

Modeling, Coalition Building, and Adaptation Response: San Francisco's Approach to Climate Change

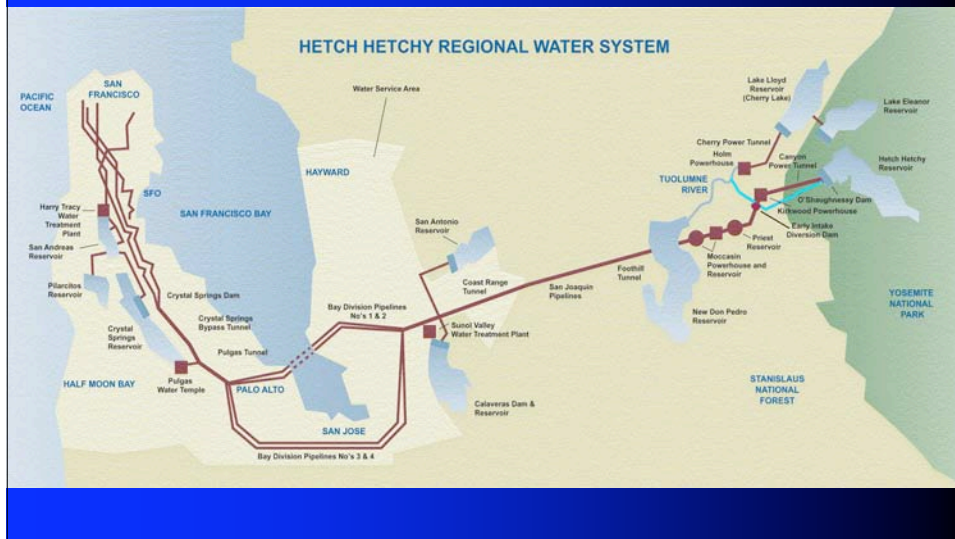
David Behar
Water Enterprise
San Francisco Public Utilities Commission

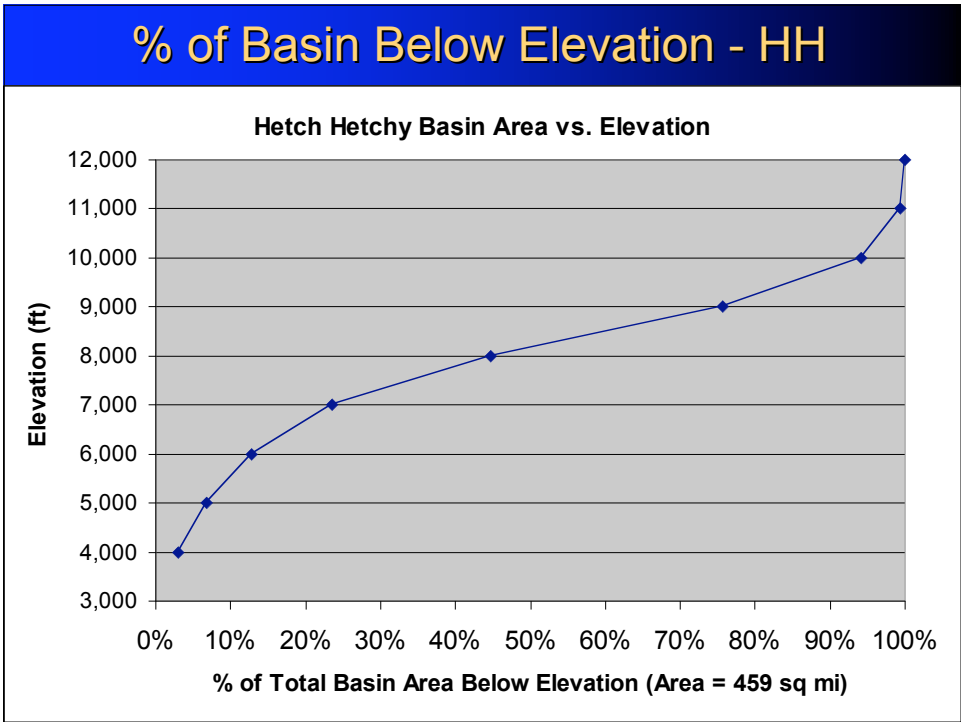
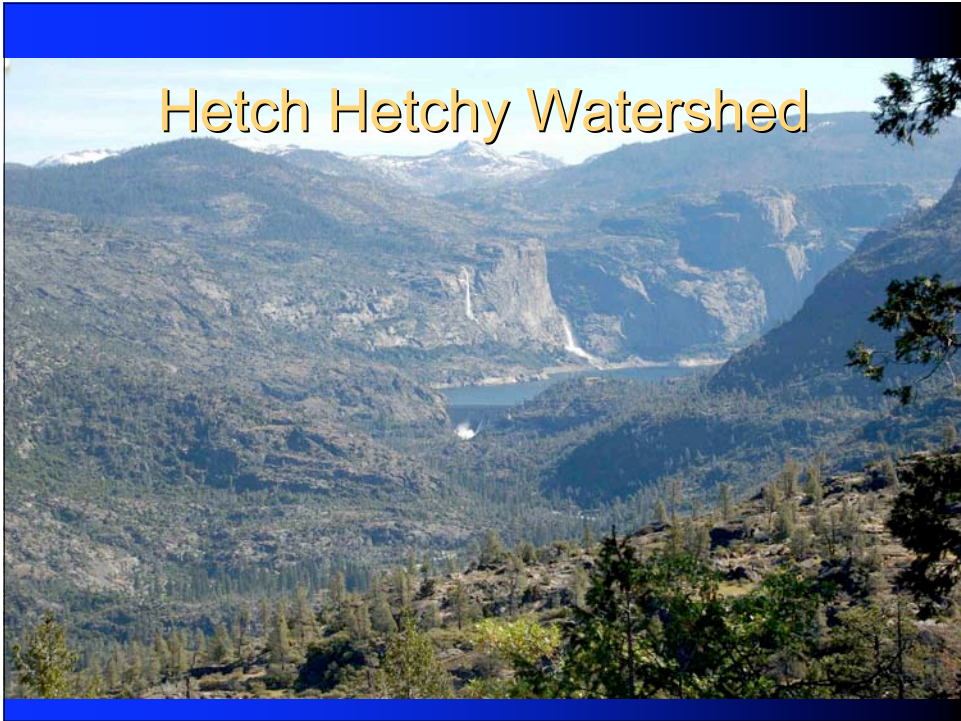
Association of Metropolitan Water Agencies
October 22, 2007

SFPUC Water System

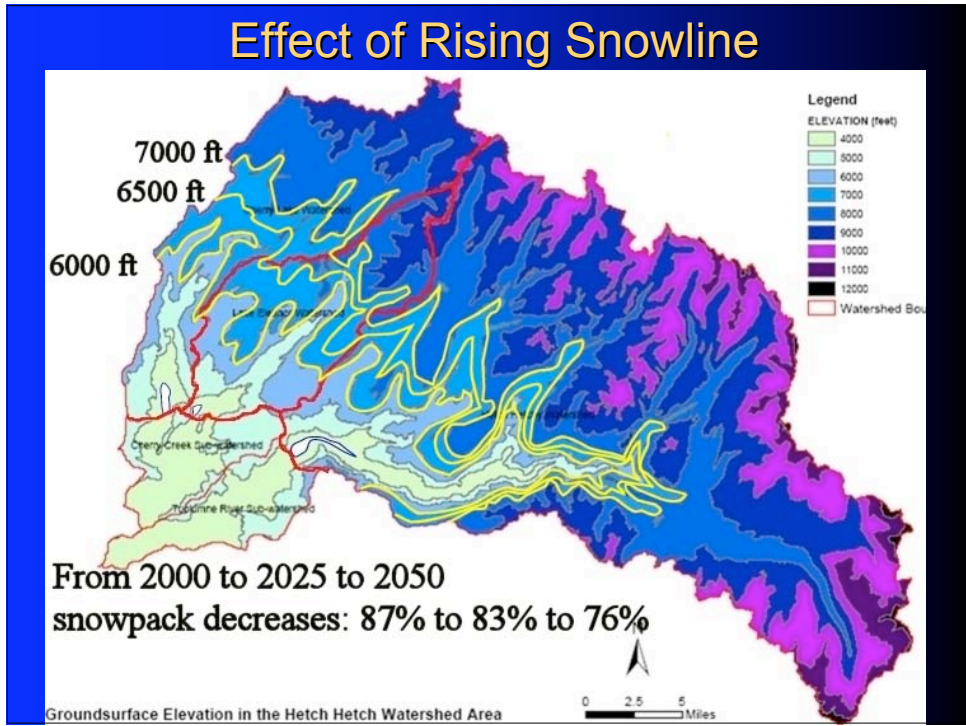
Rain Dominated

Snow Dominated

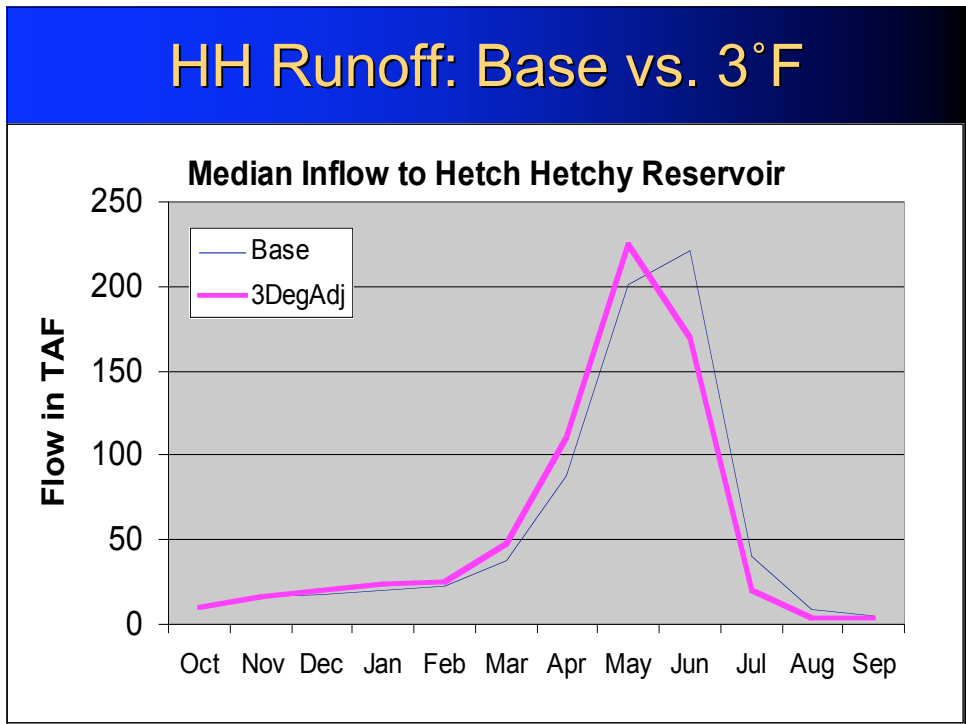




Effect of Rising Snowline



HH Runoff: Base vs. 3°F



Climate Change Effects by 2025

- Effect shown by other researchers seen in all three HHW&P reservoirs:
 - shift in runoff timing
- HH basin has high-elevation headwaters and largest basin, and will be least/last affected
- *Climate change effect by 2025 will likely be within range of current annual variation*

Climate Change Effects by 2100?

- Possible 6.4°C (11.5°F) temperature increase (IPCC) – or more?
- Expected significantly greater shift in runoff timing
- More sophisticated conceptual model needed
- Developing scenarios for 2050, 2075, 2100
- Key model input questions:
 - *What temperature effects?*
 - *What precipitation effects?*

Surrounded by Water



North Point Wet Weather Facility

**Wastewater
Enterprise –
Structures at Risk
Sea Level Rise of
3 feet**

Channel Pump Station

South East Water Pollution Control Plant

San Francisco Department of Public Works

Early Adaptation Response: “No Regrets”

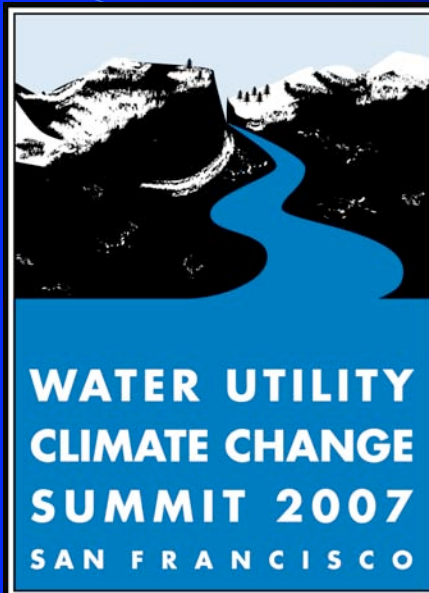
- Diversifying Water Supplies
- Integrated Urban Water Management
- Local/State Regulatory Reform

Diversifying Water Supplies

- Developing local water supplies to rely less on imported snow-dependent supplies
- Opportunities to collaborate with water agencies within the region to intertie systems together
- Opportunities to partner with water agencies in the Bay Area to develop local supplies such as the Bay Area Regional Desalination project

Local/State Regulatory Reform

- New development standards that include elements to reduce resource needs
- Update local and state planning, plumbing and building codes to support the use of greywater, stormwater, rainwater and recycled water



Water Utility Climate Change Summit, Jan 31-Feb 1, 2007, San Francisco



Developing a Plan of Action



Action Plan

- A rough action plan emerged from Water Utility Climate Change Summit in San Francisco
 - Better science and technical tools are needed
 - Regional projections particularly important
 - Focus on adaptation while leading in mitigation
 - Learn from each other
 - Engage the public and our ratepayers
 - Strengthen communication with regulatory agencies
 - Industry should speak with united voice – loudly
 - STRENGTH IN NUMBERS

Starting the Conversation

- Out of Summit emerged an informal conversation among 8 utilities who helped lead the Summit
 - San Francisco Public Utilities Commission
 - Denver Water
 - Southern Nevada Water Authority
 - New York City Dept. of Environmental Protection
 - Seattle Public Utilities
 - Portland Water Bureau
 - Metropolitan Water District of So. Calif.
 - San Diego Water Authority

Coalition Action Plan

- Developed Mission Statement and Goals
- Support scientific research
 - Esp. Climate Change Science Program
- Develop planning/decision support tools
- Be leaders on GHG emissions
- Develop proactive communications strategy
- Respond to Congressional initiatives
- **Speak with a collective voice**

Next Steps

- Stay tuned!



Thank you!

David Behar
San Francisco Public Utilities Commission
1145 Market Street, 4th Floor
San Francisco, CA 94103
dbehar@sfgwater.org