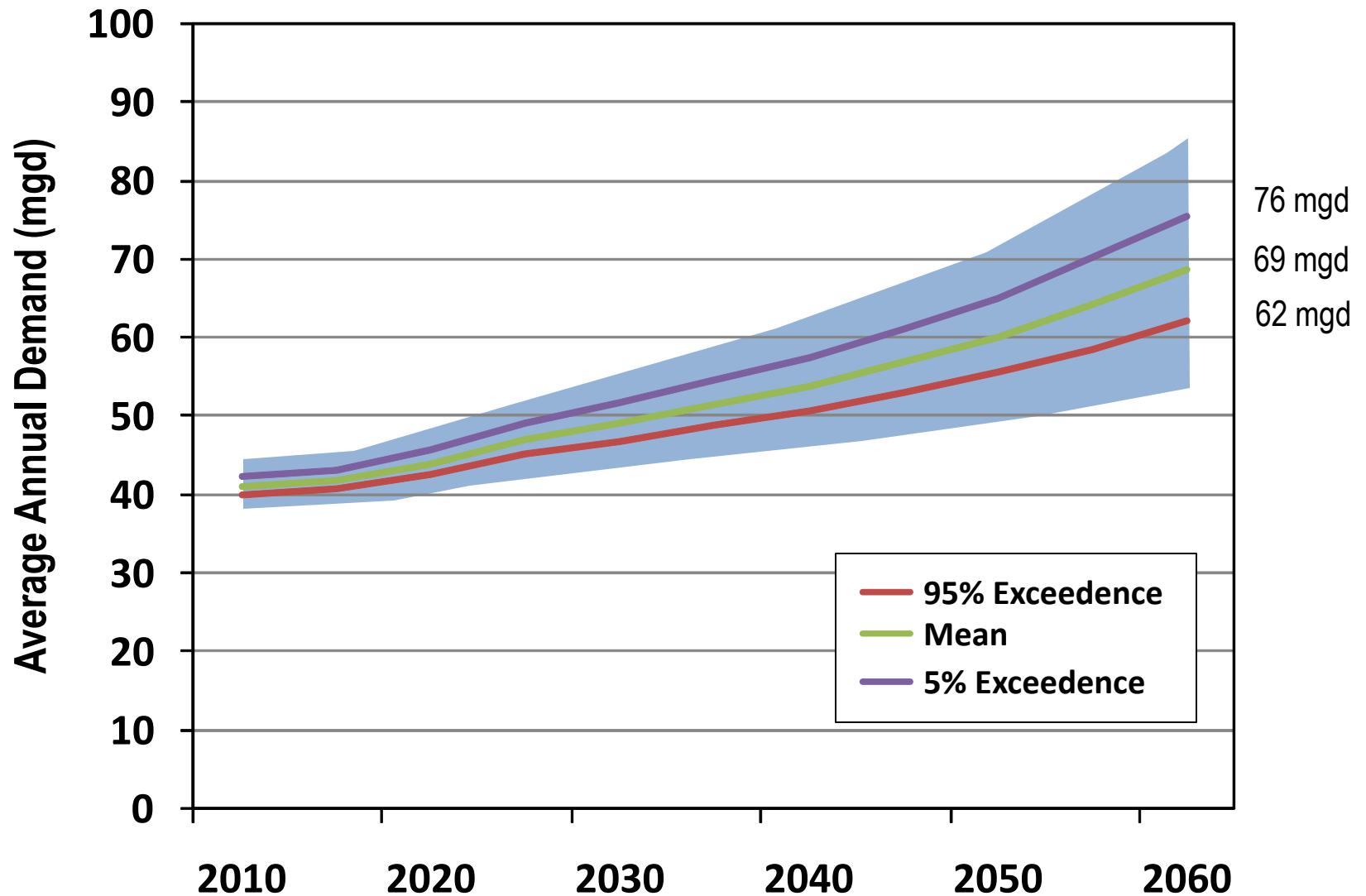




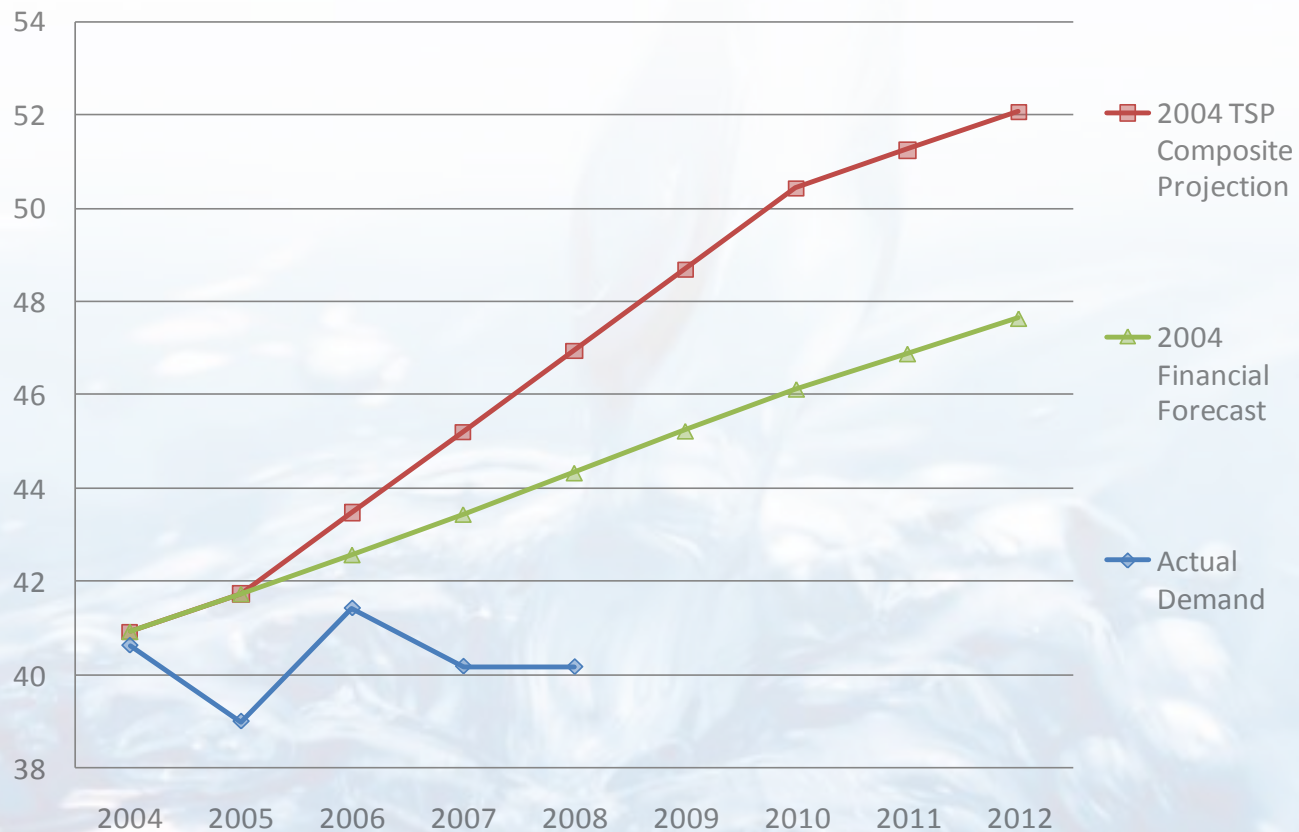
## Tacoma forecasting



# 2009 Demand Forecast with Conservation With Climate Change and No Regional Contingency



# Cascade average daily demand (mgd)



# • Key Assumptions

- RCFC is fixed until an increase is justified (not allowed to decrease)
- Near-term growth adjustments:

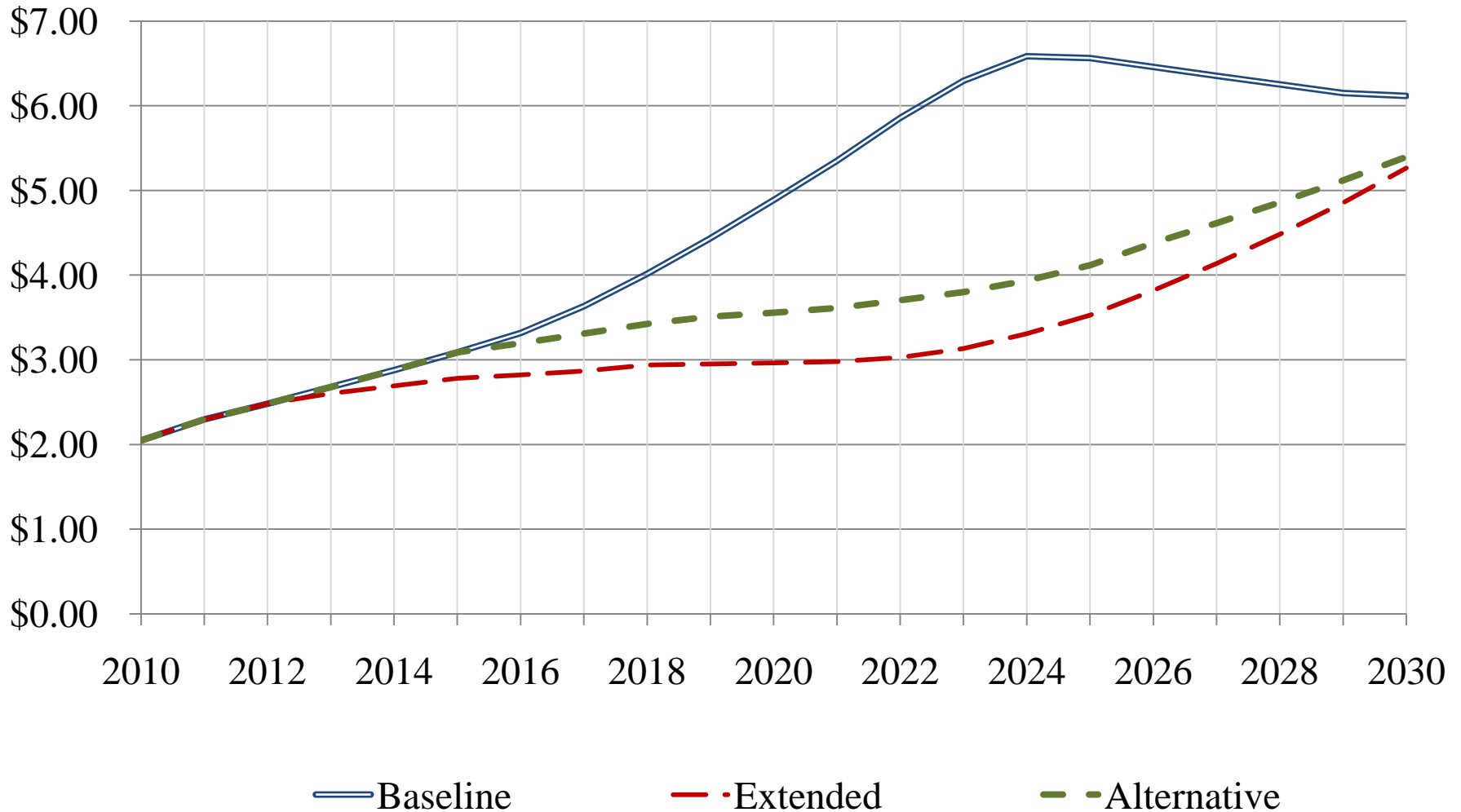
	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
% of Projected Growth	50%	50%	70%	80%	100%

Revised CERU Growth Projections	2011	2012	2013	2014	2015
Bellevue	159	175	228	284	303
Covington WD	63	104	478	594	631
Issaquah	72	60	52	65	70
Kirkland	113	126	165	207	222
Redmond	395	444	586	742	805
Sammamish Plateau WSD	268	301	397	503	546
Skyway WSD	6	7	9	11	12
Tukwila	19	21	27	34	37
<b>Total</b>	<b>1,095</b>	<b>1,239</b>	<b>1,943</b>	<b>2,440</b>	<b>2,626</b>

# • Rate Forecast Scenarios

- Baseline
  - Based on Portfolio 2 (No SPU Extension; Lake Tapps Online in 2024)
- Extended
  - Based on Portfolio 5 (Expand SPU & TPU; Lake Tapps Online in 2061)
- Alternative
  - Variation of “Extended” Scenario
  - RCFC Policy Change: Limit use for debt repayment to 25%; remainder used for equity funding for capital projects
  - Phased in over five years to mitigate rate impacts

# • 20-Year Rate Forecast (Average Cost per ccf)



# • 70-Year Rate Forecast (Average Cost per ccf)

