WSMP 2040: Portfolio Evaluation & Recommendations

Portfolio Number	Portfolio Theme	Operations, Engineering, Legal & Institutional				Economic		Public Health, Safety & Community		Environmental		Portfolio Number	Rationale/Notes
		• Minimize the vulnerability & risk of disruptions (i.e., **reliability**).	• Maximize the system's **operational flexibility**.	• Minimize **institutional & legal complexities** & barriers.	• Maximize **partnerships** & regional solutions.	• Minimize the financial **cost** to the **District** of meeting customer demands for given level of system reliability.	• Minimize **customer** water shortage **costs**.	• Minimize potential adverse impacts to the **public health** of District customers. • Maximize use of water from the **best** available **source**.	• Minimize long-term adverse **community impacts** • Minimize adverse **social effects**. • Minimize conflicts with existing & planned facilities, utilities & transportation facilities.	• Minimize adverse **impacts** on the **environment**. • Minimize construction & operation effects on environmentally **sensitive resources**.	• Minimize short term & long term **greenhouse gas emissions** from construction. • Maximize **energy efficiency** associated with operations & maintenance. • Maximize contributions to **AB 32 goals.**		
1	Low Customer Impact	Failed Modeling Analysis										1	X
2	Flexibility for Future Extended Drought or Climate Change	Failed Modeling Analysis										2	X
3	Upcountry Surface Storage Emphasis		H				H	H+				3	*Combine with P-10*
4	Groundwater Storage		H	L	H	L	H			H		4	*Includes both Sac & SJ Groundwater Banking/Exchange* ➡
5	Regional Partnerships	H		L	H	L	H	L			L	5	*Most robust number of Components, including Desal* ➡
6	Emergency Reliability - A	H+	H+						L	L		6	*Buckhorn storage - Highest Ops & Engineering scores* ➡
7	Emergency Reliability - B	H		L				L			L	7	*Heavy reliance on Desalination ?*
8	Diversified	H		L				L			L	8	*Reliance on Desalination ?*
9	Conservation & Recycling Emphasis		H		L	L						9	*Conservation Level E - Cost Effectiveness?*
10	Low Carbon Footprint		H					H+				10	*P-3 with Rationing at 15% & Recycling Level 2* ➡
11	Low Capital Cost / Low Structural		L			H	L			H		11	*Cost to customer of 25% Rationing is Prohibitive* X
12	Coleman Alternative 1	L	H	L	H		H			H		12	*Heavy reliance on a Water Transfer of 27 MGD in dry years* ➡
13	Katz Alternative 1		L		L					H		13	*20% Rationing can be tested in Portfolios 4 & 12* ⇨
14	Katz Alternative 2	H	L		L	H	L			H		14	*Cost to customer of 25% Rationing is Prohibitive* X

H = High Response to Evaluation Criteria; L = Low Response to Evaluation Criteria; X = Hold from Further Consideration; ➡ = Carry Forward as Primary Portfolio for Further Refinement & Testing

Primary WSMP 2040 Portfolios

Portfolio Number	Portfolio	Portfolio Theme	Portfolio Emphasis	Components	Rationing		Conservation		Recycling		Supplemental Supply							
					10% (20 MGD)	15% (29 MGD)	Current Program Equivalent (C)	Current Program Equivalent + 2 (D)	Recycling Level 2	Recycling Level 3	Groundwater Banking/Exchange (Sacramento Basin)[2]	Northern California Water Transfers	Bayside Phase 2 Groundwater Project	Buckhorn Canyon Reservoir	Regional Desalination	IRCUP/San Joaquin Banking[3]	Enlarge Lower Bear Reservoir	Enlarge Pardee Reservoir
					NFW[1] 87 MGD	NFW[1] 78 MGD	37 MGD	39 MGD	5 MGD	11 MGD	4.2 MGD	4.5-44.6 MGD	9 MGD	42 MGD	20 MGD	17.4 MGD	2.2 MGD	51.2 MGD
4	A	Groundwater	Groundwater storage/exchange & transfers.		●[4]			39	5		4.2	15	9			17.4		
5	B	Diversified	Partnership projects including groundwater, desalination & transfers.		●[5]		37		5		4.2	4.5			20	17.4	2.2	
6	C	Reliability	West of delta surface storage.			●	37		5					42				
10	D	Lower Carbon Footprint	Upcountry surface storage.			●	37		5				9					51.2
12	E	Recycling & Transfer	High recycling & major transfer.		●[5]		37			11	4.2	28.5	9					

Notes:

[1] Average Annual Need for Water (NFW) Over 3-Year Drought Planning Sequence.

[2] Groundwater Banking/Exchange (Sacramento Basin) component must be coupled with a transfer water component.

[3] IRCUP includes San Joaquin Basin Groundwater Banking/Exchange.

[4] Portfolio will also be tested at 20% rationing.

[5] Portfolios will also be tested at 15% and 20% rationing.

*** CEQA No Action assumes current programs continue through 2020: Recycling = 14MGD, Conservation = 35 MGD, Supplemental Supply = 50.1 MGD + 5 MGD.