Water Management Strategy Evaluation Framework

Policy Group
April 19, 2000

Purpose of Presentation

- Status of evaluation of WMS alternatives
- Preliminary observations from completed model runs

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WMS Framework Mission

- Document a comprehensive hierarchy of objectives for the CALFED Program
- Establish well-defined measures of performance associated with the achievement of objectives
- Provide the framework for comparison of alternative long-term water management strategies

Getting to Conclusions

- Formulate a reasonable set of Water Management Strategies
- Compare results for each alternative against a No Action Alternative
- Make specific observations about the alternatives modeled
- Draw general conclusions from specific results

More Conclusions to Come

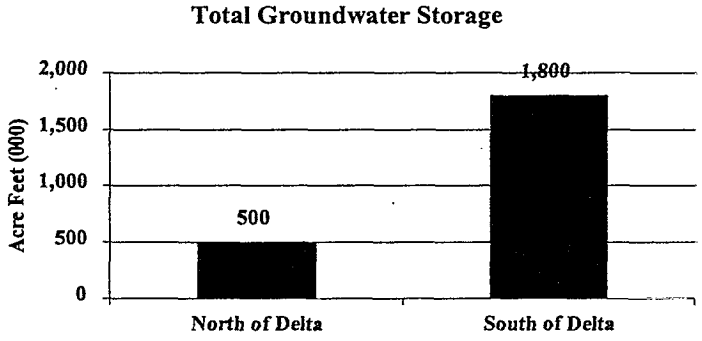
- Agricultural Economic modeling is underway
- Land use changes and agricultural economic data will be available after completion of this modeling
- Scorecard is not complete until this analysis is finished

Summary of Alternatives

Resource Mix	*Emphasis*
A	Exports restricted to 1995 levels, no new surface storage
B	Surface storage with supply benefits allocated to urban water users
C	Surface storage with supply benefits split between urban & agriculture

Common Elements

- Each alternative includes conjunctive use projects North and South of the Delta

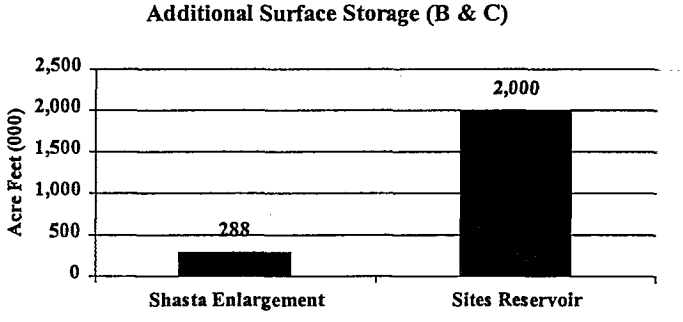


Common Elements

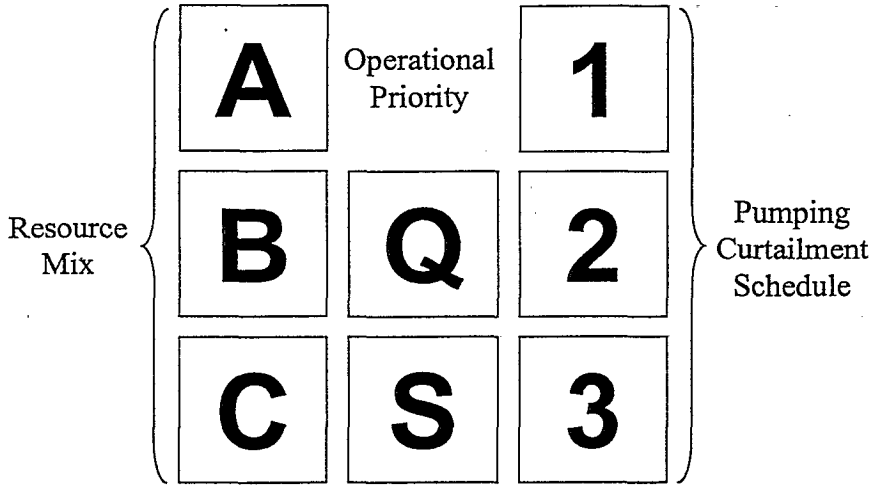
- All alternatives include full implementation of conservation Best Management Practices (BMPs)
- The conservation component of new local supply development is comprised of measures that go beyond BMPs

Key Differences

- Alternatives B and C include additional surface storage at Shasta and Sites



Alternative Shorthand



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Operational Priority

- All alternatives meet the water quality requirements defined in the May 1995 Water Quality Control Plan

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- Alternatives run with a water quality priority include additional releases from storage to reduce salinity in the Delta and reduced exports based on salinity

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Delta Fisheries

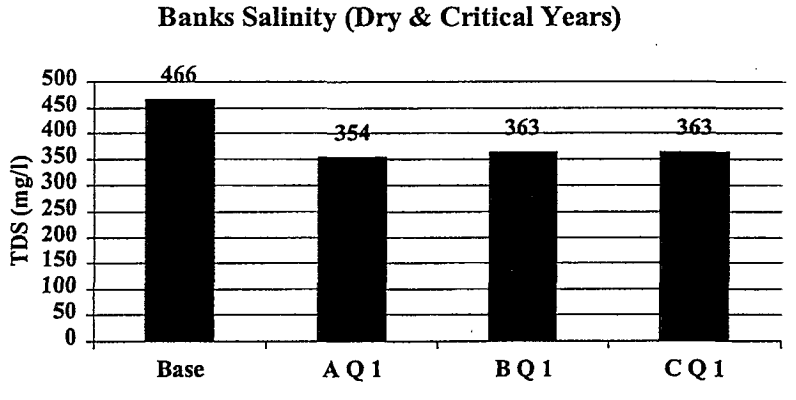
Schedule of Additional Days of Pumping Curtailment

	Oct	*Nov*	*Dec*	*Jan*	*Feb*	*Mar*	*Apr*	*May*	*Jun*	*Jul*	*Aug*	*Sep*
1	0	0	0	0	0	0	16	24	8	0	0	0
2	0	0	0	8	0	8	24	24	16	0	0	0
3	0	0	8	8	0	8	24	31	24	0	0	0

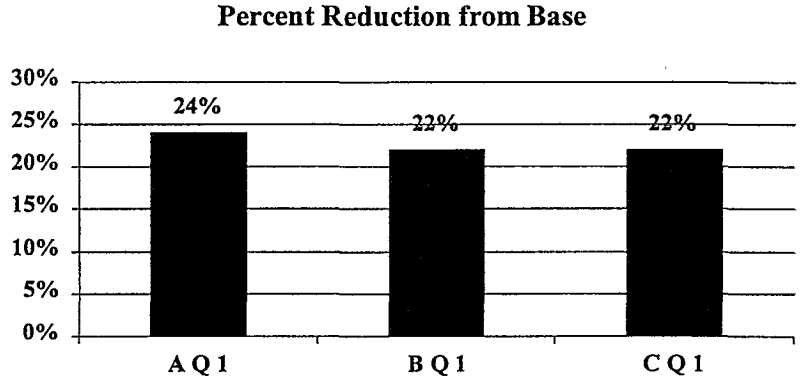
General Conclusions

- Water Management Strategies combining additional storage and increased exports can provide:
  - Reduced salinity in the Delta
  - Greater flexibility for Delta fisheries
  - Improved access to water supplies
  - Reduced salinity in South Coast

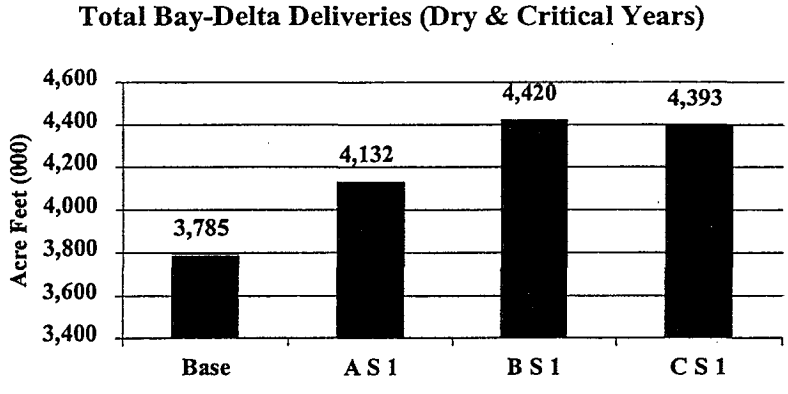
Delta Export Salinity



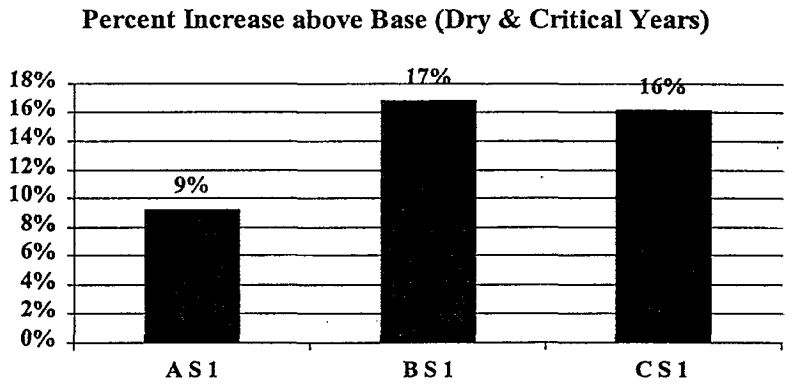
Delta Export Salinity



Delta Export Water Supply



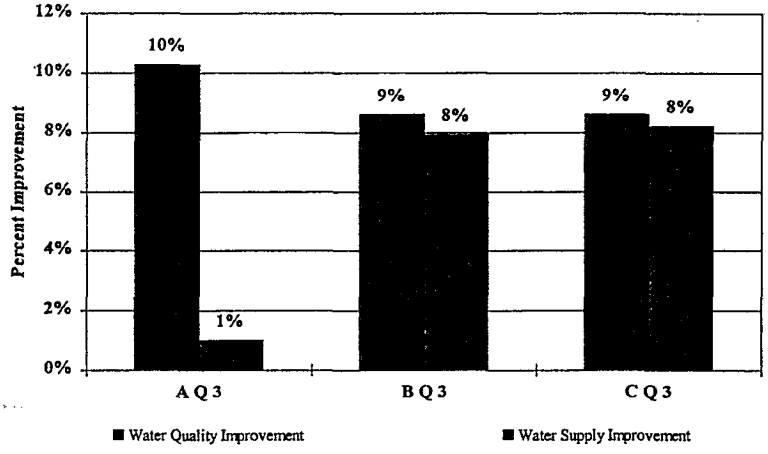
Delta Export Water Supply



General Conclusion

- While all resource mixes (A, B, & C) offer comparable water quality improvements and fisheries flexibility, B & C offer the additional benefits of improved access to Delta supplies

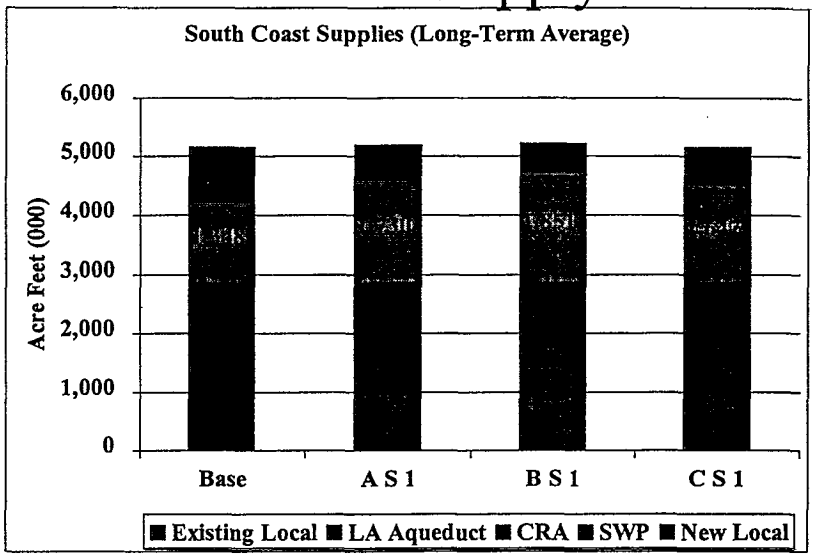
Quality, Fisheries, and Supply



Specific Observations

- The benefits to the South Coast are more predictable under Resource Mix A than Resource Mix B (less impact from Delta operational uncertainty)

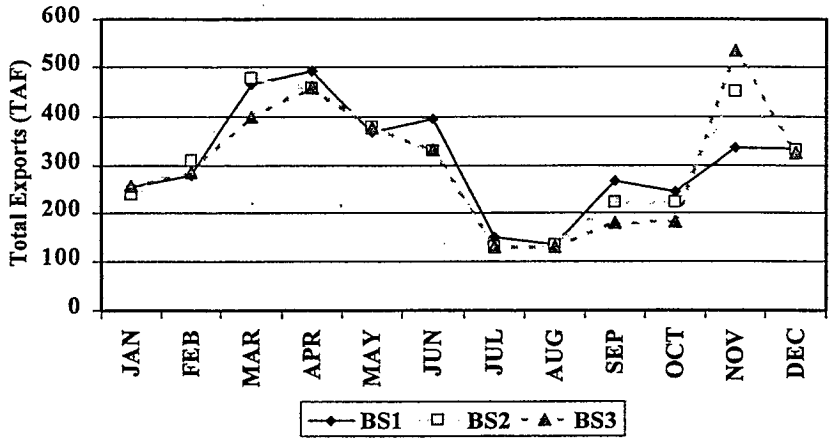
South Coast Water Supply



General Conclusions

- Changing export patterns to improve flexibility for Delta fisheries operations make deliveries to south of Delta water users more vulnerable

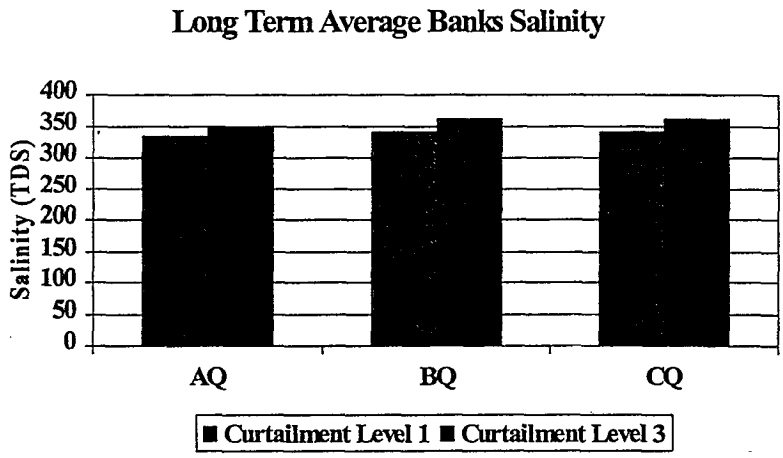
Monthly Exports vs. Curtailments



General Conclusions

- Increasing the number of days pumping is curtailed to provide flexibility for managing fisheries can degrade Delta water quality

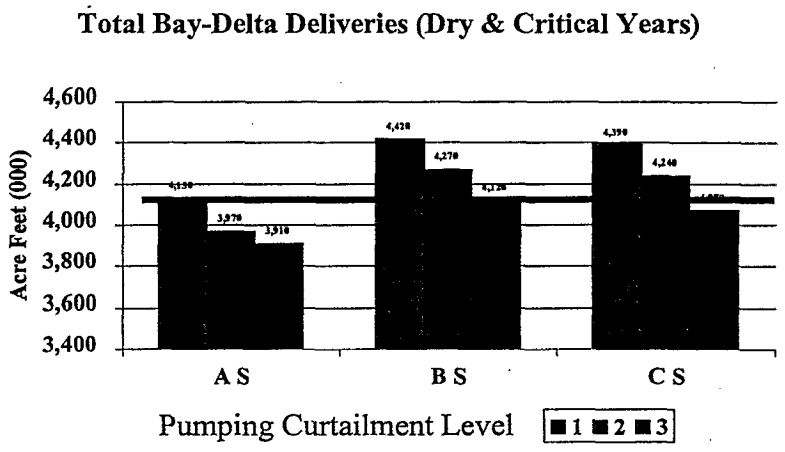
Salinity vs. Curtailment



General Conclusions

- Variability in Delta operations and pumping curtailment can affect total deliveries as significantly as the addition of surface storage

Changes in Deliveries



General Conclusions

- Securing delivery benefits of a water management strategy requires reducing operational uncertainty in the Delta

What's Next

- Complete the agricultural economic modeling
- Complete cost recovery analysis
- Complete analysis of employment effects
- Present completed scorecard for all performance measures

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