

## **ITEM 9**

# **Review of Program Progress and Performance Measures**

*Information Item*

**California Bay-Delta Authority**

**October 12, 2006**

**ITEM 9A**

# **Program Progress Overview**

***Information Item***

**California Bay-Delta Authority**

**October 12, 2006**

- Review of program progress and balance by November 15 (state and federal statutes)
- Overview of indicators and performance measures effort
- Reports for each Program objective on program accomplishments and performance measures efforts
- Questions and Comments

# ***CALFED Bay-Delta Program Indicators and Performance Measures***

CBDA October 12, 2006

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More information available on Science Program website:

<http://science.calwater.ca.gov/monitoring/monitoring.shtml#>

## **Mission:**

To develop indicators and performance measures for the CALFED program that:

- Promote a greater scientific understanding of the system (indicators)
- Inform on progress towards goals (performance measures)

## **Vision:**

To have indicators that:

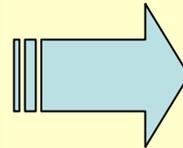
- Are integrated into planning, implementation, assessment and adaptive management.
- Promote better interdisciplinary understanding and improved integration between program elements
- Make information accessible and understandable to all

# Communication Products

Promote greater scientific understanding

## **Web-based information for technical audience**

- Indicator focus
- Easily accessible & frequently updated
- Various levels of detail
- Links to latest data and reports
- Conceptual models



Inform on progress towards goals

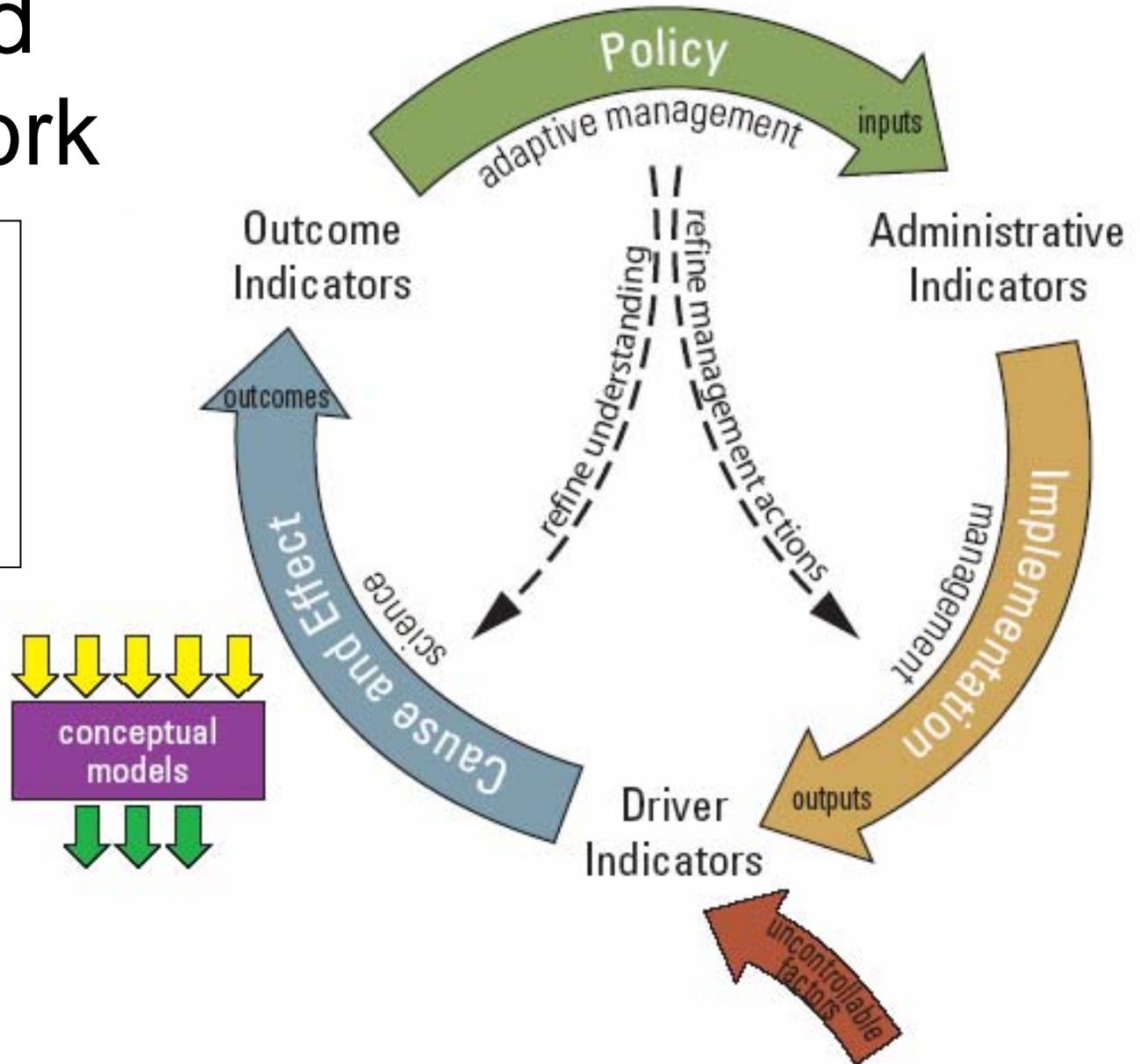
## **Publication(s) for non-technical audience**

- Annual summary
- Performance measure focus

# Revised Framework

Three levels of indicators:

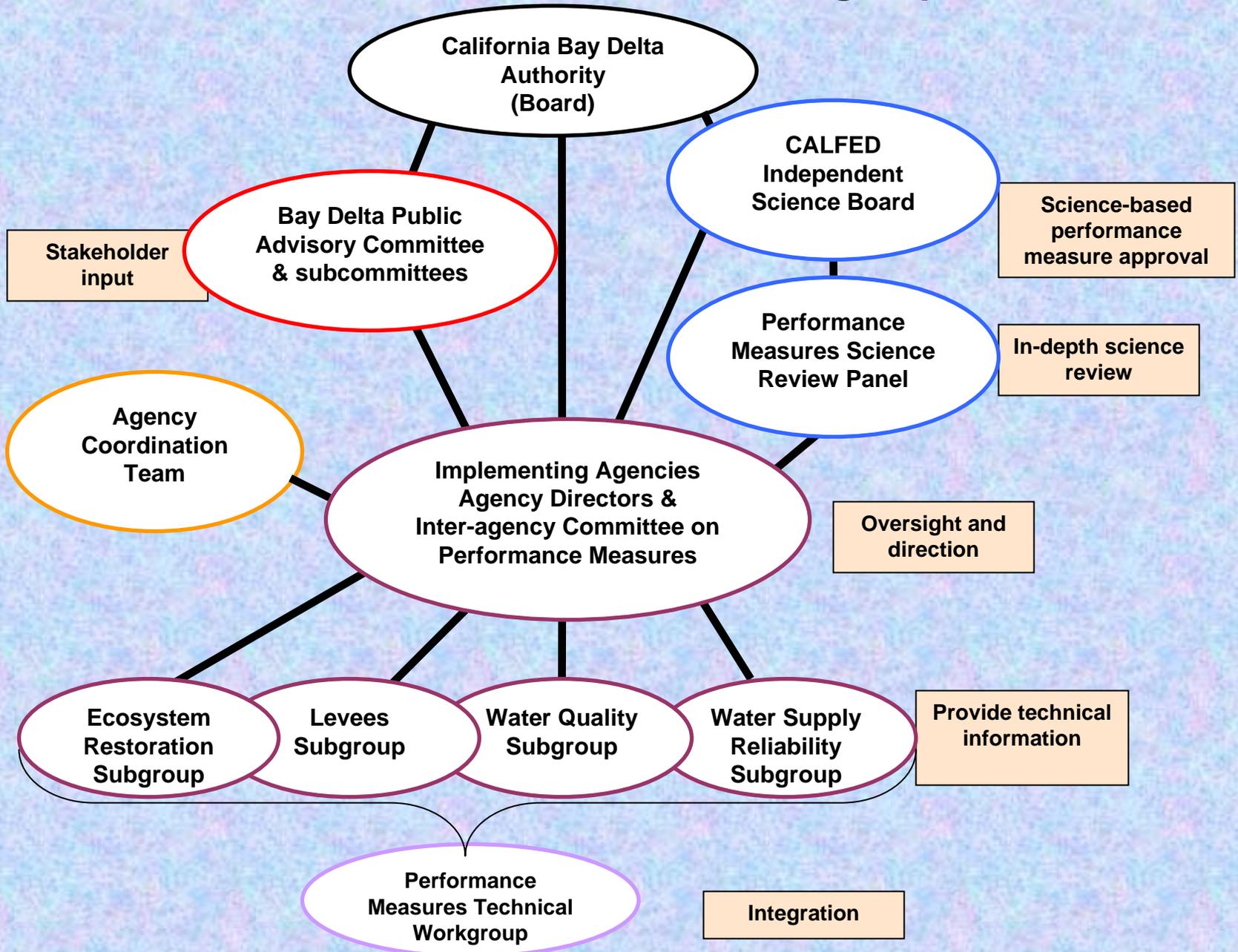
1. Administrative
2. Drivers
3. Outcomes



# ***Benefits of conceptual models***

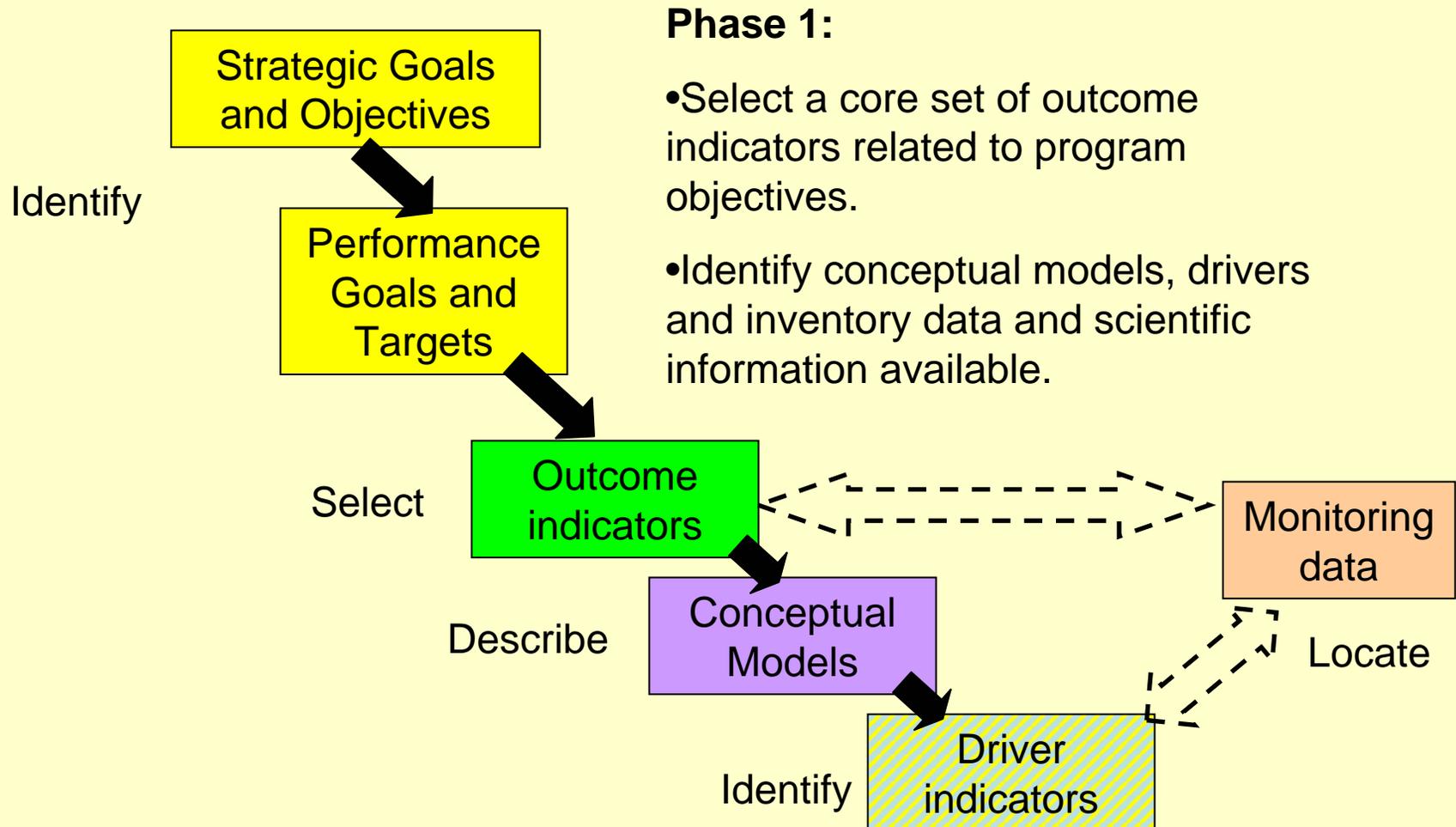
- Emphasizes linkages between drivers and outcomes
- Documents rationale for decision making
- Allows multi-disciplinary review and discussion
- Reduces chances of faulty reasoning or unintended consequences
- Provides basis for incorporating new information and continually improving knowledge of system

# Flow of information between groups



# Outcome-based Approach

Four subgroups focused on 4 CALFED Objectives



# Status/Next Steps

- Phase 1 Report under development and review
- Subgroups have differing levels of progress - lack of resources at some agencies
- Will be discussed further in BDPAC subcommittees and brought to BDPAC & CBDA

**ITEM 9C**

# **Levee System Integrity**

***Information Item***

**California Bay-Delta Authority**

**October 12, 2006**

**ITEM 9D**

# **Ecosystem Restoration**

***Information Item***

**California Bay-Delta Authority**

**October 12, 2006**

# Status of Performance Measures Effort

- ERP has worked on performance measures since mid-1990's
- ERP coordinating with PM Subcommittee and Science Program
- DRERIP developing conceptual models that will inform performance measures work

# Present ERP Progress Assessment

- Milestones per CALFED programmatic Biological Opinions
  - Mid-Stage 1 milestones assessment (2004)
  - Annual milestones assessments (2005-2006)
- General performance measures (e.g., acres, \$) in ERP annual reports (2003-present)

# Near-Term Evaluations to Inform Performance Measures Development

- End Stage 1 milestones
- ERP Plan and Stage 1 accomplishments
- Present ecological conditions
- BDCP provisions
- CMARP and IEP activities

# Next Steps

- “Concept Paper” roadmap to address performance measures development (draft completed)
  - Continue conceptual models work
  - End Stage 1 evaluations
  - Conservation strategy planning for Stage 2
  - Staffing and funding
  - Performance measures development

# ERP Program Accomplishments

- Met or ahead of schedule for 80 percent of the 119 ecosystem milestones provided for in Stage 1
- Protected or restored over 100,000 acres of habitat
- Protected 54,000 acres of agricultural land through easements

# Year 6 Activities

- Funded 27 new projects, totaling \$55 million
- Started nine projects to monitor and evaluate previously funded ecosystem restoration projects
- Re-focused efforts in Year 6 and Year 7 Program Plans on activities to address POD problems
- Reviewed and made recommendations for AFI

# Next Steps

- Reinvigorate AMPT and DRERIP
  - Recent AMPT workshops
  - New conceptual models
- Continue coordination with DRMS and Delta Vision processes

**ITEM 9E**

# **Water Quality**

***Information Item***

**California Bay-Delta Authority**

**October 12, 2006**

# Water Quality Goals

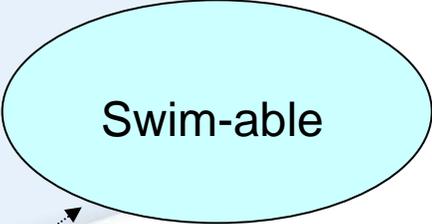
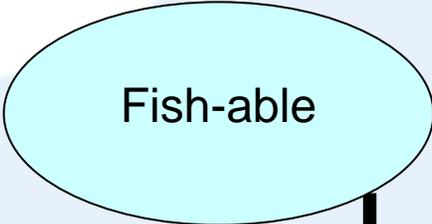
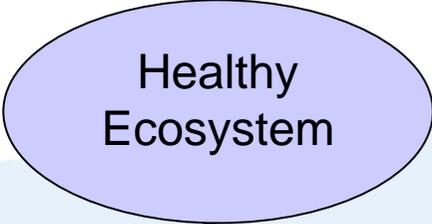
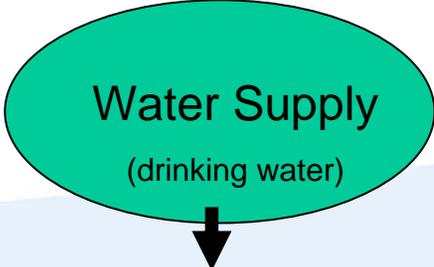
**Provide good water quality for all beneficial uses.**

*Program Mission Statement*



- Eliminate, to the extent possible, toxic impacts to aquatic organisms, wildlife and people
- Improve and/or maintain water and sediment quality conditions that fully support healthy and diverse aquatic ecosystems in the Bay-Delta estuary and watershed
- Provide safe, reliable, and affordable drinking water in a cost-effective way, through either: (a) average concentrations at Clifton Court Forebay and other southern and central Delta drinking water intakes of 50 ug/L bromide and 3.0 mg/L total organic carbon, or (b) an equivalent level of public health protection using a cost-effective combination of alternative source waters, source control and treatment technologies. [ROD pg 65]

Provide good water quality for all beneficial uses.



50 ug/L bromide and 3.0 mg/L total organic carbon, or ELPH

ERP Goal 6: Improve and/or maintain water and sediment quality

Objective 1: Reduce toxic contaminants

WQ at intakes

- Organic carbon
- Salinity
- Nutrients
- Pathogens

Direct toxicity

Bioaccumulatives

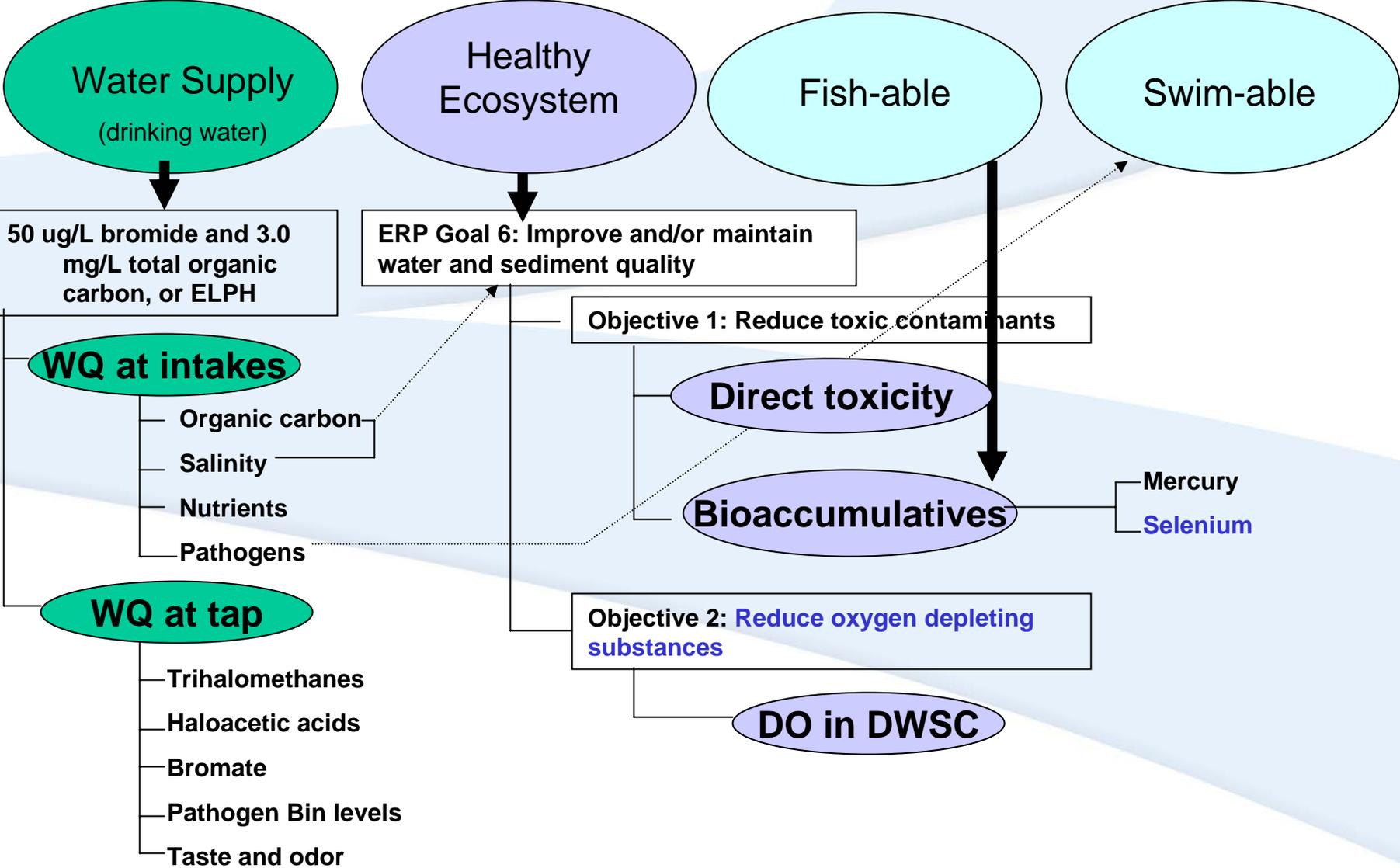
- Mercury
- Selenium

WQ at tap

- Trihalomethanes
- Haloacetic acids
- Bromate
- Pathogen Bin levels
- Taste and odor

Objective 2: Reduce oxygen depleting substances

DO in DWSC



# Drinking Water: Program Accomplishments

## Actions

- January 2006: Franks Tract - completed three preliminary design and modeling efforts, initiated further modeling and studies, environmental documentation, and pre-design
- February 2006: CCWD completed construction of the Old River and Rock Slough Water Quality Improvement Projects; completed peer review of the San Joaquin River CALSIM II model
- July 2006: CDWPWG released completed conceptual model of organic carbon; OAL approved the TMDL to control salt and boron discharges into the lower San Joaquin River; Bay Area UV Light and Multiple Disinfectants Project concluded demonstration and bench scale testing.

## Funding

- CDHS has funding available from Prop 50 for projects that may have residual benefits or relevance to CALFED program objectives.
- SWRCB committed Proposition 50 agricultural and nonpoint source grants to a number of projects that will contribute to the goals and objectives of the Drinking Water Program.

# Drinking Water Quality Performance Measures

- **Outcome indicators identified:**
  - **Water quality at Delta intakes:** organic carbon, salinity/bromide, nutrients, pathogens
  - **Water quality “at the tap” for Delta providers:** salinity, taste/odor, disinfection byproducts, treatment levels
- **Conceptual models** and data analysis for priority constituents complete by end of 2006.
- **Use Final Assessment and Central Valley Drinking Water Policy** technical work to inform performance measures.
- **Next steps:** resources needed for comprehensive data assessments, strategic monitoring plan, and preparation of performance indicators.

# Ecosystem Water Quality: Program Accomplishments

- **Toxicity**
  - Evaluated as a factor in the Pelagic Organism Decline
- **Mercury**
  - Central Valley Water Board released draft TMDL for mercury in the Delta
  - Multi-disciplinary projects underway on mercury sources, transport, transformation, cycling, food web transfer, and bioaccumulation
  - Annual workshop held for external, independent review of projects and project integration
- **Dissolved oxygen in the lower San Joaquin River**
  - Depletion modeling study completed
  - Feasibility study for the aeration demonstration project completed
  - Regional Water Board Basin Plan Amendment for the dissolved oxygen TMDL adopted

# Ecosystem Water Quality Performance Measures

## Outcome indicators proposed:

### **Toxicity:**

- Toxicity indicators are linked to POD data and analyses.
- Next steps include identifying data gaps, expanding monitoring, evaluating data. Recommend additional resources at the Regional Water Board and California Department of Fish and Game.

### **Mercury:**

- Mercury indicators are based on Water Board objectives and TMDL work, and address human and ecosystem health.
- Next steps include comprehensive data review and assessment based on ecosystem research and human health projects; monitoring strategy. Resources needed.

# Water Quality Summary

- Drinking water quality has made most progress through work on priority end-of-Stage 1 decisions
- Coordinate with DRERIP & CMARP\*\* to integrate activity planning, monitoring, and indicators
  - \*\* Delta Regional Ecosystem Restoration Implementation Plan; Comprehensive Monitoring, Assessment, and Research Program*
- Agency collaboration is needed -- *especially water quality and ecosystem* -- for integrated indicators
- Water quality and ecosystem agency progress on indicators for fish/wildlife and human health depends on future resources.

**ITEM 9F**

# **Water Supply Reliability**

***Information Item***

**California Bay-Delta Authority**

**October 12, 2006**

# **CALFED Goal for Water Supply Reliability**

“...reduce the mismatch between Bay-Delta water supplies and current and projected beneficial uses dependent on the Bay-Delta system.”

# Program Accomplishments

## **Conveyance -State and Federal water projects**

- Several fish and Water quality studies underway
- 8500 is on hold pending study results
- Draft EIR/s out for Permanent Operable Gates
- Draft EIR/S for Intertie expected in 2007
- Temporary Barriers operated annually in South Delta

## **Surface Storage -State and Federal water projects**

- Five projects under study
- Projects are refining alternatives and evaluating potential participant interest
- Draft Feasibility Studies scheduled for 2007, Final's in 2008
- In-Delta Storage Project studies suspended “until adequate technical information is available for other CALFED surface storage projects”

## **EWA – State and Federal water projects**

- 1 million AF acquired over life of program for \$156 million
- Program extended by MOU thru end of 2007
- Draft EIR/S for long term program due in late December 2006
- Long term partnership with Yuba County Water Agency for assets

# Program Accomplishments

## **Conjunctive Water Use -- Grants and local assistance to end water users**

- 32 Memoranda of Understanding signed with local agencies
- 62 groundwater storage and recharge grants for \$205 million awarded -22 completed
- Additional \$45 million granted for conjunctive use development in Southern California
- \$27.8 million awarded thru Local Groundwater Assistance Program for 129 projects
- Including local cost share, over \$ 1 Billion has been invested in groundwater storage
- Current projects estimated to provide 300-350 TAF per year.

## **Water Use Efficiency - End User water supply**

- 366 projects funded
- \$932 million in Local, State and Federal funds
- 90 TAF Agriculture and Urban expected savings
- 35.5 TAF Desalination expected savings for local use
- 387 - 510 TAF Recycling expected savings for local use.

## **Water Transfers**

- 4.1 million AF transferred for EWA, DWR Dry Year Program, CVPIA and Colorado River Contingency Plan

# Key Issues and Principles

## Challenges...

- Many beneficial uses dependent on Bay-Delta supplies, including:
  - Support for fish and wildlife
  - Maintaining water quality
  - Municipal and industrial use
  - Agricultural use(The SWRCB defines 24 categories of beneficial use.)
- Predicting future needs for fish and wildlife is challenging due to the dynamic nature of the Bay-Delta system and our evolving understanding of the science.

# Key Issues and Principles

## Challenges...

- We have the capability to measure deliveries of Bay-Delta supplies for M&I and agriculture and experience in projecting future beneficial uses for these purposes.
- Until advances in science better define water relationships, the only available indicator of if sufficient water supplies are available for fish and wildlife and water quality beneficial uses is if performance measures for the ERP and Water Quality programs are being met.

# Status of Performance Measures Effort

## Recommendations to BDPAC...

The scope of the CALFED water supply reliability goal should be refined to conform with the CALFED refocusing effort.

- Original CALFED Scope
  - Consider both Bay-Delta supplies and demand management tools to evaluate end-user water supply reliability.
  - This approach does not adequately account for alternative water supplies and the institutional and economic considerations that drive local and regional water management decisions.
- Revised CALFED Scope
  - Focus on optimizing Delta supplies and coordinate with California Water Plan update process to consider end-user water supply reliability.

# Status of Performance Measures Effort

## Suggested Performance Objectives...

- Performance Objective for “Direct CALFED” Actions  
Enhance Long Term Stability of Delta Water Supplies
  - Improvement of Water Quality and Fish Restoration
  - Maximize Sustainable Delta Deliveries with CALFED actions
  - Minimize unanticipated and uncompensated reductions in scheduled Delta water deliveries
- Performance Objective for “Coordinated CALFED” Actions  
End User Supply Reliability
  - Integrated Regional Water Management Plan Process
  - Developed with local and regional agencies
  - California Water Plan Update Process -- coordinated with CALFED

# Next Steps

- Presentation to BDPAC (September 2006) – completed
- Directed to engage BDPAC Water Supply Subcommittee (October 11 meeting) – completed
- WSS Recommendations to BDPAC (December 2006)
- Bring recommendation to Authority
- Refine Performance Objectives (2007)
- Develop and refine indicators and targets (2007)
- Coordinate with California Water Plan Update process to develop end user WSR performance measures (on going)