



Topic: **Reservoir Committee Agenda Item 2-2** **2018 July 20**

Subject: **Prop 1 WSIP application and WIIN Act funding**

Requested Action:

No action requested. Informational item.

Detailed Description/Background:

Staff to give a status update on the Sites Project's Prop 1 WSIP application and the ongoing coordination activities with the California Water Commission and to discuss staff activities to secure federal WIIN Act funding.

Prior Reservoir Committee Action:

None.

Fiscal Impact/Funding Source:

None.

Staff Contact:

Jim Watson

Attachments:

Attachment A – June 28, 2018 Presentation to the California Water Commission

Agenda Item 9E: Sites Project

Water Storage Investment Program: Component Scores and Determinations

California Water Commission: June 28, 2018

Requested Actions:

1. Award points for:
 - a. Non-monetized benefits
 - b. Resilience
 - c. Implementation Risk
2. Have the B/C ratio include the federal benefit
3. Determine Sites is cost-effective
4. **Fully fund to maximize the environmental water budget**

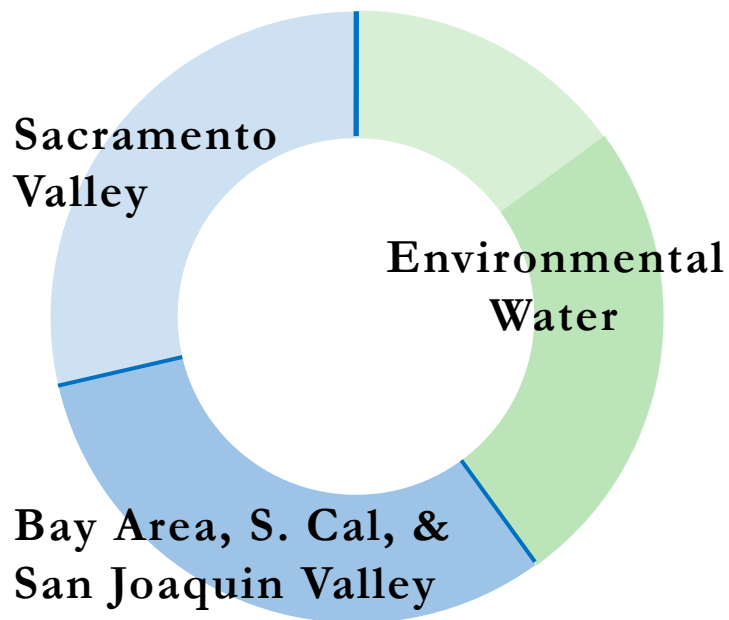
Sites:

- A new water management tool that is intentionally operated to reduce the impacts of droughts
- A flexible and adaptable ecosystem water budget to be managed by the State
- Regional scale enables flows to improve conditions on the Sacramento River, Feather River, Lower American River, and in the Delta
- Operates to flexibly adapt to future climate conditions to provide water to the highest environmental needs when they need it most
- Is a modern, environmentally sound water storage solution

This opportunity should not be lost

What is the Sites Project?

A new sustainable surface water management tool for California

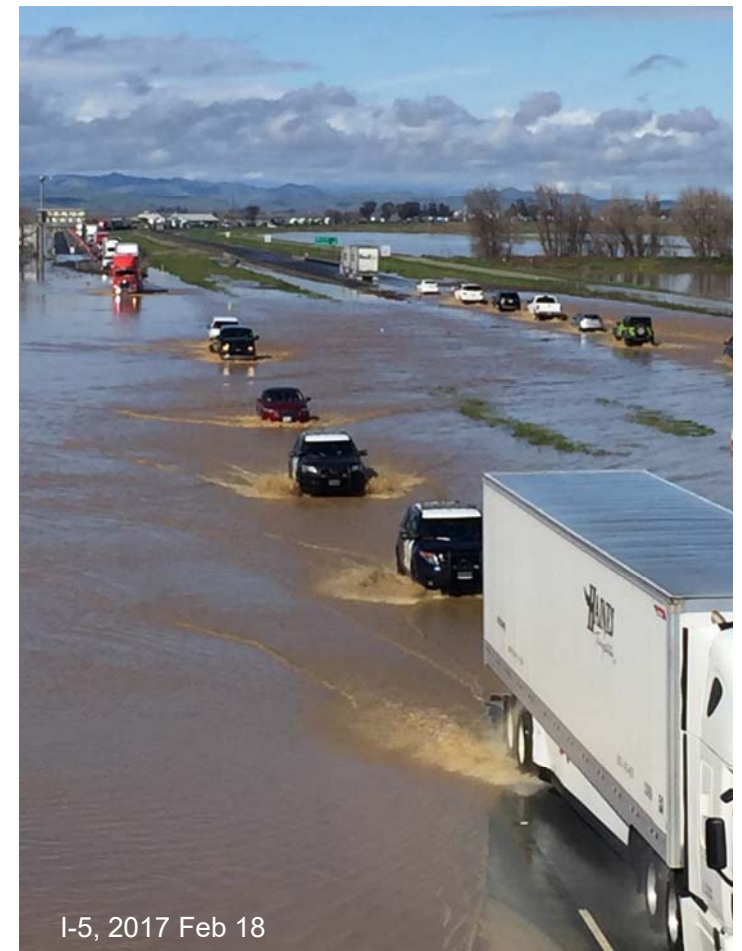


- Significant increase in water storage for use in droughts
- Provides multiple, non-monetized benefits
- Adaptable and flexible operations
- Integrates with SGMA
- Provides environmental water when its most needed

Non-Monetized Benefits:

Sites provides not monetized physical benefits that were not acknowledged:

- Emergency Response to Delta failures & wildfire suppression
- Flood Control: Eliminates closure of I-5 and the railroad
- A large pool of NEW water upstream from the Delta
- Measures to reduce environmental effects
 - ✓ Pulse flow protection
 - ✓ Real time monitoring
 - ✓ Adaptive management



Non-Monetized Benefits:

Sites provides a significant environmental benefit that could not be monetized and was not acknowledged:

- Management of the environmental water budget was not evaluated
- Management Benefit to State:
 - ✓ State manages its share of the reservoir
 - ✓ State decides how, when, and where to use the State's water

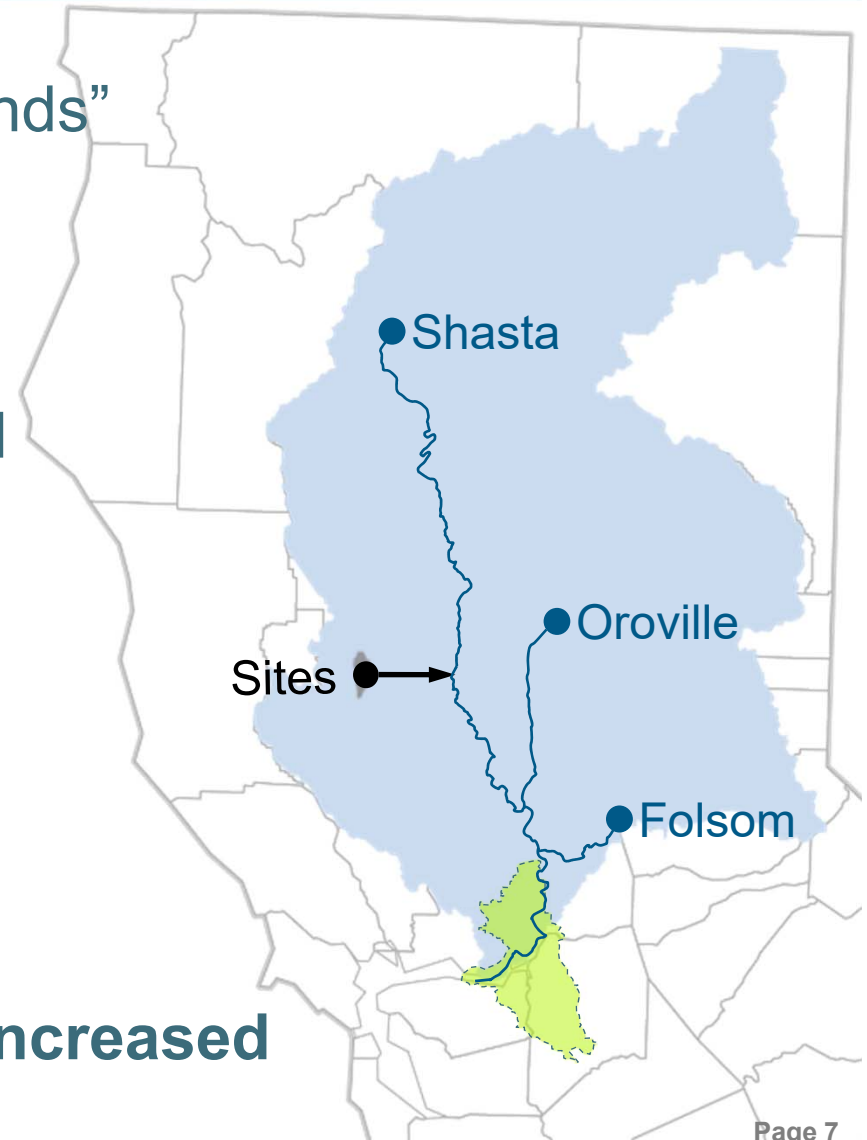
Lets future conditions dictate how best to release the water

Request: Non-Monetized Benefit Score be Increased

Resiliency: Significant Operational Flexibility

- Operations have wide “bookends”
- Water stored from storms is released during droughts
- Creates regional flexibility and real-time adaptability
 - ✓ Sacramento River
 - ✓ Feather River
 - ✓ Lower American River
 - ✓ The Delta

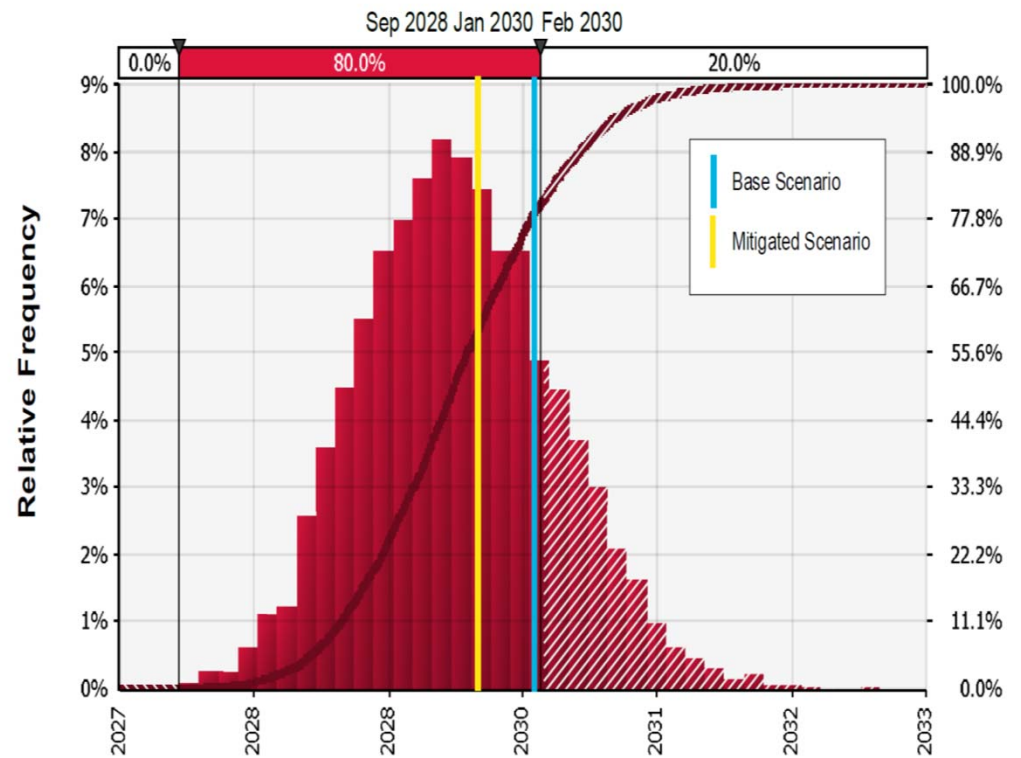
Request: Resiliency Score be Increased



Implementation Risk: Schedule

- A formal risk assessment was performed
- Results support the schedule can be met

Request: Implementation Risk Score be Increased



Economic Feasibility: Benefit Cost Ratio

- Reviewer's calculations included a federal investment, but not any federal *benefits*.
- Reclamation's analysis results in a $B/C = 1.48$

Request: State's B/C Ratio be re-calculated to acknowledge these federal benefits

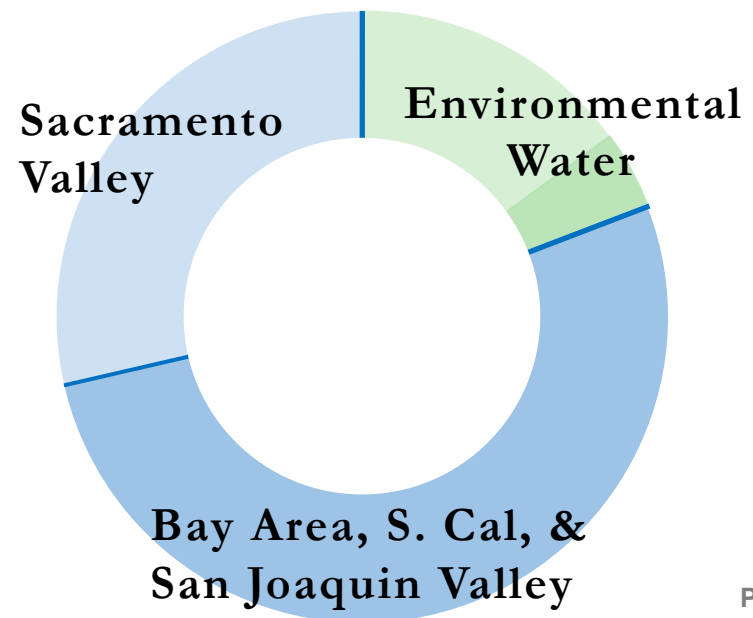


Determinations: Cost-Effectiveness

Sites is least-cost alternative based on

- ✓ Is least cost of 3 alternatives evaluated
- ✓ Confirmed by Reclamation's independent analysis
- ✓ Benefit Cost Ratio > 1
(without federal benefits)
- ✓ Significant water agency participation

Request: Find Sites to be cost-effective



Recap:

- Provides the State with 21st century facilities and operations
- Actively release flows in response to adverse conditions – not wait for the event to pass
- Dedicates water for the environment
- Is a new water management tool for drought preparedness
- Ability to reprogram water to meet future priorities

The opportunity to acquire water for the environment should not be lost

Requested Actions:

1. Award points for:
 - a. Non-monetized benefits: State manages their water
 - b. Resilience: Significant operational flexibility
 - c. Implementation Risk: Risk-based schedule and cost
2. Have the B/C ratio include the federal benefit
3. Determine Sites is cost-effective
4. **Fully fund to maximize the environmental water budget**

Reclamation's Independent Evaluation:

Sites project:

- ✓ Improves water supply reliability and system flexibility
- ✓ Improves water quality for south-of-Delta exports
- ✓ Improves deliveries to refuges
- ✓ **Improves conditions for Delta smelt**
- ✓ Improves Delta outflow and the X2 position
- ✓ **Improves Sacramento and American River flows and temperature for salmon and other fish**

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Benefit/Cost Ratio: 1.48

Anadromous Benefits \$1,575 M

Economic Feasibility: Benefit Cost Ratio

Summary of Staff adjusted Costs and Benefits Compared to Applicants

Million \$ or Ratio

Table 1. Applicant-Submitted and Reviewer-Adjusted Benefits, Costs, and PBRa

	Applicant Estimates			Staff Estimates After Meetings		
	Benefits	Requested Capital	Summary	Benefits	Requested Capital	Summary
WSIP Eligible Capital		\$4,397.00			\$4,397.10	
Water Supply						
Ecosystem	\$3,176.30	\$1,479.70		\$766.44	\$766.44	
Water Quality	\$0.00	\$0.00		\$0.00	\$0.00	
Flood	\$138.00	\$53.20		\$44.64	\$44.64	
Emergency response	\$0.00	\$0.00		\$0.00	\$0.00	
Recreation	\$192.00	\$128.80		\$197.21	\$197.21	
Total Public WSIP	\$3,506.30	\$1,661.70		\$1,008.28	\$1,008.28	
Federal Capital		\$730.00			\$698.50	
Non-Public	\$5,528.40	\$2,005.30		\$5,577.55	\$2,690.32	
Total	\$9,034.70	\$4,397.00		\$6,585.84	\$4,397.10	
Non Capital Costs			\$1,534.00			\$1,879.19
Total WSIP Capital Request			\$1,662.00			\$916.62
Total Authority Cost			\$3,539.30			\$4,661.17
Total Cost			\$5,931.30			\$6,276.29
Total PBR			2.1			1.10
Eligible Amount			\$2,198.50			\$1,008.28
			B/C Ratio	1.05		

Federal & State benefits were combined in application

A federal investment requires federal benefits.

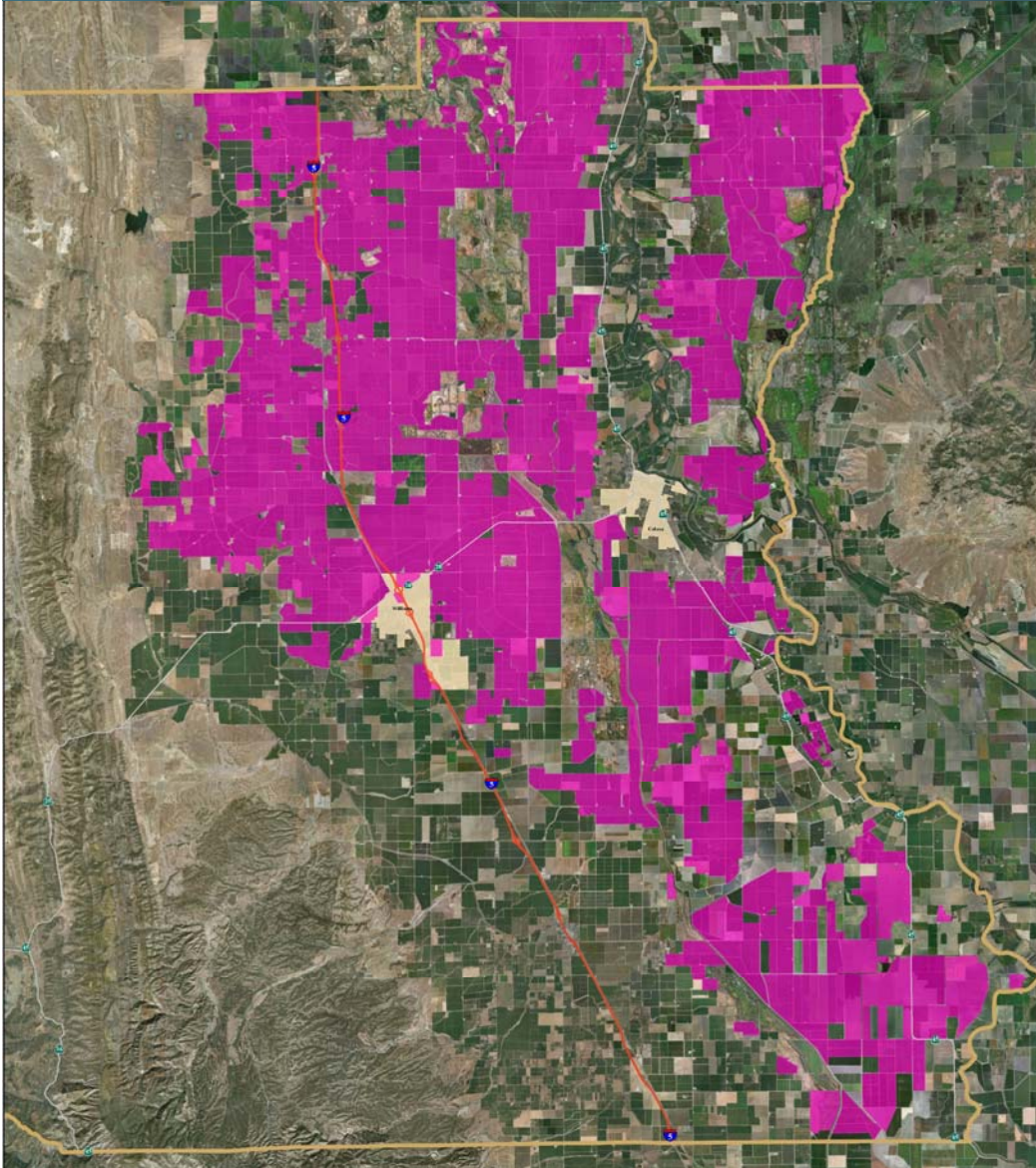
Federal Benefits B/C Ratio

- Equal to Fed Cap. 1.16
- Fed B/C = 1.48 1.21
- Feds pick-up difference **1.43**

Determinations: Cost-Effectiveness

Attribute	Measure		
	Colusa Reservoir Complex	Sites Reservoir	Newville Reservoir
Gross Storage (acre-feet)	3,000,000	1,810,000	1,900,000
Dead Storage (acre-feet)	100,000	40,000	50,000
Construction Cost	\$20.1B	\$4.5B	\$4.8B
Average Annual Cost	\$708M	\$159M	\$169M
Estimated Average Annual Yield (acre-feet)	328,000	274,000	275,000
Average Annual Cost/Yield (acre-feet)	\$2,160/acre-foot	\$579/acre-foot	\$615/acre-foot

2015 Rice Production in Colusa County



- 75,000 acres to produce 218,000 acre-feet to be available in a critical water year.
- Fewer acres needed in below normal water year types
- Rice lands surround existing National Wildlife Refuges & provide essential foraging habitat.
- Such a fallowing program results in a > 20% reduction in acres