

# Monitoring and Data Assimilation for Delta Water Resource Management

11 May 2005

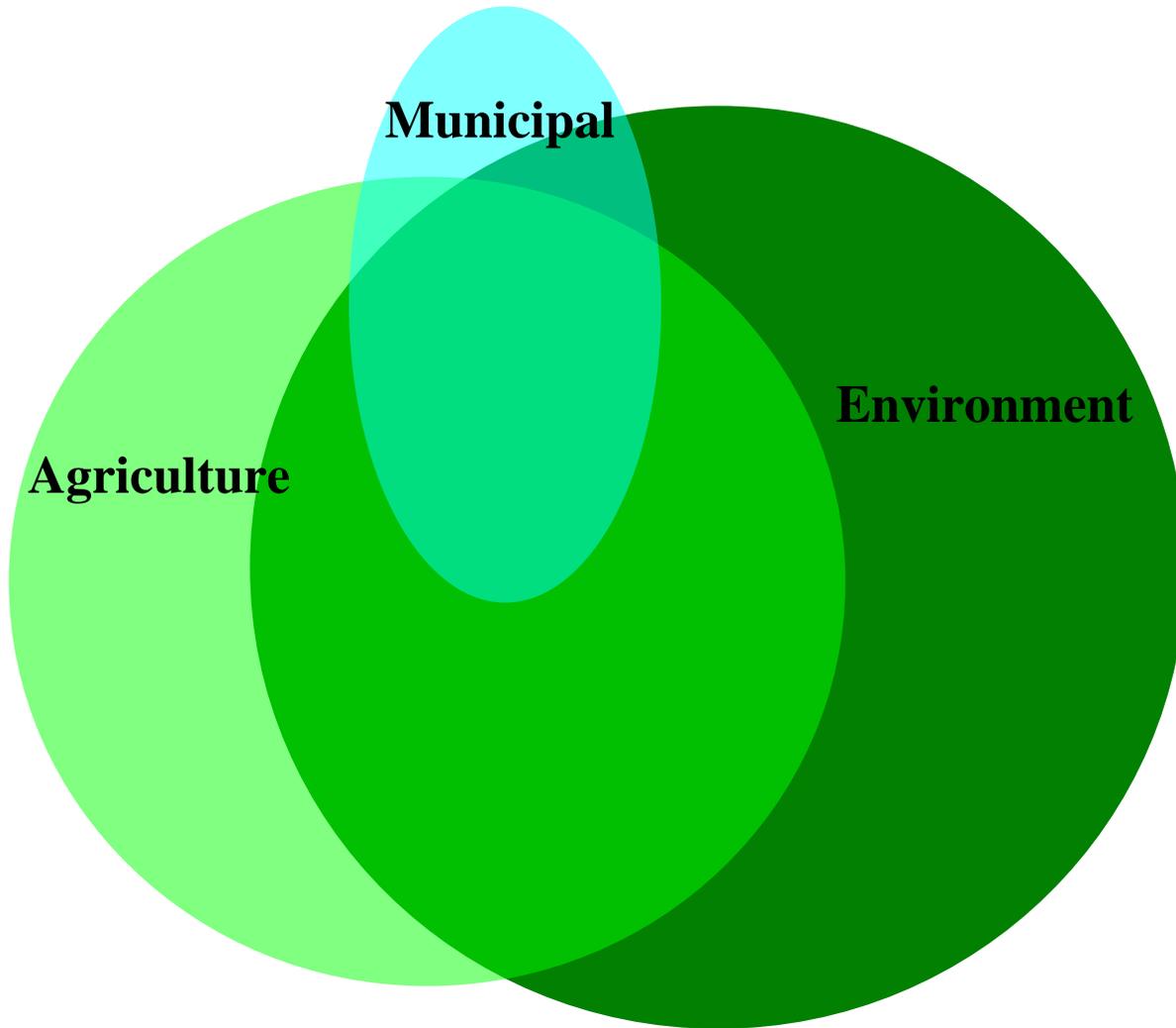
Richard Losee

Metropolitan Water District of  
Southern California

# Discussion Points

- The Delta water resource
- Optimization of resource use
- Examples

# Delta Water Resource



- Finite supply
- Any one 'use' affects all others
- Highly managed system



- **Watershed – 40% of States land area**

- **Sacramento, San Joaquin, Mokelumne, Consumnes and Calavaras rivers**

# Functions of Monitoring and Assimilation Program

- Early warning
- Forecasting – near-term and long-term
- Gaming – to explore potential management options
- Link biological and economic models

# California Water Development

CA Department of Water Resources  
Bureau of Reclamation  
1940 - 1st water delivered (Central Valley Canal)  
1973 - 1st phase completed

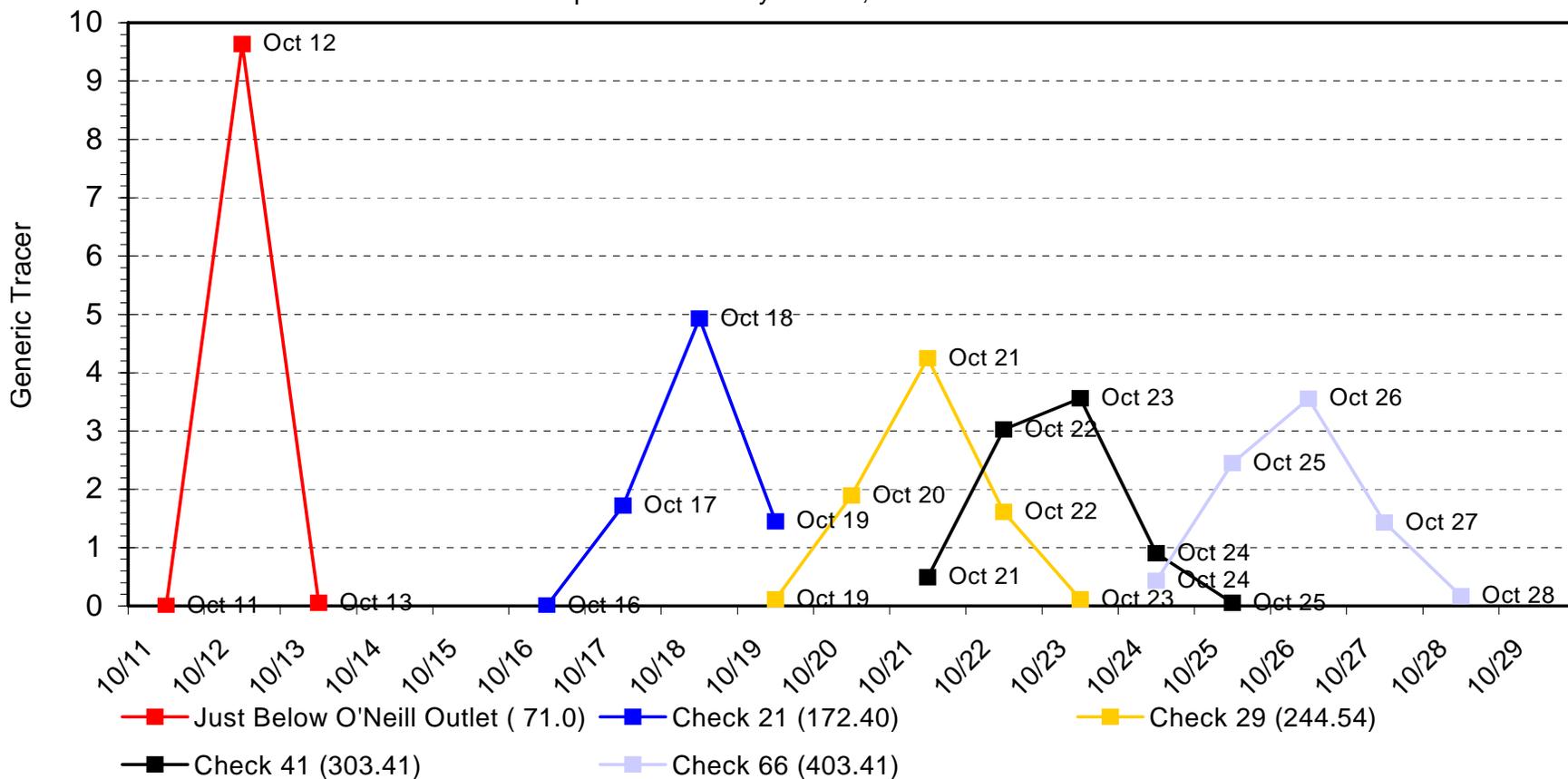


## Tuesday October 19, 2004 Simulation.

Includes actual operations through Monday Oct 18, 2004.

### SWP DBP Study- Tracer Movement Down Aqueduct

Updated Tuesday Oct 19, 2004



# Functions

- Early warning
- Forecasting – near-term and long-term
- Gaming – to explore potential management options
- Link biological and economic models

Figure 2 – Modeled Incremental Benefit at Devil Canyon for Various Actions

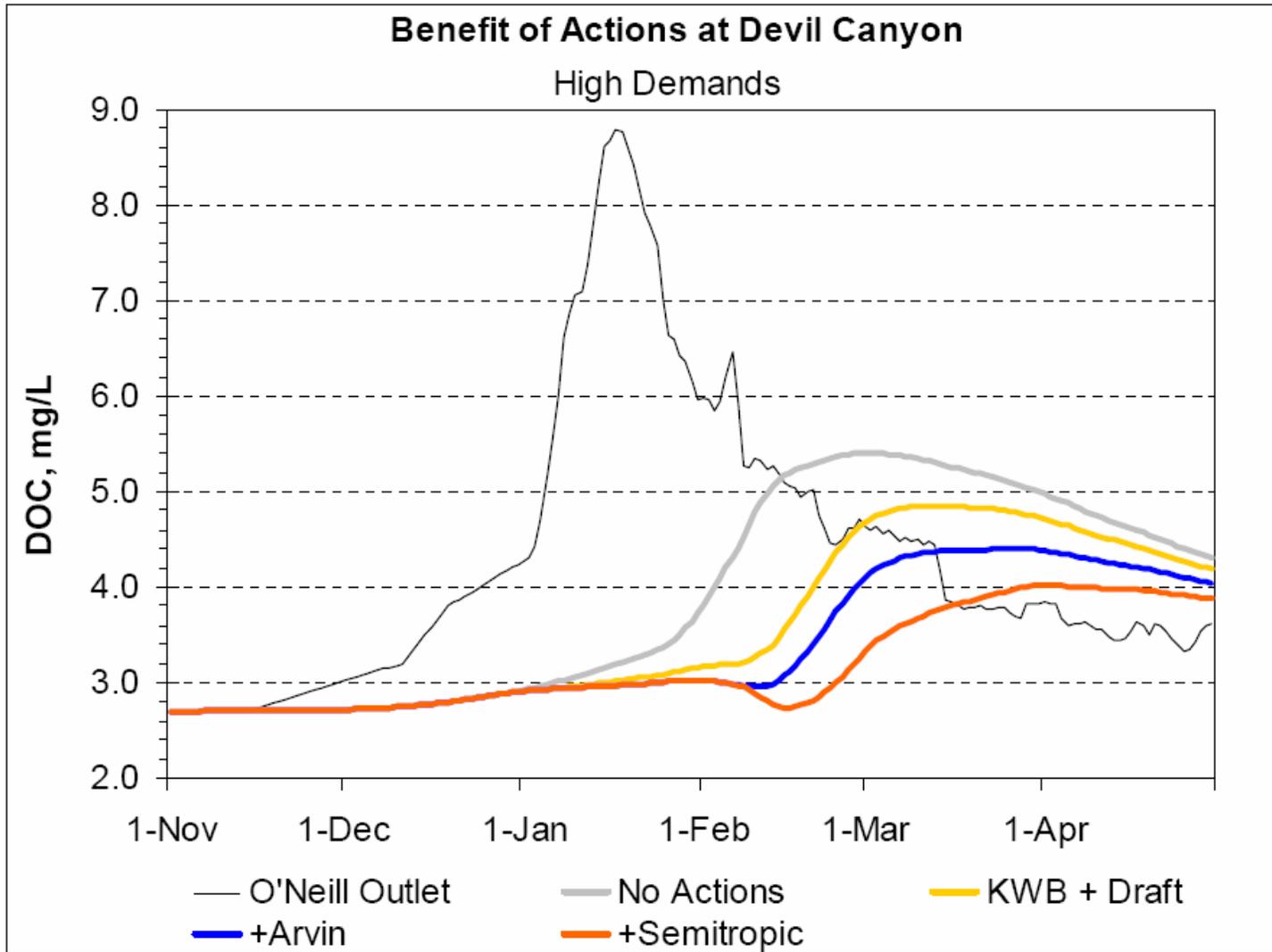
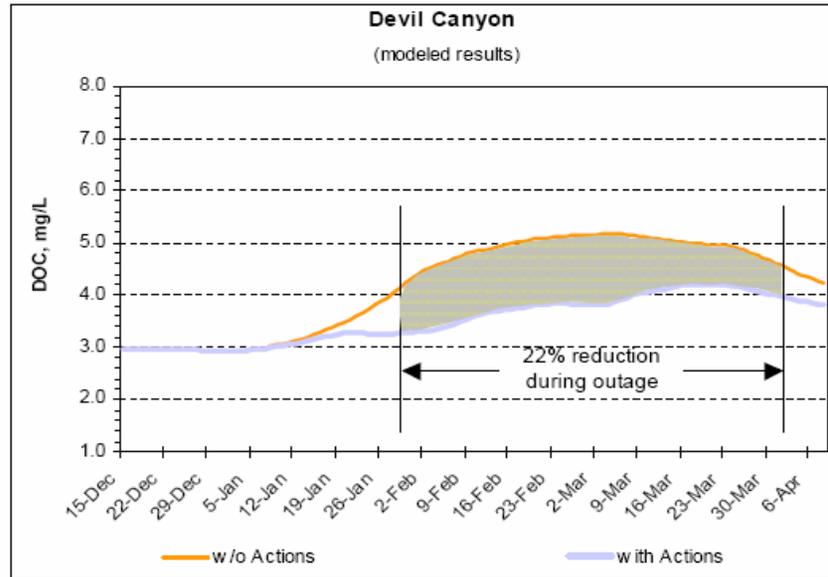


Figure 5 – Benefit of Actions at Devil Canyon



*Reduction in Organic Carbon Load*

The combined effect of all water management actions was a reduction in the organic carbon load at Metropolitan’s water treatment plants. This reduction in organics was of particular benefit at the Weymouth and Diemer plants. The inflow to these two plants is normally a blend of SWP and Colorado River water. However, during the Lake Mathews outage, these two plants were receiving 100% SWP water and sludge handling and disposal was a primary item of concern. The reduced level of carbon provided a benefit in terms of reduced sludge thereby increasing the amount of water that the plant could treat on a given day. Table 2 shows the total tons of carbon avoided during the outage by treatment plant.

Table 2 – Reduction in organic carbon at treatment plants (Tons)

Period	Weymouth	Diemer	Total
Outage (Jan 28-Apr 2)	57.2	52.6	109.8
Entire period since start of actions (Jan 4-Apr 8)	65.1	59.4	124.5

Figure 6 – Synergistic Benefit of Simultaneous Actions

