

CREATING FEASIBLE SURFACE STORAGE OPPORTUNITIES IN CALIFORNIA A BI-PARTISAN APPROACH TO SURFACE STORAGE IN THE SAN JOAQUIN VALLEY

Natural Resources and Water Committee

Senator Derrell Steinberg, Chair

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Submitted By

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This document is being submitted requesting that the Committee members review other potentially feasible options for surface storage in the San Joaquin Valley that may have financial, technical, performance and environmental advantages greater than the singularly proposed Temperance Flat Reservoir on the Upper San Joaquin River.

CREATING FEASIBLE SURFACE STORAGE OPPORTUNITIES IN CALIFORNIA

The Challenges:

- 1). Save money
- 2). Leverage finances for best return on investment for taxpayers
- 3). Assure flexibility of new infrastructure
- 4). No direct or indirect impact to the environment
- 5). Minimize or reduce the impact of greenhouse gases and global warming
- 6). Complete projects on time, to cost and to specification
- 7). Work toward minimizing deficit spending or raising taxes
- 8). Pay as you go
- 9). Long term capital improvement with low cost maintenance
- 10). Multiple benefits to all Californians
- 11). Leverage off of existing infrastructure

San Joaquin Valley Tulare Basin Surface Storage and Conveyance Enhancement Capital Improvements Proposal

(ILLUSTRATIVE ANALYSIS)

Item	Description	Benefit	Budget
1	Raise Millerton 25 Feet	1). Increase flood control by 130,000 acre ft. or 25% 2). Increase average new water by 25,000 acre feet per year 3). Utilize dead storage area of 135,000 acre ft. 4). Total average additional water for river restoration 150,000 acre feet. 5). Total average additional flood control range 235,000 acre ft. or 50%	\$ 220,000,000
2	Enhance Fresno Slough / James Bypass Intertie	1). Increase bi-directional conveyance between San Joaquin and Kings River Basins 2). Little or no environmental impact	\$ 50,000,000
3	Re-establish Tulare Lake as freshwater storage facility Feasibility, environmental, planning, engineering and Implementation	1). Scalable Run-off Capture and Surface storage transfer facility 2). Capture run-off from both Kings and San Joaquin River Basins 3). Public Resource Declaration under California State Constitution 4). Conservation Easement Overlay 5). Scalable or incremental storage facility 6). Groundwater recharge and storage feature 7). Recreation, Tourism, Wildlife Refuge, Agriculture (e.g. rice growing) 8). Little or no environmental impact 9). Creates new habitat for various species 10). Contribute to cooling valley and reducing the creation of harmful ozone 11). No loss - or required replacement of hydroelectric power 12). Gravity Flow system - no significant requirement for additional electricity 13). No requirement for using electricity to pump from groundwater/water bank storage facility 14). Very little time to construct - natural berm 15). Do not have to compete for concrete, steel and aggregate - and drive up costs and create inflation in other sectors of the economy - such as roads, buildings and housing	\$ 500,000,000
4	Tulare Lake Storage Facility - California Aqueduct Intertie	1). Establish bi-directional conveyance and storage transfer next to Aqueduct	\$ 25,000,000
5	Tulare Lake Storage Facility - Friant-Kern Canal Intertie	1). Establish gravity flow conveyance off of Friant-Kern Canal to Tulare Lake surface storage	\$ 5,000,000
Total Estimated Capital Outlay (illustrative analysis)			\$ 800,000,000

Tulare Basin Background and Overall CVP/SWP System Benefits		
Background:		
Historic Tulare Lake was once the largest freshwater lake west of the Mississippi River		
Historic Tulare Lake was 50 miles by 100 miles or 5,000 square miles		
Historic Tulare Lake covered over 3,200,000 acres with a depth ranging from 6 to 25 feet		
The Historic Tulare Lake stored approximately 25,600,000 acre feet of water - or 8.345 Trillion Gallons of water		
The storage capacity of the historic lake would serve the water needs of 26 to 40 million people in California		
At just 10% of its potential capacity - Tulare Lake could store over 2.56 Million acre feet of water This equates to the water needs of 2.6 to 4 million people		
This equates to nearly twice the storage capability of the largest dam being built at Temperance Flat		
Temperance Flat is now estimated to cost \$3.9 Billion Dollars for a 1.3 million acre foot storage or \$3,000 an acre foot	\$	3,000
Tulare lake as managed storage and 10% increment would be 2.56 million acre feet or 2 times greater than Temperance Flat for only \$195 an acre foot or @ 6.5% of the cost	\$	195 6.5%
The capital outlay for the total system enhancements would be \$311 or 10.4% of the cost of a Temperance Flat	\$	313 10.4%
Capital Outlays would not only systematically benefit the San Joaquin River - but also the Kings River and the California Aqueduct - thus allowing for greater flexibility in moving water around in a timely, reliable, cost effective and efficient way		
CALSIM II and/or CALSIM III could be enhanced to simulate system enhancements and performance		
Imagine if the Salton sea could store fresh water - and then imagine that Tulare Lake at one time was the largest freshwater lake in California - and can again be serving a thriving and growing California		