

Agenda Item 11

Update 2009 Scenarios

California Water Plan Update 2009

San Francisco Bay Regional Report Overview & Outline

2009 Regional Workshops

California **Water Plan** Update **2009**

INTEGRATED WATER MANAGEMENT



Bulletin 160-09 • Department of Water Resources

Volume
REGIONAL REPORTS

3

Public Review Draft

January 2009

Water Plan Scenarios

Consider Multiple Future Conditions

- Plausible during 2050 planning horizon
- Factors affecting future water management decisions
- Factors water community has little control over
- Explore key uncertainties facing water managers

Deliverables for Update 2009

Using WEAP

- DWR is using WEAP platform for Update 2009 to evaluate future scenarios and water management responses
 - Successful WEAP application for IEUA
 - Contracting mechanism and expertise in place
 - Graphical nature supports collaboration
 - Shorter learning curve than alternatives

Technical Outreach and Refinement of Proposal

- December 2007 – Scenario proposal
- April 2008 – Shared Vision Planning
- June 2008 – Refinement of scenario proposal
 - Climate change
 - Environmental water
 - Flood management
 - Water quality
- February 2009 – Review of preliminary demands

Hydrologic Region Analysis

- Monthly, climate-driven demands to 2050
 - reflect global climate change projections
- Inventory current supplies by source
- Coarse representation of response packages

All 10 Hydrologic Regions



Sacramento and San Joaquin River Regions - Planning Area

- Hydrologically-based water system simulation by month to 2050
 - reflect global climate change projections
- Estimate environmental flows, system operations, deliveries, and reliability
- More direct representation of response packages

Sacramento River &
San Joaquin River
Hydrologic Regions



Scenario Storylines

- Scenario 1 – Current Trends
- Scenario 2 – Blueprint Growth
- Scenario 3 – Expansive Growth

Each scenario evaluated with 12 climate sequences (climate change, multiple year droughts, wet years)

Factors Affecting California Water Management

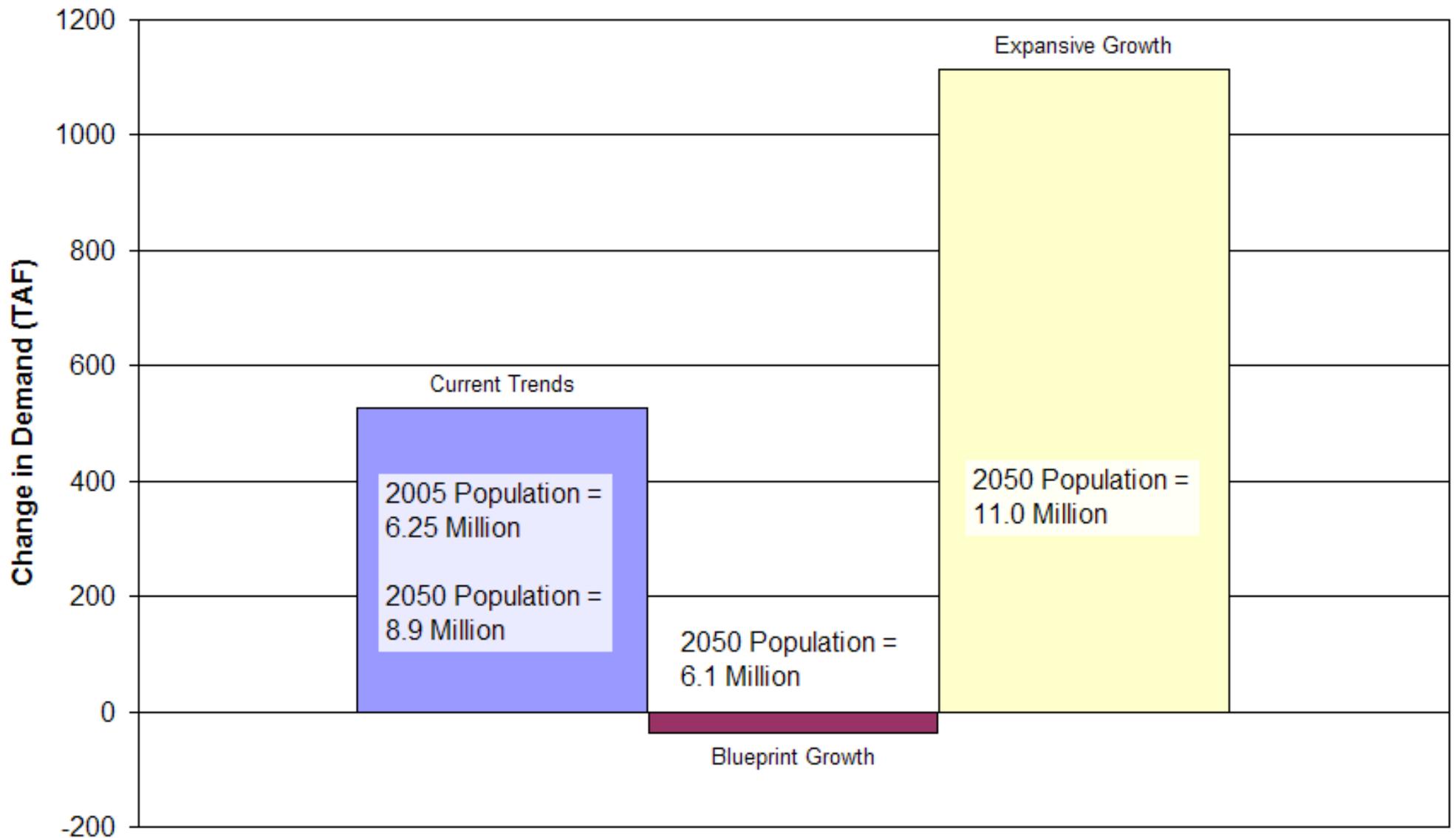
- Future climate change
- Vulnerable flood management system
- Severity of the next drought
- Collapsing Delta ecosystem
- Growing population
- Invasive species

Scenario Water Demand Changes

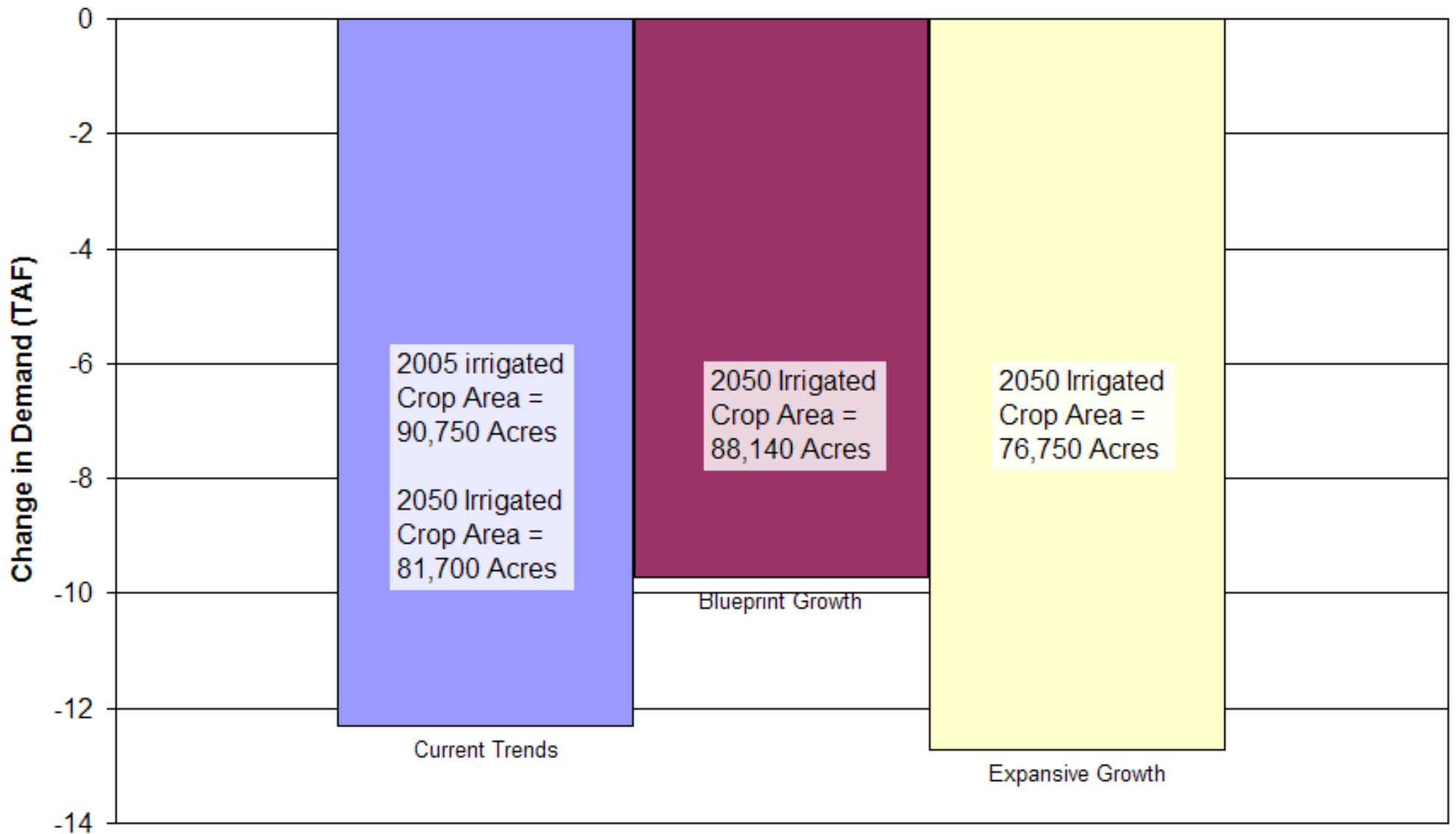
SF Bay HR Results for 1 Climate Sequence

- Change in urban water demand
- Change in irrigated agriculture water demand
- Change in environmental water
- Net Change in regional water demand

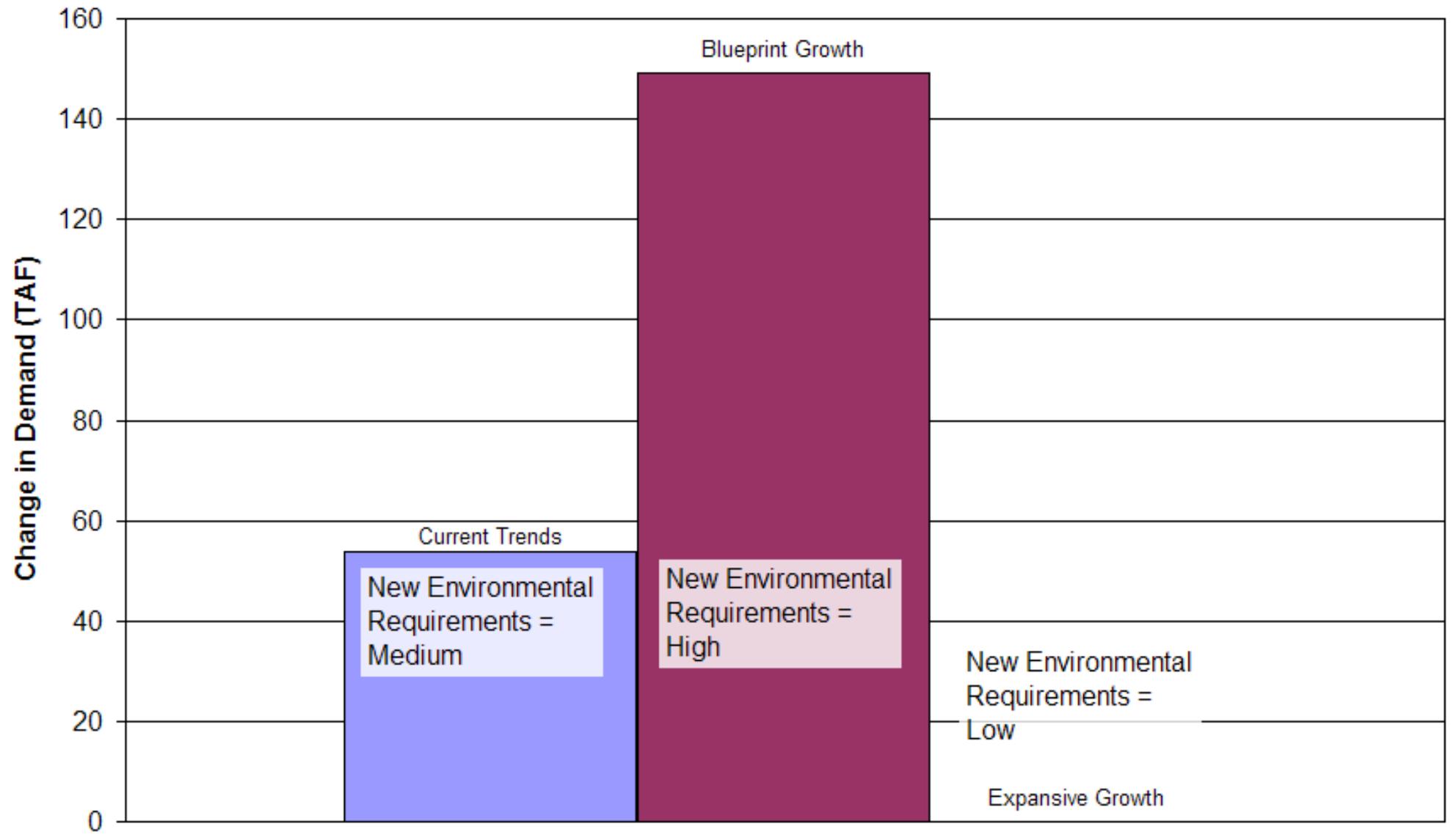
Change in 2041-2050 Average Applied Urban Water Demand from 1998-2002 Historical Average by Scenario San Francisco Bay Region, Climate Sequence 1



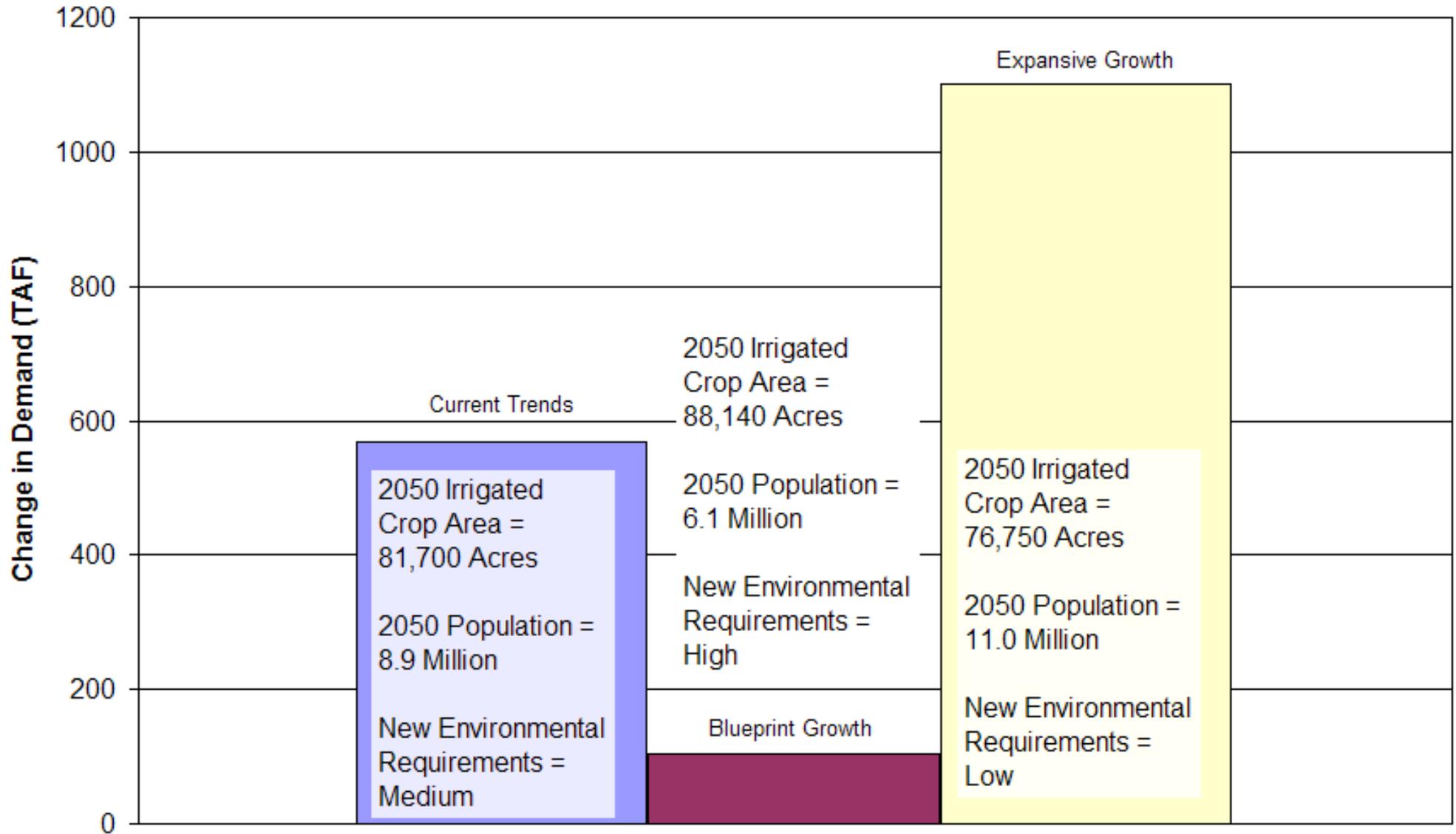
Change in 2041-2050 Average On Farm Applied Water Demand from 1998-2002 Historical Average by Scenario San Francisco Bay Region, Climate Sequence 1



Change in 2041-2050 Average Environmental Water Demand from Current Conditions by Scenario San Francisco Bay Region, Climate Sequence 1



Change in 2041-2050 Average Applied Water Demand from 1998-2002 Historical Average by Scenario San Francisco Bay, Climate Sequence 1



Timeline for Scenario Work at Hydrologic Regional Scale

- December 2008 – February 2009
 - Scenario based demands
- February – May, 2009
 - Develop and test scenario baseline supplies
 - Develop future water management responses
- Mid-June 2009
 - Workshop to review scenario supplies and planning area study

Role of Scenarios in Water Planning

- A tool to project a range of future water conditions and demand variability.
- Can then evaluate the potential of different combinations of response strategies (Volume 2) to meet needs and address water problems.

Questions ?

