

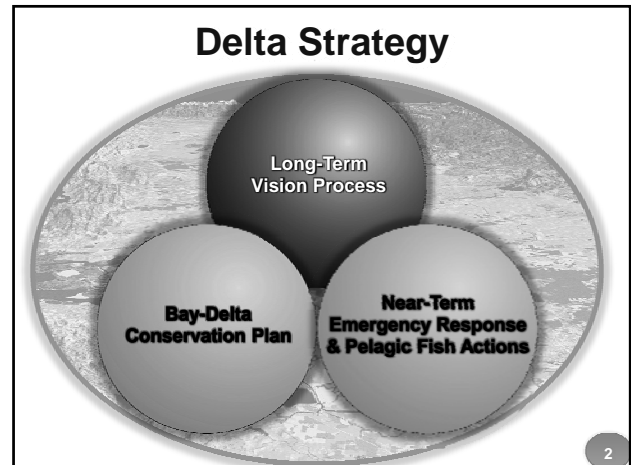
MWD BOARD -- BAY-DELTA WORKSHOP (7-24-2007)

Bay-Delta Update



Status – Delta Smelt & SWP Ops
Delta Processes & Decisions
Proposed Delta Actions
Summary

1



Timeline

- **Board Timeline**
 - Jul '07 – Review of Near & Mid-Term Delta Actions
 - Aug '07 – Review of Long-Term Delta Alternatives
 - Sep '07 – Direction on Near, Mid & Long-Term Alts.
- **Delta Vision Process**
 - Fall '07 – Recommended alternative
 - Jan '08 – Final Report released

3

Considerations

- 2008 is key year
- Legislative & administration agreement
- Alliances
- Metropolitan role

4

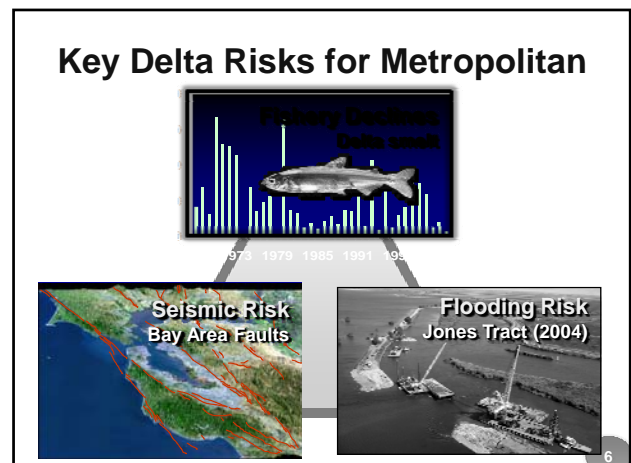
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5

Key Delta Risks for Metropolitan



Fishery Declines
Delta smelt

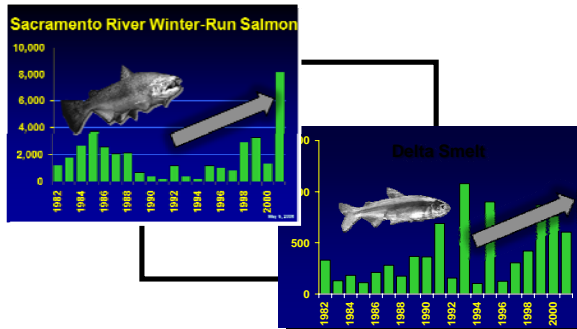
Seismic Risk
Bay Area Faults

Flooding Risk
Jones Tract (2004)

6

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Delta Fisheries – 2001 On the Road to Recovery



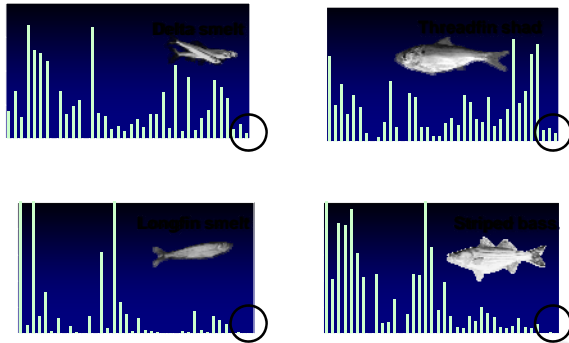
7

Delta Fisheries – 2006 A Downturn in Delta Smelt



8

... and Other Pelagic Species are Declining



2003
9

How Did This Happen ...

- Severe population decline was not foreseen
- Past declines have always bounced back
- Smelt were considered for delisting a few years ago

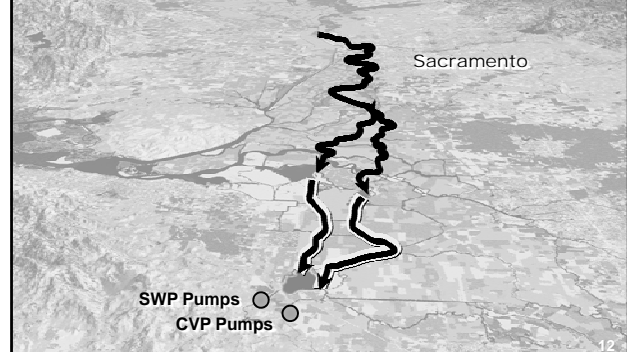
10

So what is the Cause? Ongoing Scientific Studies

- **Water movement**
 - Water diversion effects
 - Salinity location changes
- **Food**
 - Reduced zooplankton
 - Asian clam impacts on food availability
- **Toxics**
 - Microcystic blooms
 - Pesticides
- **Habitat**
 - Wetland reduction

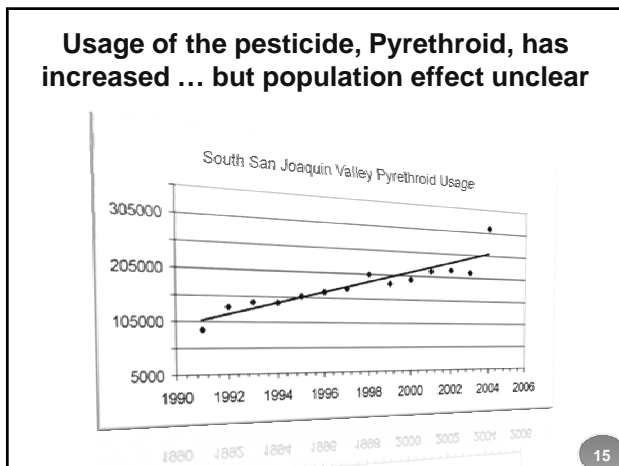
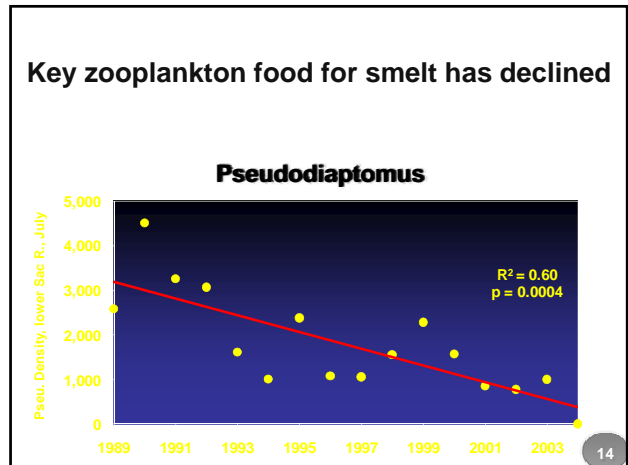
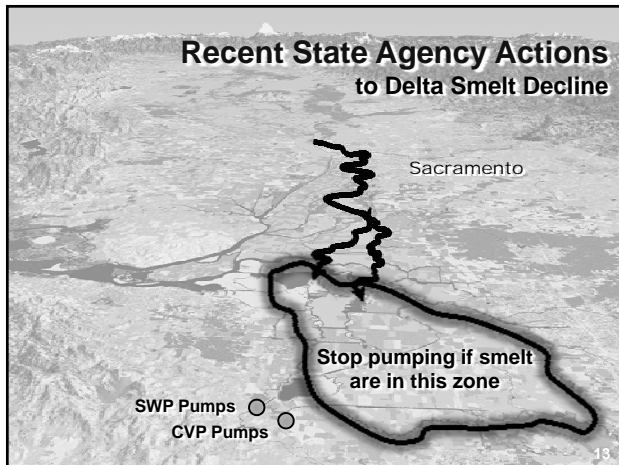
11

... there is a Relationship Between Fish Take at the Pumps & Flow Direction in South Delta

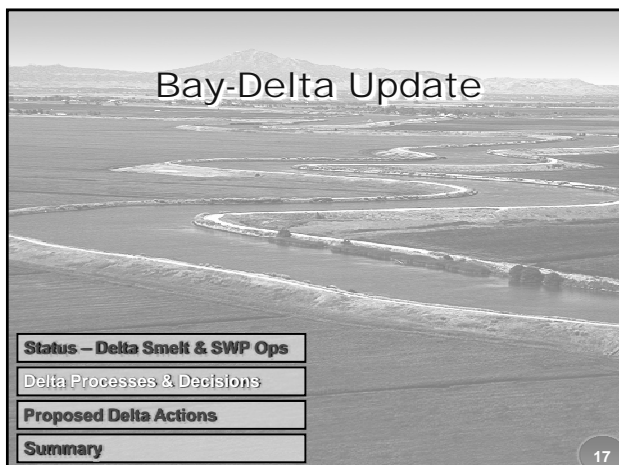


12

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- ### Summary of Science
- Population effects of potential causes unclear
 - Food location/production and pump location seem to contribute to the decline
 - Water quality showing more toxic events

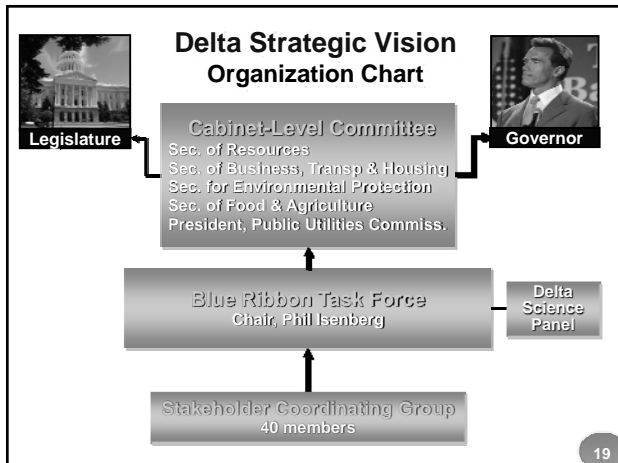


Delta Vision Overview

Sep 2006
Executive Order

Feb 2007
Members Appointed

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**Delta Vision
Blue Ribbon Task Force**

Task Force	Background
Monica Florian	Former Senior VP, Irvine Company
Richard Frank	Executive director, California Center for Enviro. Law & Policy at Boalt Law School
Phil Isenberg	Former Sacramento area Assemblyman
Tom McKernan	Chair, California Business Roundtable
Sunne McPeak	CEO, Calif. Emerging Technology Fund
William Reilly	Former administrator, U.S. EPA
Raymond Seed	Engineering professor, UC Berkeley

20

- Delta Strategic Vision Schedule**
- Fall 2007 – Stakeholder Group & Blue Ribbon Task Force recommendation
 - Jan 2008 – Governor recommendation
 - Oct 2008 – Strategic implementation plan
- 21

- Bay-Delta Conservation Plan**
- ESA Compliance Program
 - Directs focus on key fisheries
 - Long-term ESA assurances
 - Potential Bay-Delta "fix"
 - Comprehensive ecosystem restoration
-
- 22

- Bay-Delta Conservation Plan Participants**
- **Potentially Regulated Entities**
 - Dept. of Water Resources
 - US Bureau of Reclamation
 - Water Contractors
 - Metropolitan WD
 - Zone 7
 - Santa Clara Valley WD
 - Westlands WD
 - San Luis-Delta Mendota WA
 - Kern County WA
 - Mirant Delta
 - Other Delta Water Users
 - Contra Costa Water District
 - **Fishery Agencies**
 - Dept. of Fish & Game
 - NOAA Fisheries
 - US Fish & Wildlife Service
 - **Non-Governmental Organizations**
 - The Nature Conservancy
 - American Rivers
 - Natural Heritage Institute
 - Environmental Defense
 - Defenders of Wildlife
 - California Farm Bureau
 - The Bay Institute
- 23

- Bay-Delta Conservation Plan Key Activities & Schedule**
- Jul-Sep 07 – Evaluation of 4 conveyance alts
 - Aug 2007 – Convene Independent Science Panel
 - Sep 2007 – Initiate public outreach program
 - Dec 2007 – Select single conservation framework strategy
 - May-Aug '09 – Public review (Conservation Plan EIR/S)
 - Nov 2009 – Implementation agmt & decision to permit
- 24

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Legal Timeline

OCAP Biological Opinions for Smelt & Salmon

- May '07 – Court ruled bio opinion inadequate
- Jul '07 – Remedy submittals including State Water Contractors
- Aug '07 – Court hearing
- Aug '08 – Biological Opinion finalized

25

Bay-Delta Update

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26

MWD Board Delta Framework

- Near-Term Actions
- Mid-Term Actions
- Long-Term Actions

27

Near-Term Action Plan MWD Board Delta Framework

- 2007
 - Storage withdrawals, conservation
 - Delta Emergency Response Plan finalized

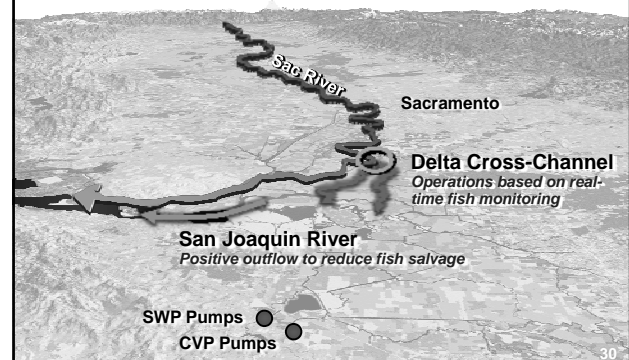
28

Near-Term Action Plan MWD Board Delta Framework

- 2008
 - Storage withdrawals, water purchases, conservation
 - Pre-placement of rock for emergency plan
 - Real-time operations to reduce impacts
 - Select a governance & finance strategy to implement and operate new Delta facilities

29

Near-Term Actions Real-Time Operations



30

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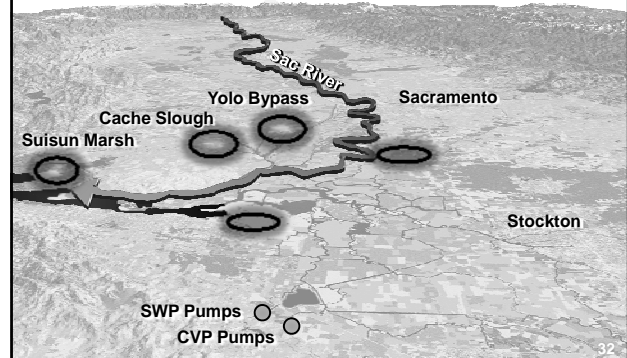
Near-Term Action Plan MWD Board Delta Framework

■ 2009

- Implement "no-regrets" eco-habitat projects
- Implement temporary Eco-Crescent / Middle River Corridor project
- Complete implementation agreement for Bay-Delta Conservation Plan

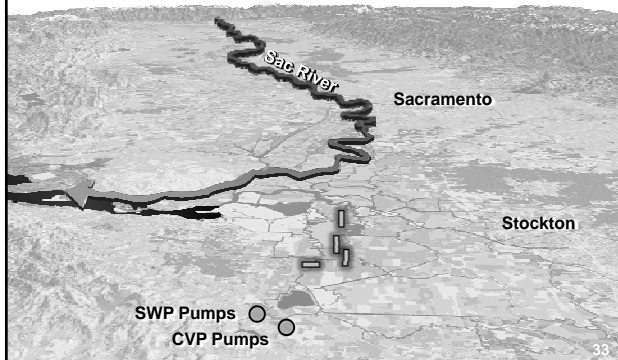
31

Near-Term Actions No Regrets Eco-Habitat Projects



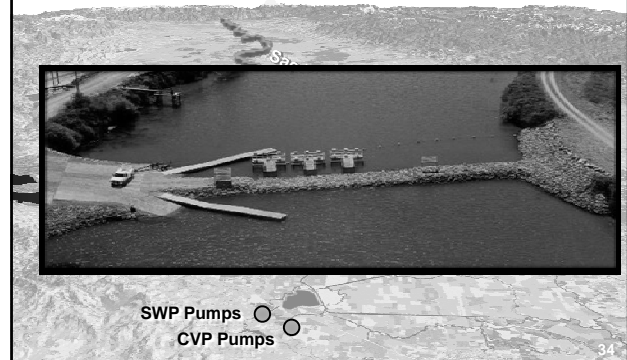
32

Near-Term Actions Eco-Crescent / Middle River Corridor



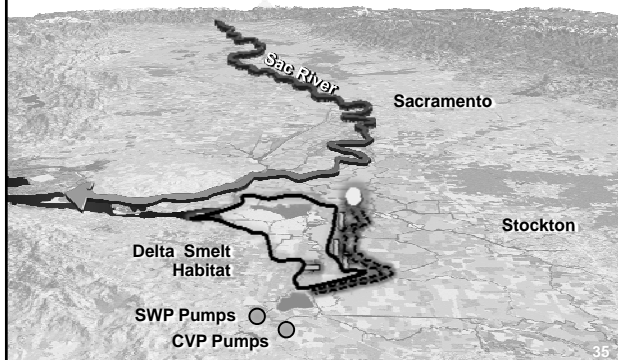
33

Near-Term Actions Eco-Crescent / Middle River Corridor



34

Near-Term Actions Eco-Crescent / Middle River Corridor



35

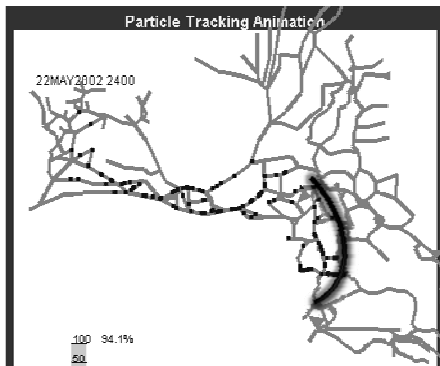
Estimate of Smelt Reaching Pumps

Release Location	Smelt Protective Option		
	Historic	Real Time Operations	Eco-Crescent Pathway
West Delta (in San Joaquin River)	0 – 20%	0 – 2%	0 – 1%
South Delta (in Old River)	77 – 99%	2 – 99%	0%

36

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Example of Smelt Movement with Eco-Crescent Concept



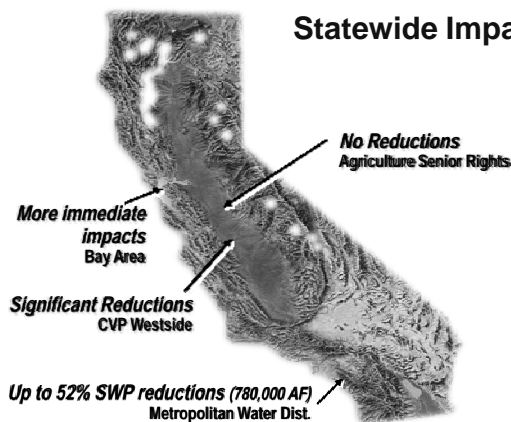
37

Comparison of Near-Term Actions Average Delivery Changes

- **Historical average deliveries**
 - SWP/CVP 5.9 million acre-ft.
- **Near-Term Options** (SWP/CVP delivery reductions)
 - Enviro interests 2.8 – 3.1 maf (52% reduction)
 - Fed/State 1.0 – 2.3 maf (38% reduction)
 - State Contractors 0.2 – 0.5 maf (7% reduction)

38

Statewide Impacts



39

Mid-Term Action Plan

- **2010**
 - Develop environmental documentation for long-term Delta Vision
 - Secure changes to SWRCB standards based on new Delta Vision
 - Continue fishery improvements
 - Complete Bay-Delta Conservation Plan & acquire permits assurances for long-term operations
 - Further eco-crescent implementation

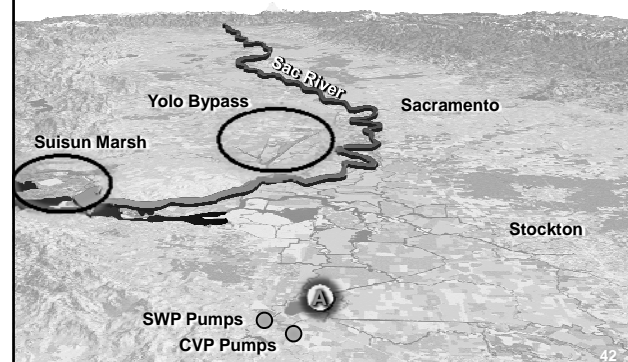
40

Long-Term Action Plan

- **2011 & after**
 - Implement Long-Term Delta Vision

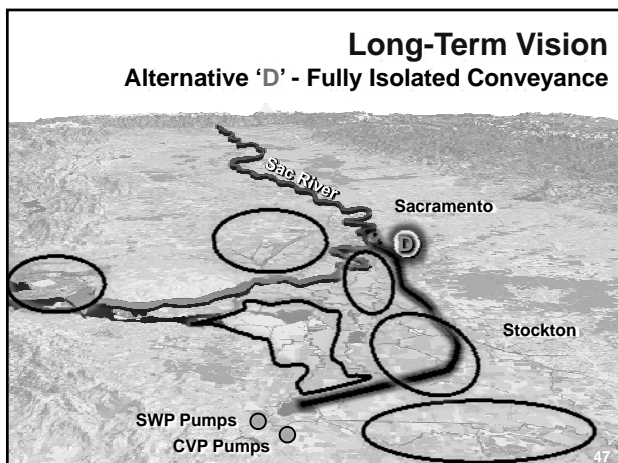
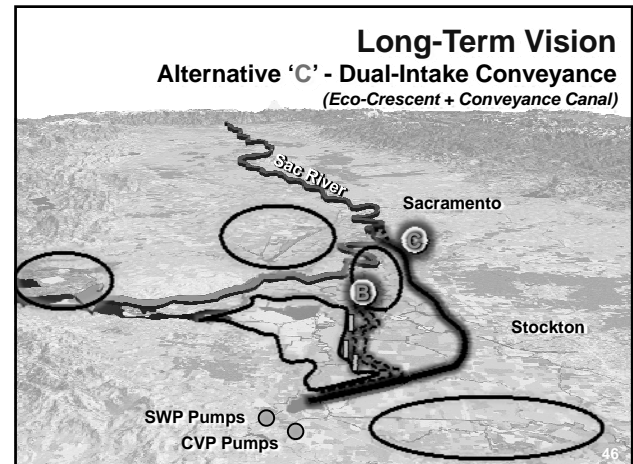
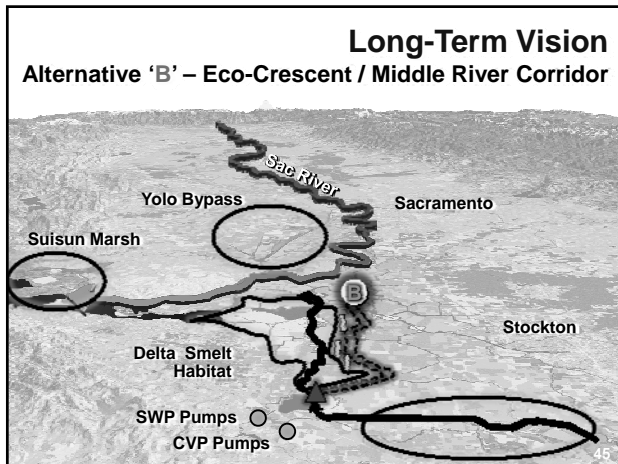
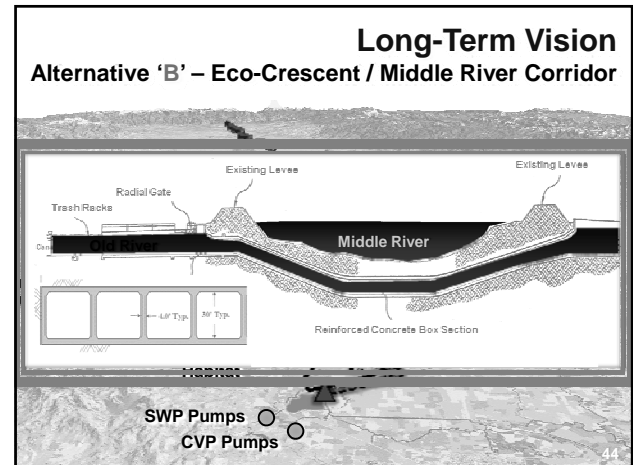
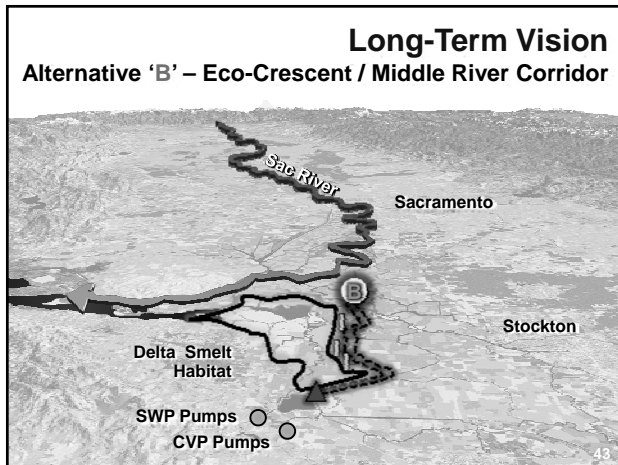
41

Long-Term Vision Alternative 'A' – Existing Delta with Fortified Levees



42

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Cost Comparison
Long-Term Alternatives

Alternative	Planning, Design, Construction	Mitigation
Existing Delta (w/ Fortified Levees)	Levee Rehab Costs TBD	TBD
Eco-Crescent	\$0.2 – 0.3 billion	TBD
Fully Isolated	\$3.3 – 3.8 billion	TBD
Dual-Intake (Eco-Crescent + Conveyance Canal)	\$3.8 – 4.4 billion	TBD

48

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Water Quality Comparison Long-Term Alternatives

	Existing	Eco-Crescent	Dual-Intake/Fully Isolated Facility (5,000 – 15,000 cfs)
Salinity (TDS)	234 mg/l	5% improvement	32 – 57% improvement
Bromide	200 ug/l	5% improvement	56 – 90% improvement

49

Water Reliability Comparison Long-Term Alternatives (SWP Deliveries)

Existing *	Eco-Crescent	Dual-Intake/Fully Isolated Facility
Low Reliability (3.0 MAF)	Medium Reliability (2.6 – 2.8 MAF)	High Reliability (3.0+ MAF **)

* Current supplies at risk due to fishery declines

** Preliminary studies – alternative capacities/sizes being modeled

50

Bay-Delta Update

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51

Preferred Options

■ Near-Term Actions

- Post-Event Emergency Response & Funding
- Real-Time Operations
- Temporary Eco-Crescent/Middle River Corridor

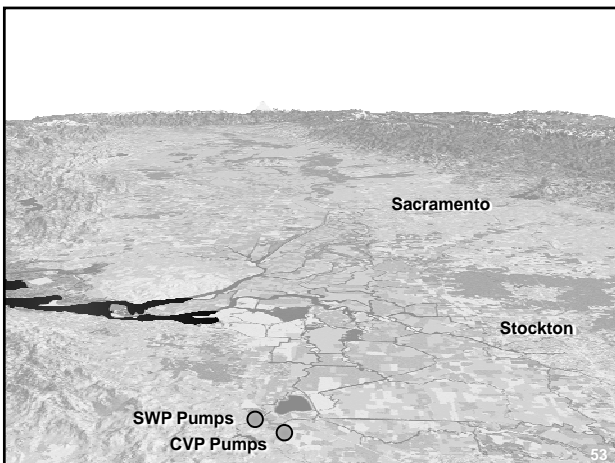
■ Mid-Term Actions

- No-regrets habitat improvements
- Eco-Crescent/Middle River Corridor with siphon
- Complete B-D Conservation Plan implementation agreement & acquire long-term permit assurances

■ Long-Term Delta Vision

- Governance & finance strategy
- Dual-Conveyance or Fully-Isolated Facility

52



53

Background slides NOT in presentation

54