

# Planning for Wildfire Impacts at the End of the Watershed

Craig Caggiano  
Water Quality Process & Planning Coordinator



# Potential Challenges Caused by Wildfires

- **Wildfires create “challenging” water**
  - Raw water quality parameters well outside of typical ranges (turbidity, alkalinity, pH, DOC, etc.)
  
- **Recent Experiences (2005):**
  - High turbidity, low alkalinity combined with low storage nearly caused supply issues
  
- **Apply lessons learned from Stage 2 DBP compliance**

# The Path to Effective Communication

- **Wildy Important Goal (WIG):** A goal beyond the goals associated with the achievement of the daily routine
  - **DBP WIG Description:** Compliance with stage 2 disinfection by products rule before effective date of Q2 2012.
- **Lead Measures:** A lead is effected by the actions (or non-actions) of individuals on a daily basis. It is the means to achieve the goal.
- **Lag Measure:** The lag measure will illustrate the achievement of the goal. It is the result of achieving meeting lead measures
  - **Lag Measure:** TTHM LRAA  $\leq 64$  ppb at all eight (8) stage 2 sites by Q1 2012.

\* Source: Concepts for this presentation are taken from the *4 Disciplines of Execution*, a book, audio CD, and training course developed by FranklinCovey. [FranklinCovey](#) has trademarked these terms.

# City of Tempe's Approach to Stage 2 DBP Implementation

## □ Identify Challenges:

- ▣ Associated with transition from Stage 1 to Stage 2 DBP compliance

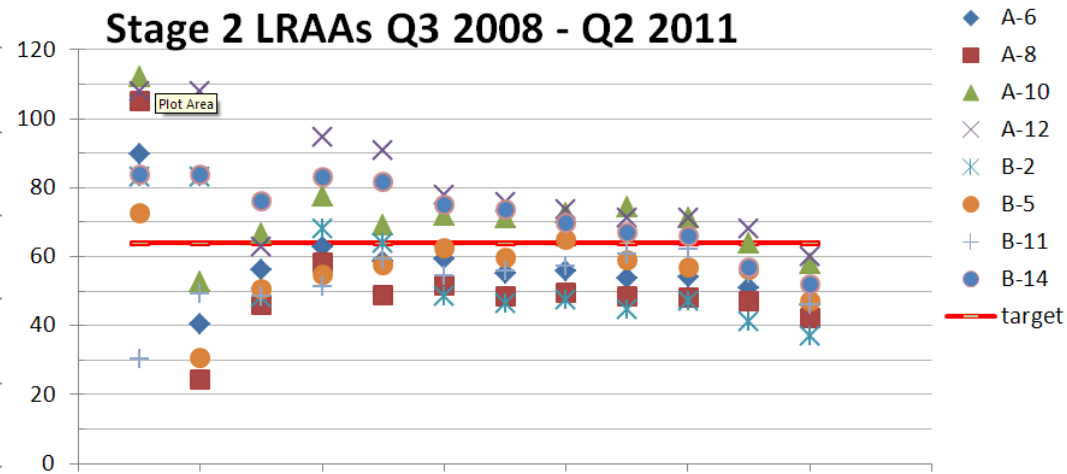
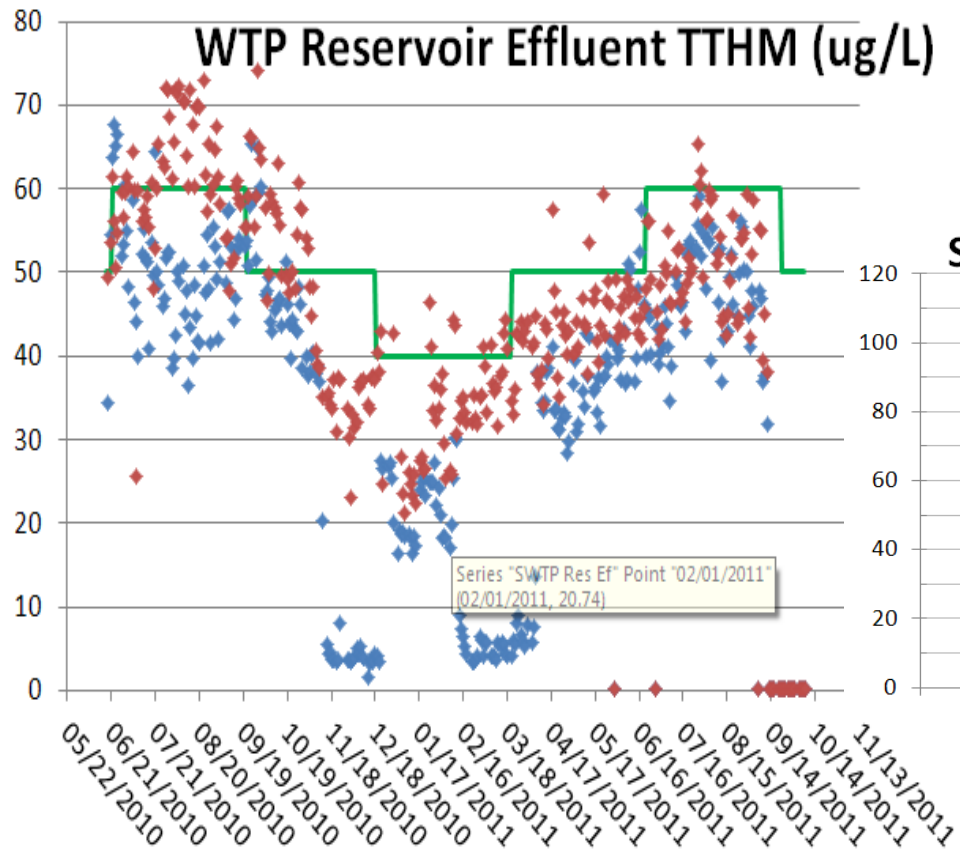
## □ Identify Solutions:

- ▣ Formation of “Varied Skill-set Based Teams” as problem solving groups
- ▣ Creation of Water Quality Process & Planning Coordinator Position (WQPPC)
- ▣ Commitment to achieving goals of compliance at every level of organization

# City of Tempe's Approach to Stage 2 DBP Implementation

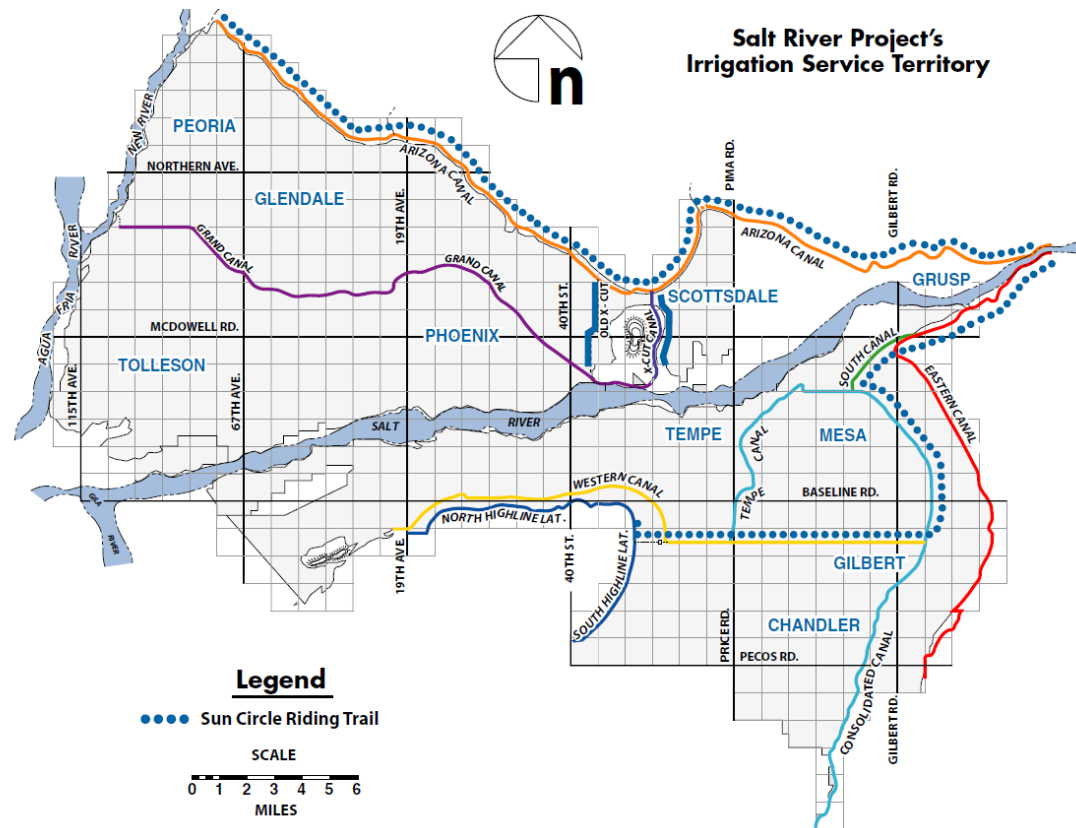
- Goal set to achieve compliance with Stage 2 disinfection by products rule before effective date of Q2 2012
- Set achievable/sustainable goals for each step in the process that would move the organization to the final goal of Stage 2 compliance
- Conducted weekly “status” meetings with key personnel, typically 15-20 minutes max in length, to quickly evaluate progress toward achieving goals
- Held Monthly “traditional” meetings to discuss progress and remaining challenges in greater depth

# Stage 2 DBP Results



# City of Tempe's Approach to Emergency Supply and Preparedness

- Early in 2005, several factors combined to result in a challenging water incident



# City of Tempe's Approach to Emergency Supply and Preparedness

- During the 2005 SRP Arizona Canal dry-up, the City of Tempe was operating one drinking water plant, located in the southern portion of the city.
  - Challenging water began to reach the plant
    - caused large spikes in turbidity
      - Reduced production
      - Process to request authorization of wells for emergency supply not clearly defined/utilized
    - Dramatic decreases in alkalinity
      - Required rarely utilized lime dosing system operation



# City of Tempe's Approach to Emergency Supply and Preparedness

- Goal set to achieve “acceptable” level of emergency water supply and preparedness by 2014
  - ▣ Develop emergency (non-surface water) capacity equal to average daily winter demand (25-30 MG)

# City of Tempe's Approach to Emergency Supply and Preparedness

- Develop city-wide protocol to quickly identify and effectively treat “challenging” surface water
- Evaluate available and future storage and non-surface water emergency capacity
- Evaluate current/future interconnects and improve communications with neighboring municipalities
- Evaluate how/when to utilize city-wide Emergency Response Plan when events occur

# City of Tempe's Approach to Emergency Supply and Preparedness

During 2005 challenging water incident, operational response to the event was dependent on the experience of individuals present at time of event

- Develop city-wide protocol to quickly identify/effectively treat “challenging” surface water events

# City of Tempe's Approach to Emergency Supply and Preparedness

Limited storage and lack of immediately available non-surface water “emergency supply” sources compounded challenges experienced in 2005

- Evaluate currently available storage/non-surface water emergency capacity
- Identify future storage/non-surface water emergency capacity

# City of Tempe's Approach to Emergency Supply and Preparedness

Although regional issues, such as a fire on the SRP watershed, will likely effect a majority of valley municipal systems to some degree, participation between municipalities could elevate some of the effects of system specific events

- Evaluate current/future interconnects and improve communication during emergencies with neighboring municipalities

# City of Tempe's Approach to Emergency Supply and Preparedness

The City of Tempe's "Emergency Supply and Preparedness" approach plots a course to prepare for an unknown future, and therefore has become known as the "ESP" plan.

## QUESTIONS?