

# Adaptive Management

IRP Steering Committee

May 11, 2010

Item 3b

# Strategic Policy Review Key Findings

- Proceed with key supply programs
  - Delta improvements
  - Colorado River Aqueduct programs
  - 20% by 2020 water-use efficiency actions
  - Local resources development
- Take adaptive management approach
  - First, low-risk, no-regret actions to assess feasibility of potential new supplies
  - Second, implement feasible, cost-effective supply programs based on realized conditions

# Adaptive Management

## Overview

### What is Adaptive Management?

#### Definition

“Adaptive management [is a decision process that] promotes flexible decision making that can be adjusted in the face of uncertainties as outcomes from management actions and other events become better understood...”

Williams, B. K., R. C. Szaro, and C. D. Shapiro. 2009. Adaptive Management: The U.S. Department of the Interior Technical Guide. Adaptive Management Working Group, U.S. Department of the Interior, Washington, DC.

# Critical Success Factors For Adaptive Management

Stakeholder involvement and support

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graph TD; A[Stakeholder involvement and support] --> B[Achieving resource objectives]; B --> C[Information monitoring and assessment]; C --> D[Implementation consistent with laws, policy, and mission];
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Achieving resource objectives

Information monitoring and assessment

Implementation consistent with laws, policy, and mission

# Integrated Resources Adaptive Management Plan

1. Define a portfolio of resource actions to achieve reliability
  - Implement a buffer as an insurance policy
2. Incorporate Adaptive Management framework to deal with changed conditions
3. Implement adaptive actions over time to achieve resource goals
  - This will require some actions now to prepare for projects that may ultimately not be needed

# What Is The Difference Between The Buffer and Adaptive Actions?

## Buffer:

Insures against the risk that actual conditions will be different from planning assumptions

- Demand growth could be higher than forecasts
- Climate change may lead to more extreme droughts than the historical range

The buffer concept increases the amount of supply and demand management the region plans to develop

# What Is The Difference Between The Buffer and Adaptive Actions?

## Adaptive Actions:

Insure against the risk that pieces of the supply plan have implementation problems

- Some projects may not be built
  - Challenges: political, financial, environmental, etc.
- The yield from a project may be lower than expected
  - Challenges: operational, water quality, regulatory

Adaptive actions are triggered if monitoring of the supply plan shows some elements are failing

# Metropolitan's Adaptive Approach

## Development Actions

- Implement Core Reliability Actions
- Implement Adaptive No-Regret Actions

## Monitoring and Signposting

- Monitor conditions that require full implementation of Adaptive Actions

## Full Adaptive Implementation

- Incur full cost as a result of realized conditions

# Next Steps

- Review regional dry-year demand projections
- Review supply development and demand management goals to achieve reliability

