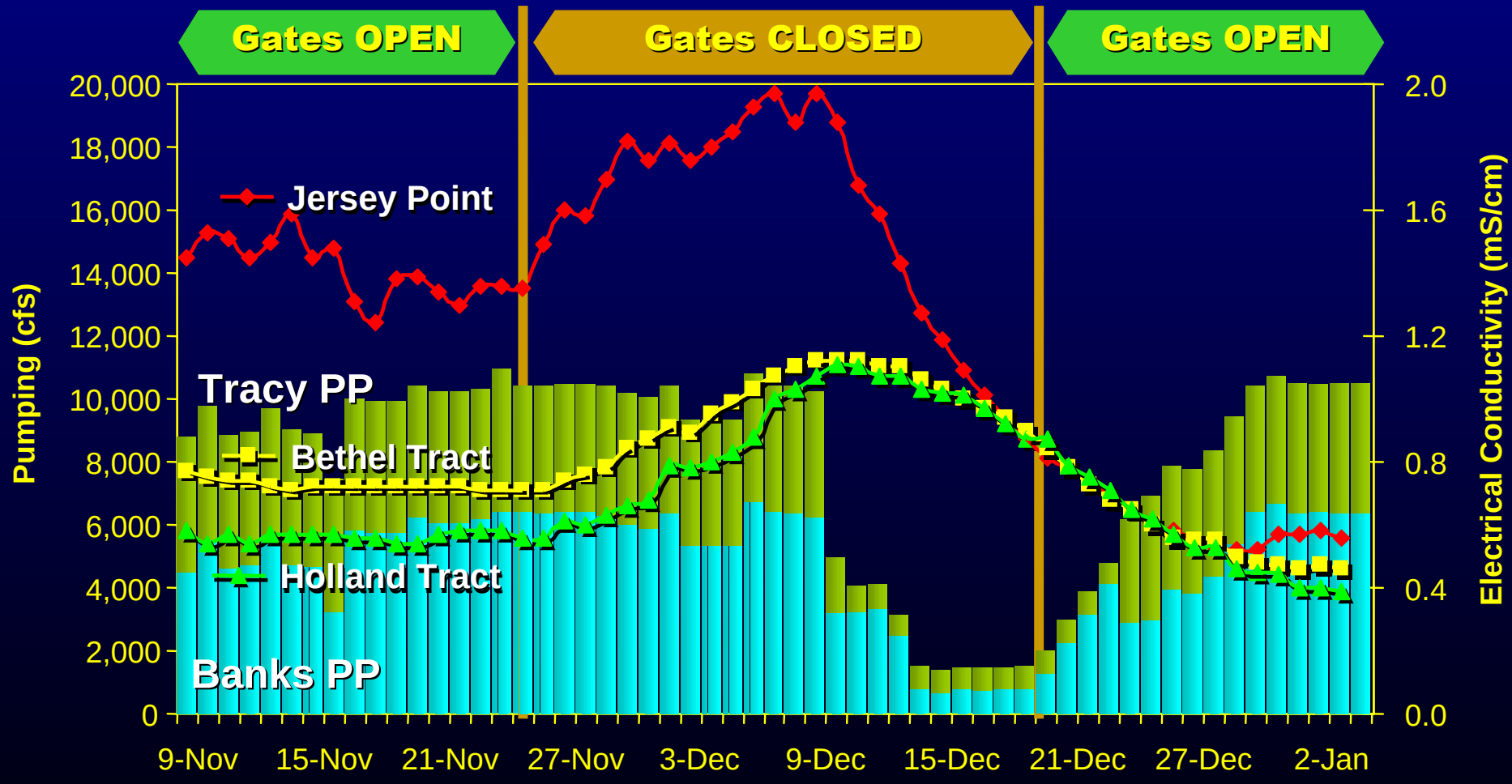
SWRCB Workshop on DCC & Salmon

Joint SWP & CVP Presentation

November 15, 2004

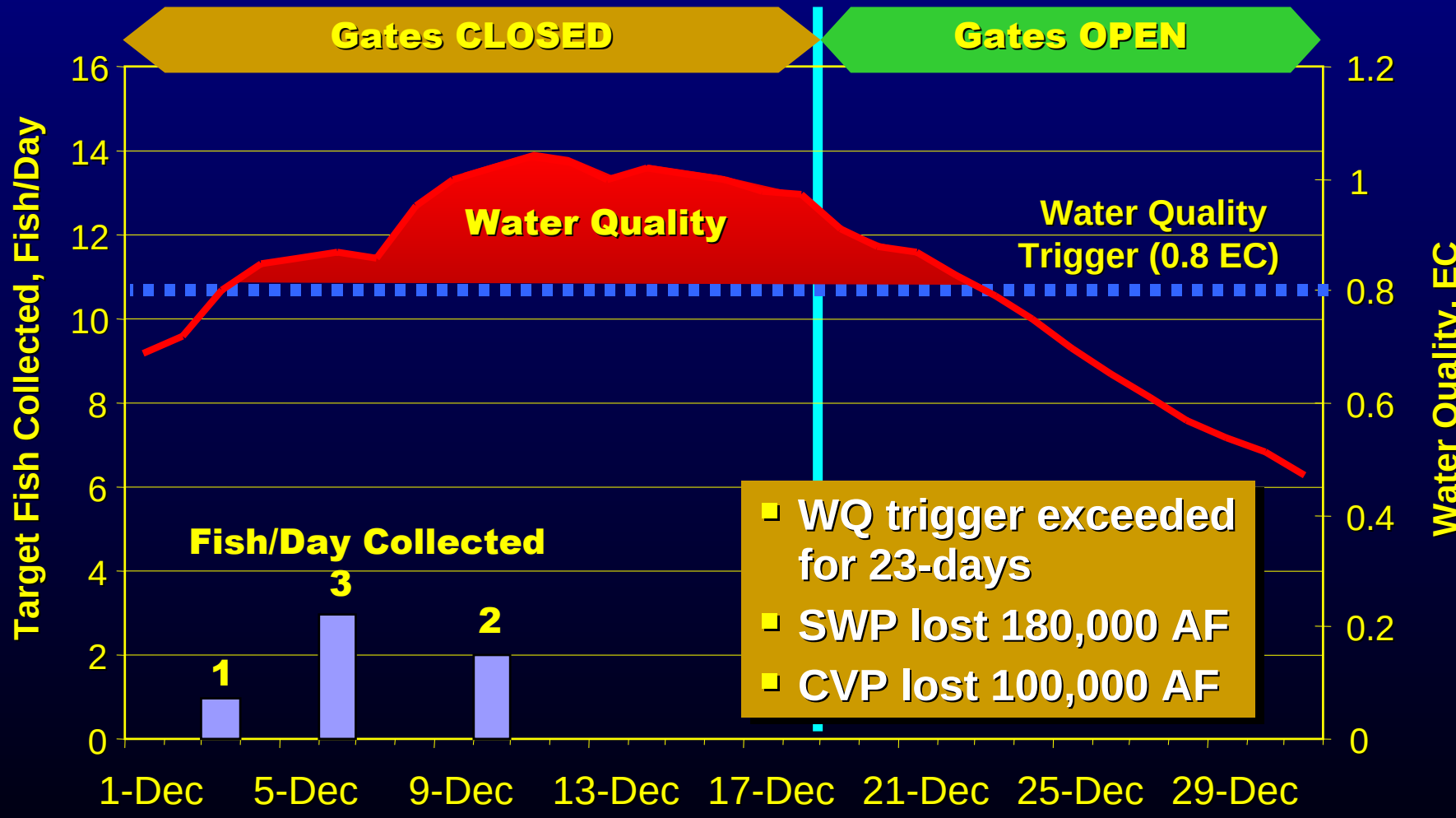
Delta X-Channel Operations – Dec 99

Water Quality vs. Fish Conflict

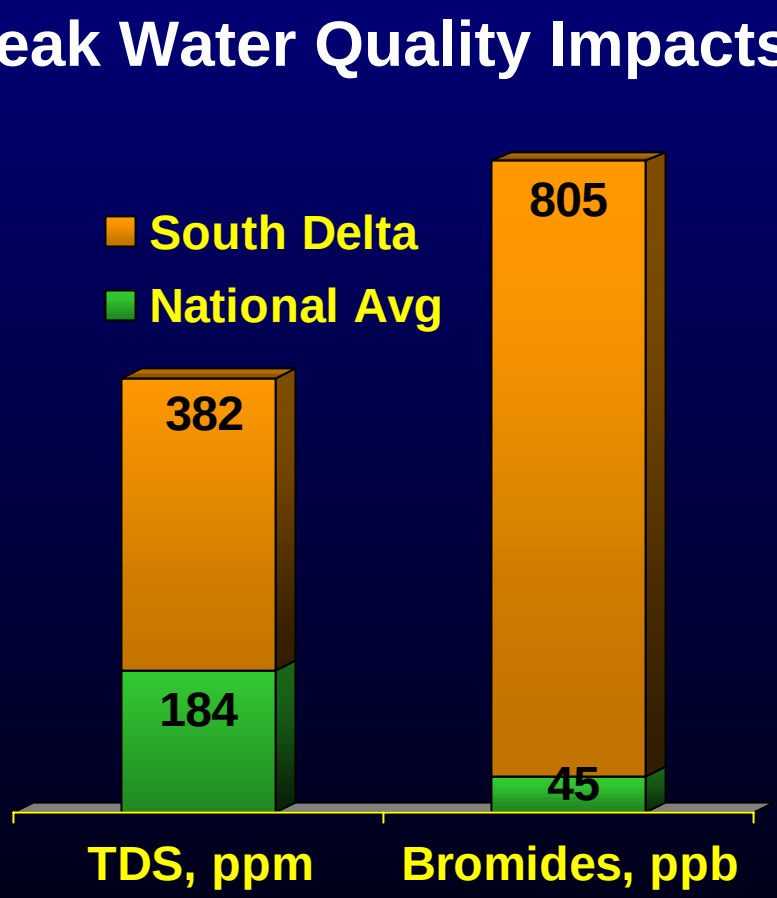


WQ Crisis with Little Benefit to Fish

December 1999

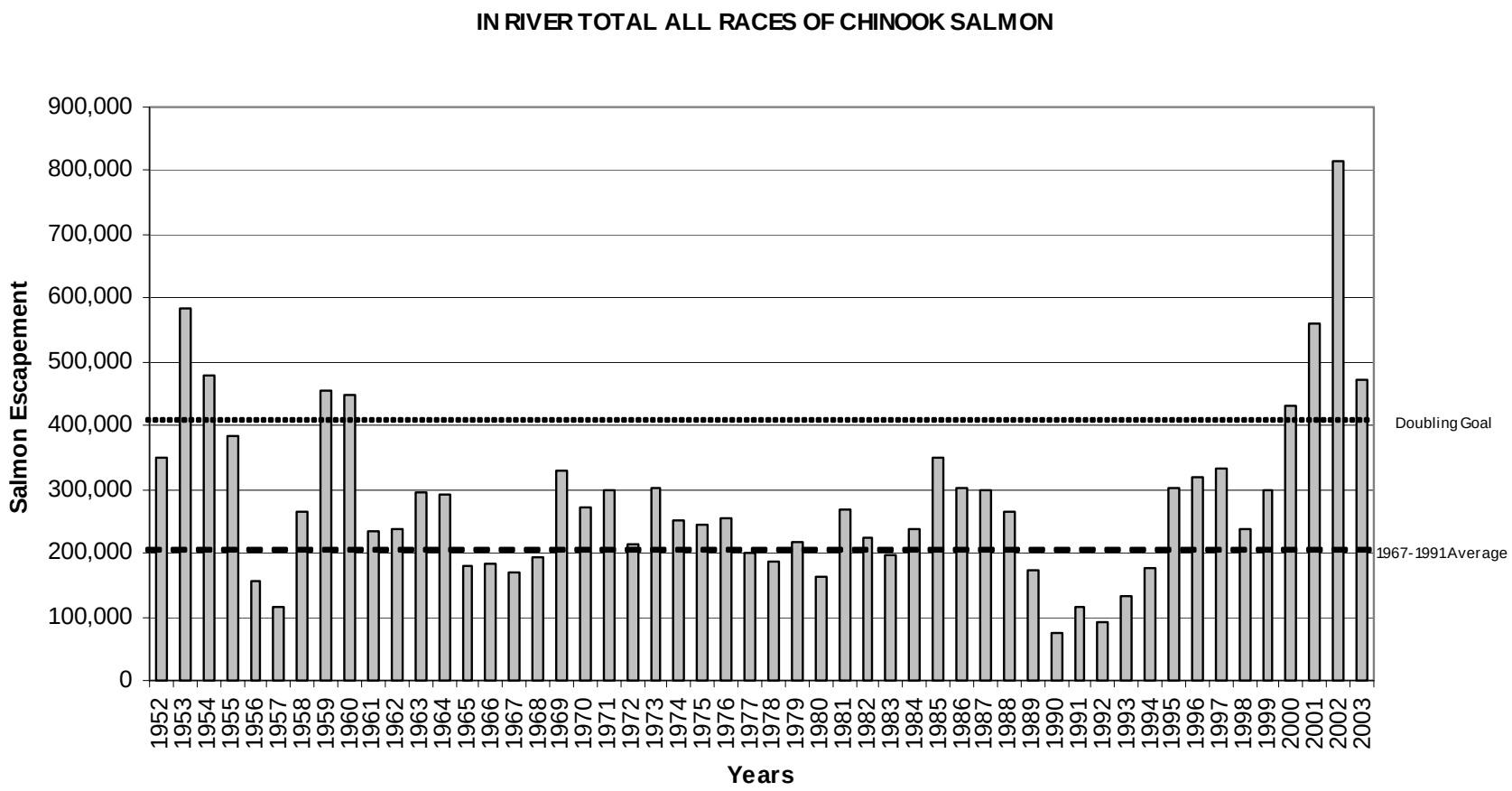


Impacts of Delta Cross Channel Operating Decisions in December 1999



WQ was the worst since 1977, a record drought year.

In River Total Escapement



Source: CDFG 2004 unpublished data.

Actions and Investigations to Benefit Central Valley Salmonids

- Passage barrier removal/fish ladders
- Positive barrier fish screens
- Habitat enhancement
  - Spawning gravel
  - Riparian vegetation
  - Instream cover
  - Instream flows
  - Water temperature
  - Sediment loading
  - Watershed management

- Modifications to hatchery operations
- Harvest regulations/enforcement
- Scientific investigations
  - Delta cross-channel
  - VAMP
  - CHTR
  - Real-time monitoring (DAT)
  - Georgiana Slough acoustic barrier
  - Many others

Georgiana Slough Acoustic Barrier Applied Research Project: Results of 1994 Phase II Field Tests

Prepared by
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For
Department of Water Resources
and
U.S. Bureau of Reclamation

Technical Report 44
May 1996

Interagency Ecological Program
for the
San Francisco Bay/Delta Estuary

A Cooperative Program of:

California Department of Water Resources
State Water Resources Control Board
U.S. Bureau of Reclamation
U.S. Army Corps of Engineers
California Department of Fish and Game
U.S. Fish and Wildlife Service
U.S. Geological Survey
U.S. Environmental Protection Agency
National Marine Fisheries Service

CALFED Watershed Program 2000-2001 PSP
Funding Decisions

Proposal #	Project Title	Project Applicant	Funds Requested	Award Amount
53	Implementation of BMPs to Mitigate OP Pesticides Runoff	Agricultural Research Consulting	$400,000	$400,000
75	ARC Water Quality Assessment: South Fork American and Consumnes River Basins	American River Conservancy	$96,700	$96,700
152	Citizen Involvement and Regional Outreach Program	Aquatic Outreach Institute	$608,132	$608,132
96	San Francisquito Creek Watershed Enhancement Program	Bay Area Action/Peninsula Conservation Center Foundation	$250,225	$250,225
70	Yosemite Watershed Restoration Assessment Project	Bay View-Hunters Point Advocates/ARC Ecology	$771,000	$771,000
32	Butte Creek Watershed Floodplain Management Plan	Butte County Flood Control/Butte Creek Watershed Conservancy	$582,510	$582,510
98	A Management Program for Tamarix & Arundo donax on Cache Creek	Cache Creek Conservancy	$222,200	$222,200
25	Calaveras River Watershed Management Plan Implementation Program (Phase II)	Calaveras County Water District	$300,000	$195,000
67	South Yuba River Comprehensive Management Plan	California State Parks	$524,671	$524,671
81	Capay Valley Community Action Plan	Capay Valley Vision, Inc.	$40,000	$40,000
88	Cherokee Watershed Organizational Capacity and Citizen Monitoring Project	Cherokee Coordinated Resource Management and Planning Group	$93,815	$93,815
1	Lagoon Valley Watershed Restoration	City of Vacaville - Community Services Department	$431,000	$431,000
111	Lower Mokelumne River Watershed Education Project	City of Lodi/Lodi Lake Nature Area Docent Council	$70,140	$70,140
23	City of Roseville Creek and Riparian Management and Restoration Plan	City of Roseville, Community Development Department	$228,470	$228,470
73	Yolo Bypass Watershed Planning Project	City of Woodland	$288,081	$288,081

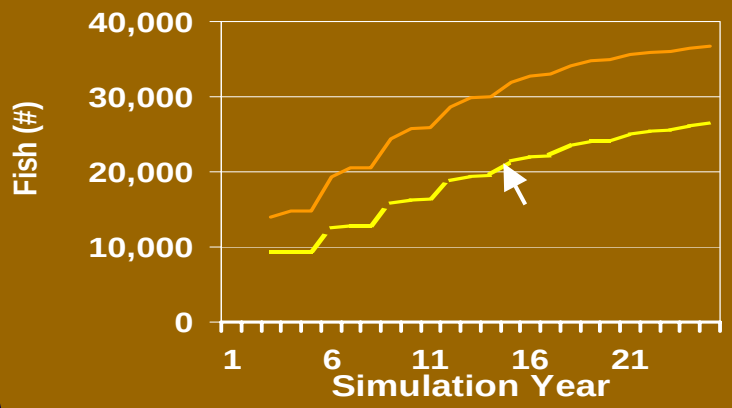
Ecosystem Restoration Program

A Groundbreaking Approach To Ecosystem Enhancement

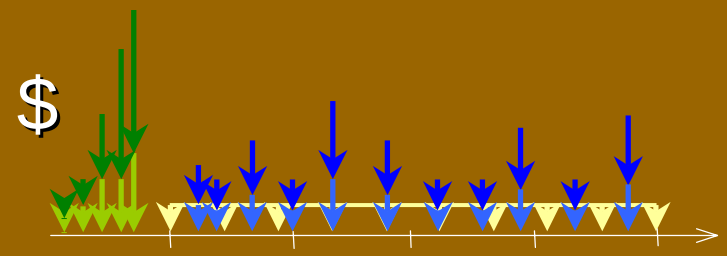
- **Past Actions**
  - $282M pre-ROD
  - $650M post-ROD
  - 400+ eco projects
- **Future Actions**
  - $1.5B over 10-yrs
  - 609 eco projects

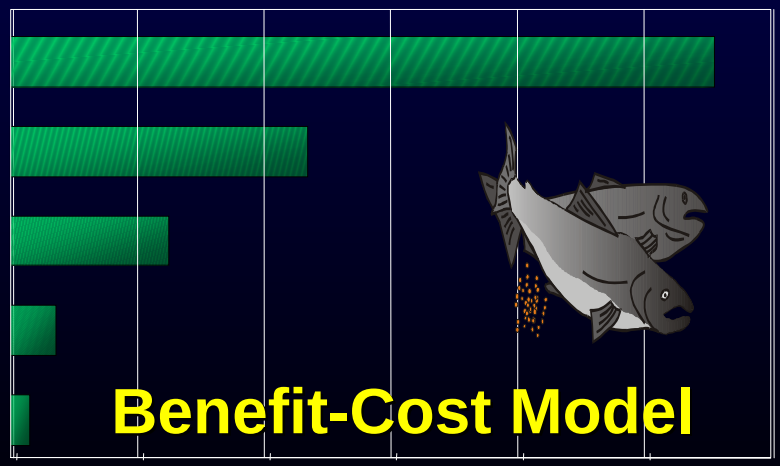
Benefit-Cost Modeling of CALFED Fish Actions

Estimate Fish Benefits

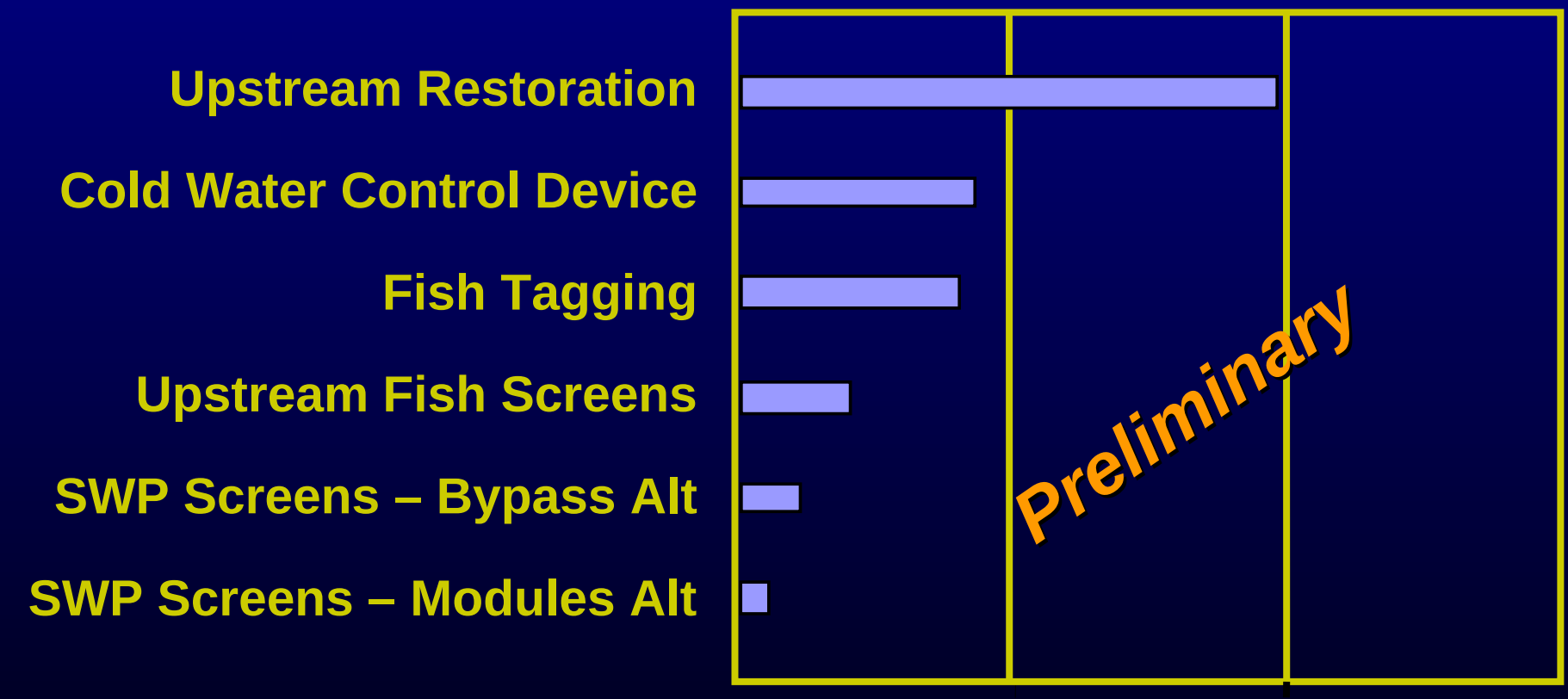


Develop Cash Flow





Fish Benefit Index



Summary

- Interdisciplinary integrated programs – fisheries, water quality, hydrology, engineering, operations
- Many enhancement projects over a wide geographic area – upstream and within delta
- Monitoring to inform management decisions
- Long-term perspective (e.g., VAMP 12 years)
- Watershed approach to address life cycle and limiting factors
- Evidence of promising trends but preliminary