North-of-the-Delta Offstream Storage

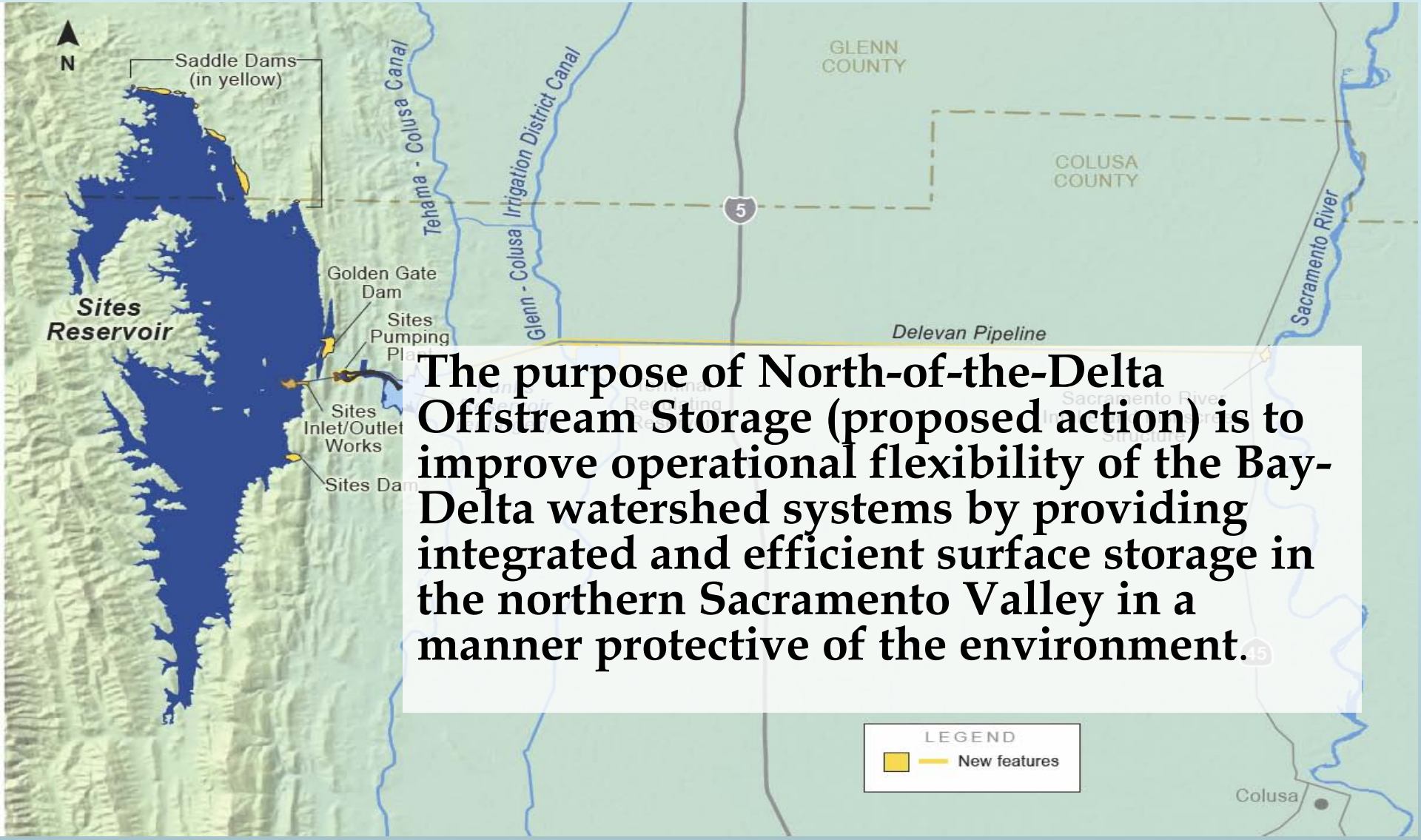
California Water Commission Storage Workshop

October 25, 2011

Foundational Formulation Principles:

- Multiple Objectives Meet Multiple Needs
- California's Large Water Systems have become Inflexible
- Integration with Large Water Systems is Essential
- Must Perform in "Uncertain Future" Scenarios
- Utilize Existing Infrastructure
- Minimize the "Footprint"

Purpose Statement



The purpose of North-of-the-Delta Offstream Storage (proposed action) is to improve operational flexibility of the Bay-Delta watershed systems by providing integrated and efficient surface storage in the northern Sacramento Valley in a manner protective of the environment.

Objectives

North-of-the-Delta Offstream Storage

"Public Benefit" Objectives:

- Ecosystem Improvements [79743(a)(1)] - Must be 50% of PB's
- Water Quality [79743(a)(2)]
- Emergency Response [79743(a)(4)]
- Recreation [79743(a)(5)]
- Flood Control [79743(a)(3)]

Non-Public Benefit Objectives:

- Water Supply/Quality: M&I and Ag [79745(a)(2)]
- Flexible Generation Hydropower (USBR)

Water Ecosystem Actions: Fish Survival

- Improve Coldwater Pools (Storage)
  - Shasta Lake
  - Lake Oroville
  - Folsom Lake
  - Trinity Lake
- Supplemental Flows
  - Improve temperatures in Sacramento River
  - Stabilize Flows in Sacramento River
  - Stabilize Flows in American River
  - Supplement Delta outflow for Smelt

Sites Reservoir – Conveyance System

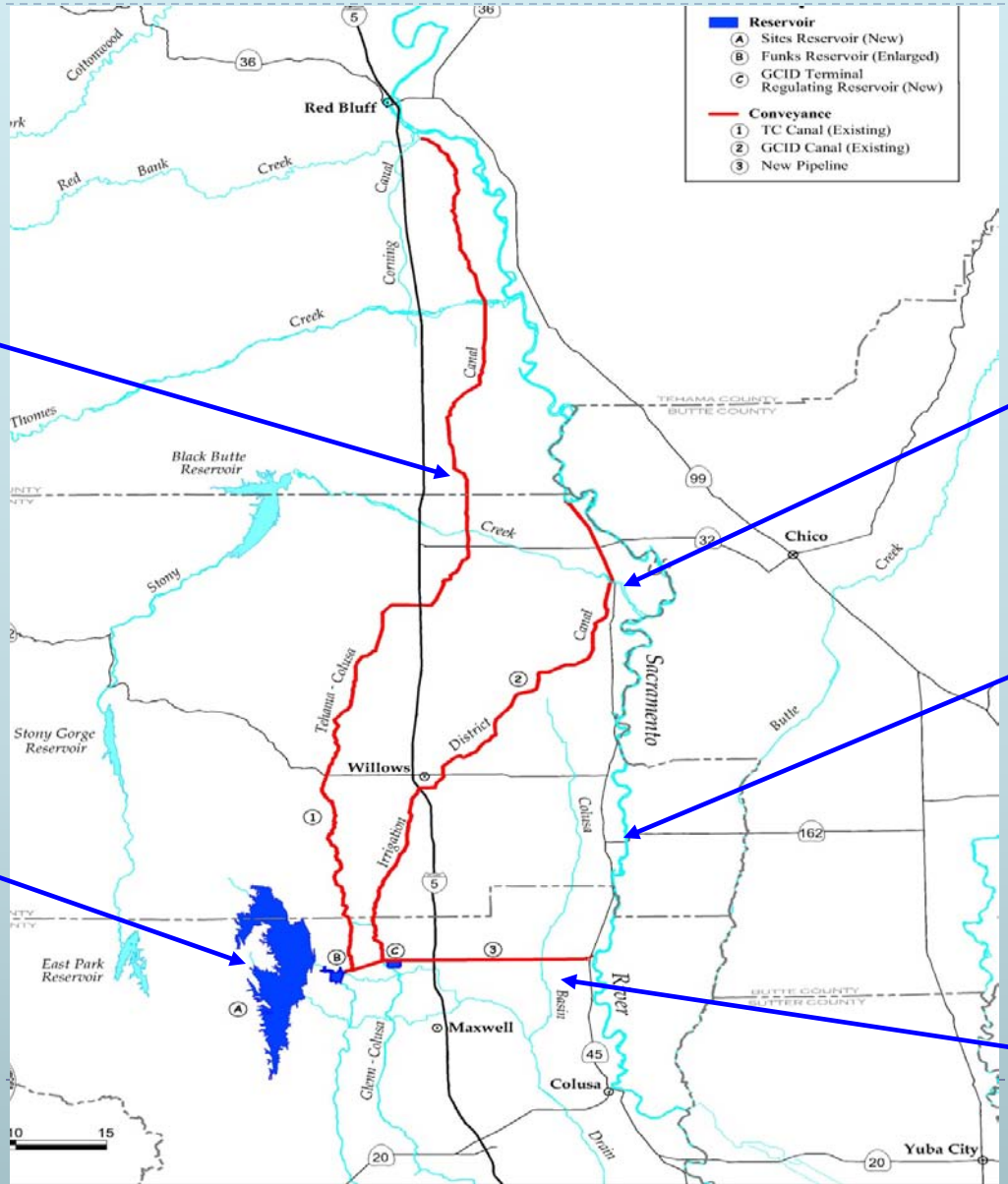
Tehama Colusa Canal

GCID Canal

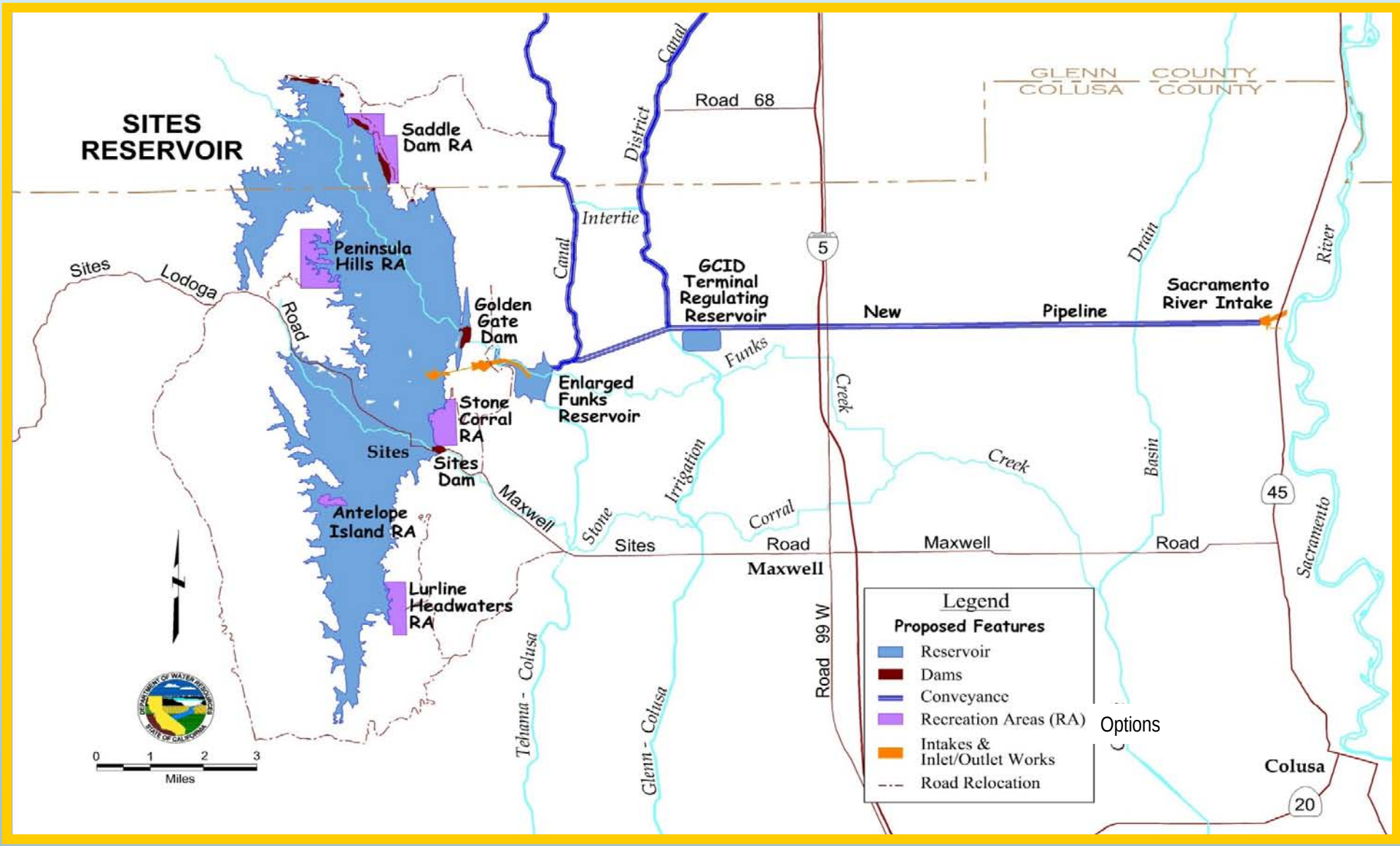
Sacramento River

Sites Reservoir

New Pipeline



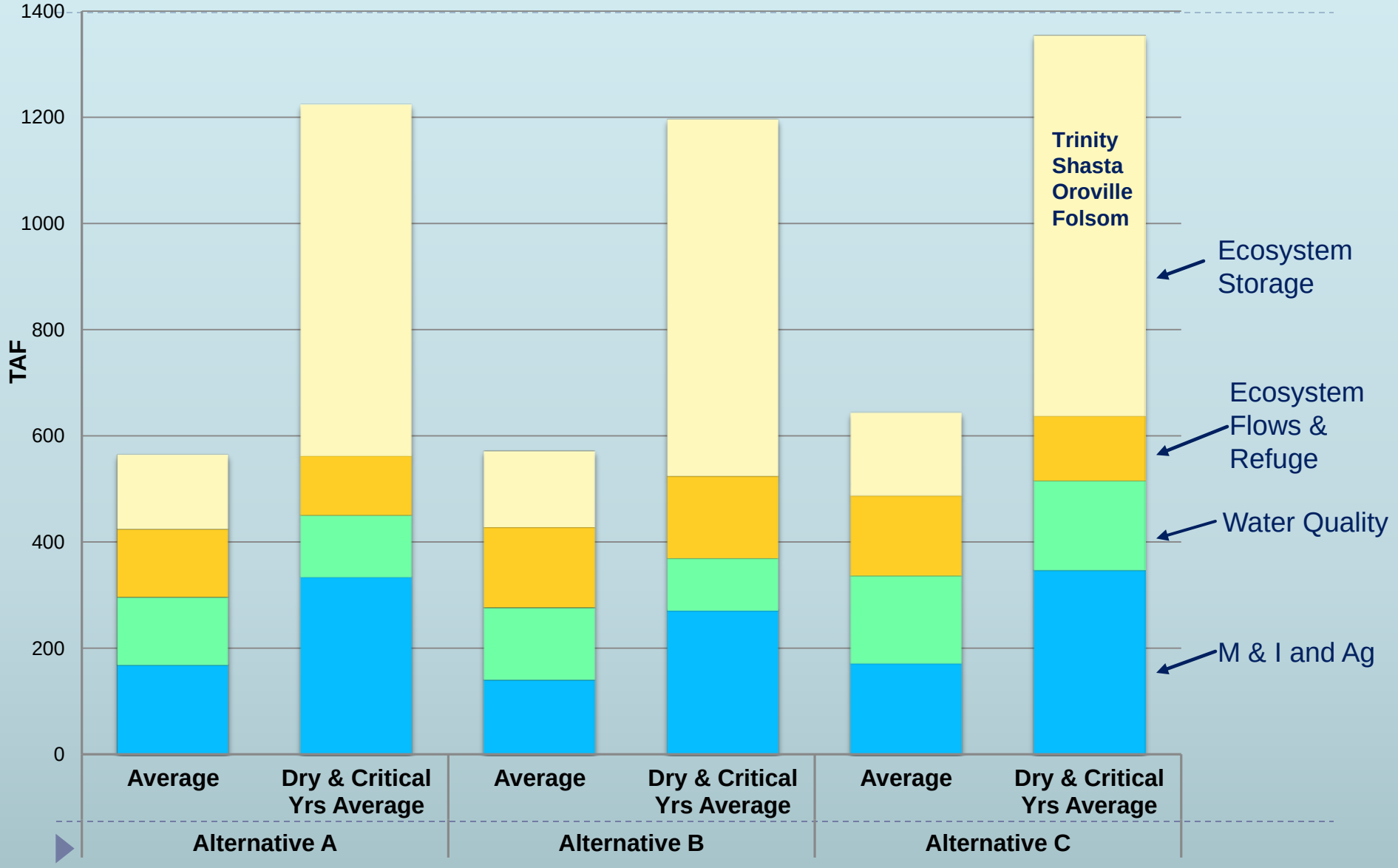
Sites Reservoir - Key Project Features



NODOS Alternatives – For Detailed Evaluation

	A	B	C
Sites Reservoir Size	1.2 MAF	1.8 MAF	1.8 MAF
Conveyances			
Tehama-Colusa Canal	2,100 CFS	2,100 CFS	2,100 CFS
GCID Canal	1,800 CFS	1,800 CFS	1,800 CFS
New Delevan Pipeline • Release	1,500 CFS	1,500 CFS	1,500 CFS
• Diversion	2,000 CFS	No Fish Screen & Pump	2,000 CFS

Water Benefits



Uncertain Future: NODOS Works with Existing and New Delta Conveyance

- NODOS operations assume existing Delta conveyance
  - Operations emphasize improving dry year water supply reliability and dry year cold water pools
  - Capacity is available at existing Delta conveyance in dry years

- Preliminary modeling studies show that NODOS performs similarly with new Delta conveyance
  - Water quality benefit is less effective when exports shift to a northern Delta diversion location
  - Adaptation: water released for water quality benefit is shifted to water supply and ecosystem

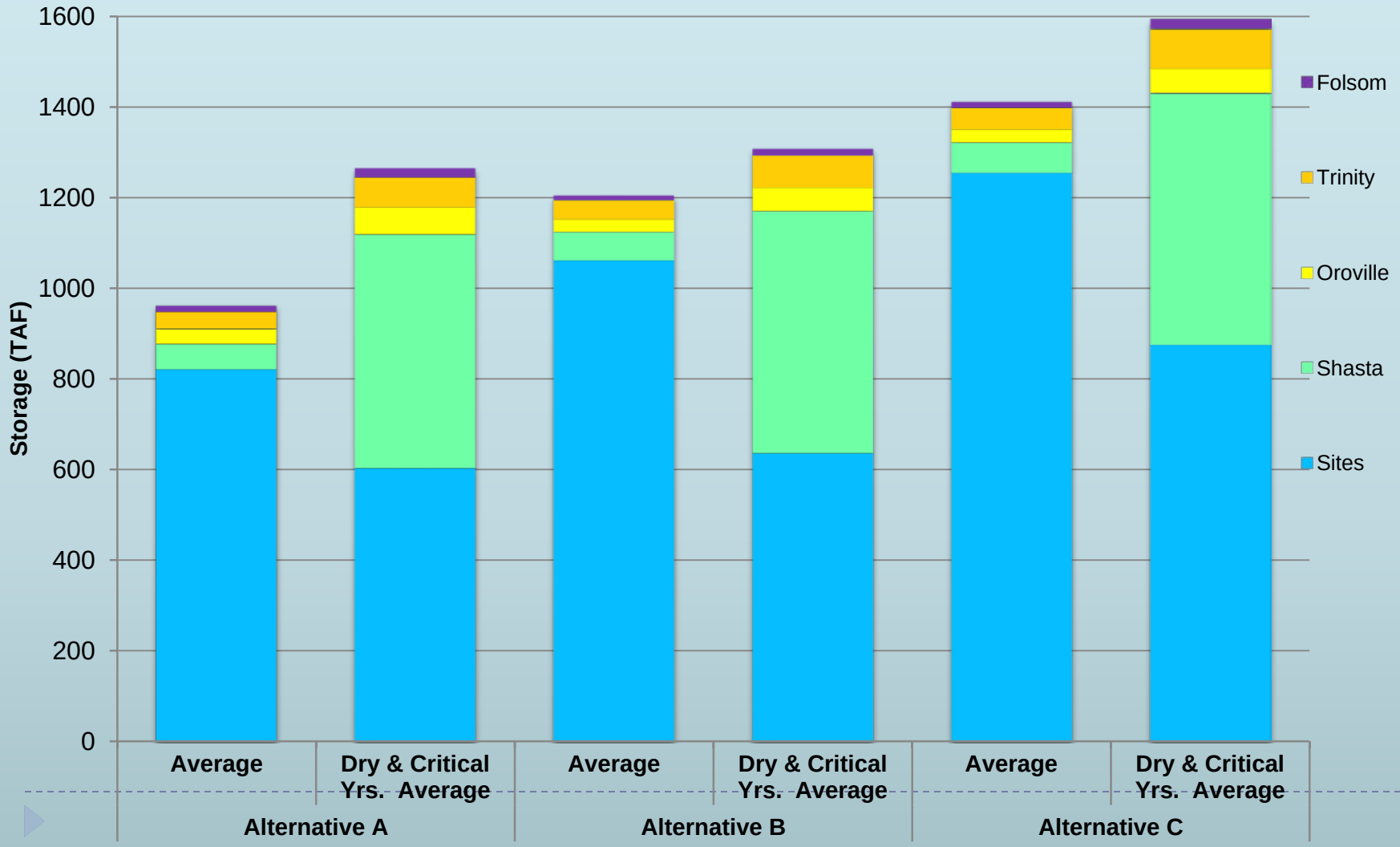
System Flexibility and Sustainability

The Central Valley Project and State Water Project were originally very flexible

- Flexibility Eroded Over Time Due to :
  - Increases in Uses
  - Increases in Contractual Obligations
  - Endangered Species and Refuge Supplies
  - Climate Change

- Storage is an indicator of system flexibility

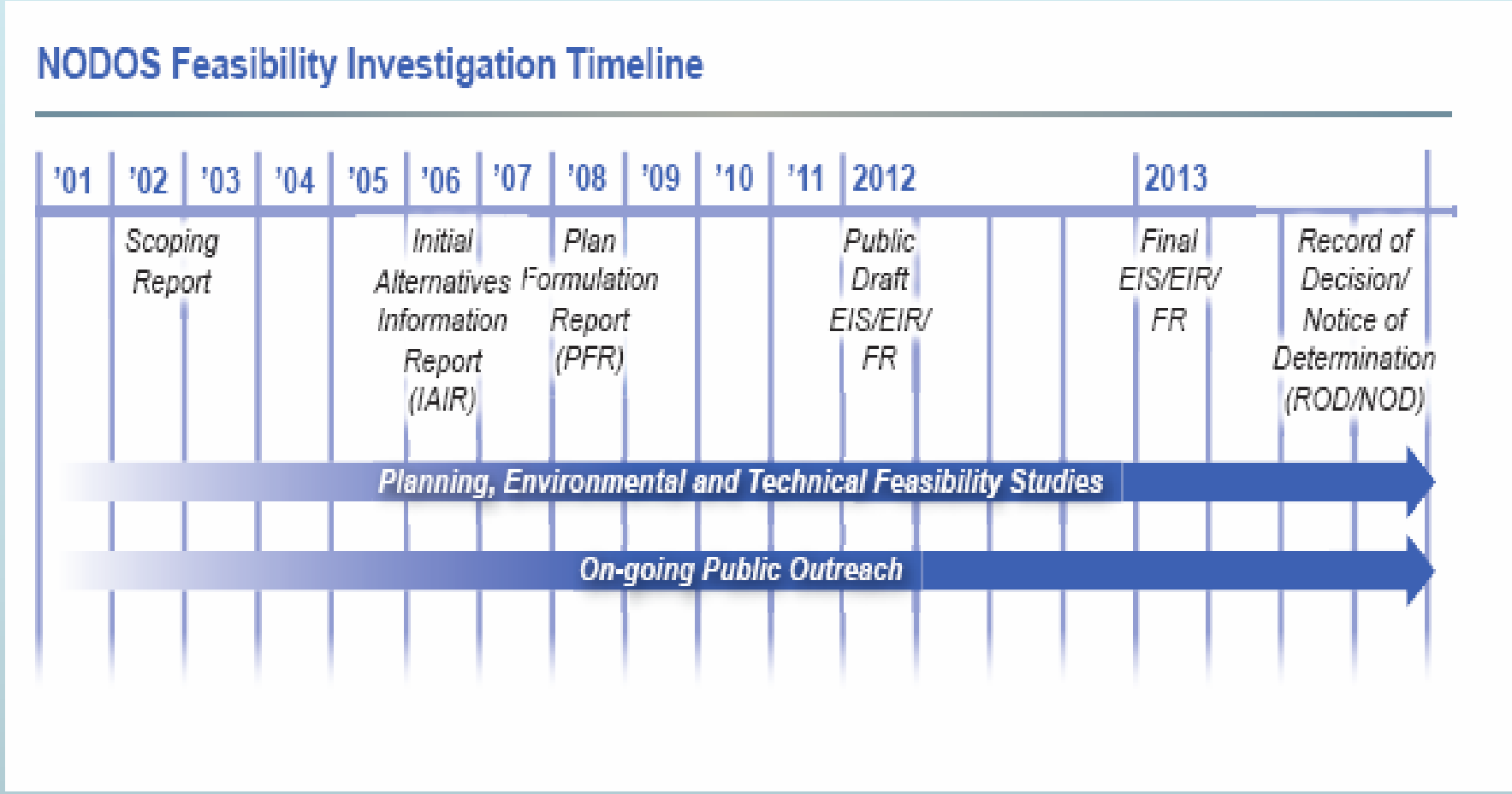
Sites Contribution to Operational Flexibility (Additional Water in Storage, October – September)



Sites JPA

- Authorized under Section 79749(a).
- The purpose of the JPA is to establish a public entity to design, acquire, manage and operate Sites Reservoir and related facilities to improve the operation of the state's water system and provide improvements in ecosystem and water quality conditions of the Sacramento River system and the Bay-Delta, as well as provide flood control and other benefits for the State of California.

Schedule


NODOS Feasibility Investigation Timeline
'01
'02
'03
'04
'05
'06
'07
'08
'09
'10
'11
2012
2013
Scoping Report
Initial Alternatives Information Report (IAIR)
Plan Formulation Report (PFR)
Public Draft EIS/EIR/ FR
Final EIS/EIR/ FR
Record of Decision/ Notice of Determination (ROD/NOD)
Planning, Environmental and Technical Feasibility Studies
On-going Public Outreach

Questions & Comments