ID	CALFED Element	Element Objective	CALFED Objectives	Metric Reporting						Metric Data	
				Type	Description	Value	Unit or Qualitative Statement	Frequency	Outcome	Source & Contact	Status of Availability
#			*S: Supply* *Q: WQ* *E: ERP*						*software or hardware*		*(readily available, partially, needs to be compiled, not available)*
1	EWA				projects and purchases		acres	2001-2004		DWR-Spenser	yes
2	EWA				cost and grants of purchase projects		#	2001-2004		DWR-Spenser	yes
3	EWA				average price/acre foot		dollar count of funding and grants	2001-2004		DFG-Spenser	yes
4	EWA				storage acquisition		$	2001-2004		DFG-Spenser	yes
5	EWA				E/I flexibility		$	2001-2004		DFG-White	yes
6	EWA				Source shifting agreements		#	2001-2004		DFG-Spenser	yes
7	EWA				ERP Upstream releases		#	2001-2004		DFG-White	yes
8	EWA				losses		#	2001-2004		DFG-Spenser	yes
9	EWA				Establishment of EWA team	Team established and managing EWA		Continuous	Established fall 2000; meets weekly with few exception		
10	EWA				Establish annual EWA protocols	Protocols completed and published		2001-2004	Complete		
11	EWA				Publish annual acquisition strategy	Acquisition Strategy completed and published		2001-2004	N/A, Complete		
12	EWA				Regulatory commitments in place to the SWP and CVP Projects	Commitment letters signed by January 1		2001-2004	Jan 11 '01, April 12, '02, April 8 '03, May 26 '04		
13	EWA				Water Transfer Contracts in Place to Meet Estimated EWA Need or Purchase Target	Contracts in Place to Cover Foreseeable Needs of EWA Regardless of hydrology		2001-2004	Multiple contracts executed every year		
14	EWA				Source Shift Contact for 100 TAF In Place	Source Shift Contact for 100 TAF In Place		2001-2004	200 TAF in 2001; 100 TAF other years		
15	EWA				Exchange contracts in place to protect EWA assets	Exchange contracts in place to protect EWA assets		2001-2004	Partial		
16	EWA				Comply With CEQA and NEPA as Required	Complete CEQA/NEPA Documents unless transfer is exempt		2001-2004	Yes		
17	EWA				EWA Program EIS/EIR Prepared, Certified	EWA Program EIS/EIR Prepared, Certified		2001-2004	Certified Spring 2004		

ID		Relevant CALFED Target				Funding			Geographic Scope	Performance	
	Quality	Description	Value	Unit or Qualitative Statement	Frequency	CALFED	Other	Estimate of Area Covered	State/Regional/Local	Level	Category
#	*N/A, low, medium, high*					*$1000, 0.00, ???*		*N/A*			
1						yes	$0.00		State/Federal	1	Administration
2						yes	$0.00		State/Federal	1	Administration
3						yes	$0.00		State/Federal	1	Administration
4						yes	$0.00		State/Federal	1	Administration
5						yes	$0.00		State/Federal	1	Administration
6						yes	$0.00		State/Federal	1	Administration
7						yes	$0.00		State/Federal	2	Program Activities
8						yes	$0.00		State/Federal	2	Program Activities
9		Coordinates all EWA activities: acquiring, managing and accounting for all assets; completing environmental review requirements; prepares documents for CALFED and the EWA science panel review					$0.00		State/Federal	1	ROD
10							$0.00			1	ROD
11							$0.00			1	Administration
12							$0.00			1	Program Activities
13										1	ROD
14							$0.00			1	ROD
15							$0.00			1	ROD
16							$0.00			1	Administration
17							$0.00			1	ROD

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				Type	Description	Value	Unit or Qualitative Statement	Frequency	Outcome	Source & Contact	Status of Availability
18	EWA				Water Purchases Upstream	35 TAF or functional equivalent	105 TAF, 142 TAF, 70 TAF, 120 TAF	2001-2004			
19	EWA				Water Purchases Downstream	150 TAF or functional equivalent	231 TAF, 98 TAF, 145 TAF, 35 TAF	2001-2004			
20	EWA				Acquire South of Delta Stored Water	Acquire 200 TAF South of Delta Stored Water	134 TAF acquired, extracted in 2001 above 185 TAF; Agreements in Place for EWA to carry 100 TAF Debt to Projects	2001-2004			
21	EWA				Purchase at Least 185 TAF Water For EWA (Total Purchased Water)	Purchase Enough Water to Deliver AT Least 185 TAF Water For EWA	320 TAF, 189 TAF, 199 TAG, 135 TAF	2001-2004			
22	EWA				Obtain Water Through E/I Flexibility	ROD estimated 30 TAF	2 TAF, 79 TAF, 67 TAF, 0 TAF	2001-2004			
23	EWA				Obtain Water From (b)(2), ERP Upstream Releases	ROD estimated 40 TAF	46 TAF, 3 TAF, 19 TAF, 0 TAF	2001-2004			
24	EWA				Obtain Water From Half of Joint Point (Use of Excess SWP Capacity)	ROD estimated 75 TAF	0 TAF, 0 TAF, 6 TAF, 0 TAF	2001-2004			
25	EWA				Transfer Water Using 500 cfs Banks Pumping Increase	Permit in place to use 500 cfs in July-Sept., At least 60 TAF of EWA purchased water transferred	88 TAF, 115 TAF, 70 TAF, 100 TAF	2001-2004			
26	EWA				Back up water during pumping curtailments	Back up water during pumping curtailments	0 TAF	2001-2004			
27	EWA				Activate Source Shift When needed	Activate Source Shift to Offset EWA Debt When San Luis <300 TAF	Activated 50 TAF in 2001; 0 in other years	2001-2004			

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18							$0.00			1	Administration
19							$0.00			1	Administration
20		Borrowed water must be returned when the lender needs it, not when it is convenient for the EWA, limiting the functionality of debt as a substitute for stored water.					$0.00			1	ROD
21							$0.00			1	ROD
22		Amount highly variable and use of this asset impaired by inability to store water until it was needed.					$0.00			1	ROD
23		Amount highly variable. Only (b)(2) water obtained; no ERP releases to date.					$0.00			1	ROD
24		Tool has been unproductive due to high demand for Article 21 water by SWP contractors, using Banks PP capacity expected to available for the EWA					$0.00			1	ROD
25		Transfer capacity has been of great use to EWA in managing assets and program costs.					$0.00			1	ROD
26		Projects have been unable to back up water during pumping curtailments due to temperature and flow constraints related to reservoir release requirements.								1	ROD
27		Source shift protects San Luis Reservoir water quality when EWA debt would lower level below 300 TAF.					$0.00			1	ROD

ID	CALFED Element	Element Objective	CALFED Objectives	Metric Reporting						Metric Data	
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28	EWA				Minimize losses from flood releases, conversions to project water, and inability to pump EWA releases in the Delta	Keep losses to a minimum as a percent of acquired assets	0%, 10%, 7%, 8%	2001-2004			
29	EWA				Carryover debt capped at 100 TAF	Target zero debt unless part of strategy	0 TAF, 0 TAF, 0 TAF, 2 TAF	2001-2004			
30	EWA				Protect year-end (December 31) carryover assets	Target zero carryover unless part of strategy; safely store or exchange EWA year-end assets	77 TAF, 58 TAF, 0 TAF, 0 TAF	2001-2004			
31	EWA				EWA available budget	Adequate budget for EWA transfers and services		2001-2004			
32	EWA				EWA total cost for water year	Provide needed assets and services		2001-2004			
33	EWA				EWA cost for water for water year	Provide sufficient water to cover fish needs	$64.4 Million, 29.3 Million, 30.1 Million, 19.6 Million	2001-2004			
34	EWA				Average price/acre-foot	Pay market price or below for water, considering hydrology	$179/AF $118/AF $144/AF $126/AF	2001-2004			
35	EWA				Breadth of funding sources	State and federal project agencies share cost (% state/% federal)	84%S/16%F 39%S/61%F 100%S/%0F 100%S/0%F	2001-2004			
36	EWA				SWP/CVP pumping reductions in winter months for Chinook salmon/steelhead	Protection and recovery	86 TAF, 0 TAF, 62 TAF, 0 TAF	2001-2004			
37	EWA				SWP/CVP pumping reductions in winter months for both salmonids and delta smelt	Protection and recovery	137 TAF, 67 TAF, 59 TAF, 0 TAF	2001-2004			
38	EWA				SWP/CVP EWA pumping reductions during VAMP period	Protection and recovery	43 TAF, 45 TAF, 32 TAF, 20 TAF	2001-2004			

ID		Relevant CALFED Target				Funding			Geographic Scope	Performance	
	Quality	Description	Value	Unit or Qualitative Statement	Frequency	CALFED	Other	Estimate of Area Covered	State/Regional/Local	Level	Category
28		Losses result from hydrologic variables, project operational constraints, and other factors largely beyond the control of the EWA.					$0.00			1	Administration
29		Carryover debt provides flexibility to deal with high-demand years and address inherent uncertainty in projecting fish actions and water purchase needs.					$0.00			1	Administration
30		Mixed results, some mutually beneficial arrangements (exchanges) made with water users to address specific situations.					$0.00			1	Administration
31							$0.00			1	Administration
32										1	Administration
33										1	Administration
34		In 2001, EWA undertook the purchase of large quantities of water in very dry hydrologic conditions. Its sudden entry into the water market likely resulted in costs above market at that time.								1	Administration
35		Federal funds were not available for water purchases in 2003 or 2004.								1	Program Activities
36		Actions taken as needed, no targeted amount of EWA water to be used								1	Program Activities
37		Actions taken as needed, no targeted amount of EWA water to be used								1	Program Activities
38		Amount of EWA used dependent on annual conditions and VAMP export target								1	Program Activities

ID	CALFED Element	Element Objective	CALFED Objectives	Metric Reporting						Metric Data	
				Type	Description	Value	Unit or Qualitative Statement	Frequency	Outcome	Source & Contact	Status of Availability
39	EWA				SWP/CVP pumping reductions - Post VAMP period: delta smelt and Chinook salmon	Protection and recovery	24 TAF, 137 TAF, 195 TAF, 104 TAF	2001-2004			
40	EWA				Total EWA SWP/CVP pumping reductions for fish	Protection and recovery	290 TAF 249 TAF 348 TAF 124 TAF	2001-2004			
41	EWA				Upstream EWA use for Chinook salmon	Improve instream conditions	American: 20 TAF, power bypass; Merced: 25 TAF Merced, American: 4 TAF and power bypass 0 TAF Power Bypass	2001-2004			
42	EWA				Total EWA Water Expenditures	Protection and recovery	290 TAF 291 TAF 348 TAF 124 TAF	2001-2004			

ID		Relevant CALFED Target				Funding			Geographic Scope	Performance	
	Quality	Description	Value	Unit or Qualitative Statement	Frequency	CALFED	Other	Estimate of Area Covered	State/Regional/Local	Level	Category
39		Target pumping rate and duration of action similar each year; EWA costs vary widely depending on Delta conditions, no-action base-case pumping, and availability of (b)(2) to cover CVP.								1	Program Activities
40		EWA actions taken as needed, no specific target amount of EWA to be used.								1	Program Activities
41		Small increases in habitat with increased flow, not extrapolated to increment in fish production, Power bypass reduces water temperature and avoids some unquantified amount of adult salmon and juvenile steelhead mortality in American River, Actions listed are in fall of calendar year, and may be within next water year.								1	Program Activities
42		2002 includes a 38 TAF export reduction when this amount of water stored in San Luis Reservoir converted to SWP project water. No specific need for a fish action was apparent at the time and no recommendation for a pumping curtailment had been made by the Management Agencies.								1	Program Activities

ID	CALFED Element	Element Objective	CALFED Objectives	Metric Reporting						Metric Data	
				Type	Description	Value	Unit or Qualitative Statement	Frequency	Outcome	Source & Contact	Status of Availability
43	EWA				Reduction in entrainment loss of Chinook Salmon at SWP/CVP	To minimize the effects of incidental take	#	2001-2004			
44	EWA				Reduction in impact of SWP/CVP pumping on juvenile Chinook Salmon	Increase survival of salmon in the Delta	#	2001-2004			
45	EWA				Reduction in salvage of Delta Smelt at SWP/CVP	Minimize effects on incidental take	#	2001-2004			
46	EWA				Total uncompensated loss to water projects	Avoid reduction in SWP or CVP deliveries	0 TAF	2001-2004			
47	EWA				Increase in Delta Outflow over a base	Improve habitat values	306 TAF 278 TAF 348 TAF 124 TAF	2001-2004			
48	EWA				Conflicts among EWA Agencies	Resolve conflicts		2001-2004	No unresolved conflicts '01-'04		

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	Quality	Description	Value	Unit or Qualitative Statement	Frequency	CALFED	Other	Estimate of Area Covered	State/Regional/Local	Level	Category
43		Estimates computed for juvenile Chinook in the winter run size range, the more inclusive "older juvenile Chinook" size category, and steelhead. Extent of EWA actions dependent of annual circumstances. Loss compared to reconsultation levels for salmon or surrogates and steelhead and to other measures of Delta abundance for salmon								2	Program Activities
44		Survival models used to assess effect of actions on Delta survival of Sacramento and San Joaquin basin salmon runs, Several models used, numerous assumptions required.								2	Program Activities
45		We may wish to break this into Adult and Juvenile life stages; we would follow the delta smelt decision process Also note that the impacts and benefits for the less than 20mm larval stage are unknown.								2	Program Activities
46		Potential effects of EWA actions on project deliveries were fully compensated.								2	Program Activities
47		The Delta outflow increases shown are the sum of the pumping curtailments that were not offset by reduced upstream releases plus the EWA's Delta carriage water costs.								2	Program Activities
48										2	Program Activities

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				Type	Description	Value	Unit or Qualitative Statement	Frequency	Outcome	Source & Contact	Status of Availability
49	EWA				Conflicts between Agencies and Stakeholders	Resolve conflicts		2001-2004	No disputes regarding compensation for fish actions. Questions about full availability of assets. Conflicts remain on user fees, program balance		
50	EWA				Ability to implement adaptive management	EWA provides and manages assets to implement adaptive management goals, and learns from its actions and applies that knowledge in future actions.		2001-2004	Formal adaptive management/ impracticable to date		
51	EWA				Avoid the need for implementation of Tier 3	EWA actions sufficient to avoid jeopardy		2001-2004	Jeopardy avoided		
52	EWA				Protecting at-risk native fish of the Bay-Delta Estuary			2001-2004	Incremental protection provided, magnitude and significance uncertain		
53	EWA				Assisting in fish population recovery for at-risk native Delta-dependent fish species	Maintain water supply reliability		2001-2004	EWA contribution likely, significance to respective populations uncertain		
54	EWA				Increase water supply reliability by reducing uncertainty of supply associated with fish protection and recovery actions	Maintain water supply reliability		2001-2004	Accomplished in all years		

ID		Relevant CALFED Target				Funding			Geographic Scope	Performance	
	Quality	Description	Value	Unit or Qualitative Statement	Frequency	CALFED	Other	Estimate of Area Covered	State/Regional/Local	Level	Category
49										2	Program Activities
50		EWA agencies have successfully adapted their management of EWA to changing circumstances, although not within the strict definition of a formal adaptive management framework.								2	Program Activities
51										2	ROD
52		Seek independent review and analysis. Net effects of small EWA protective actions and increased pumping to get water for the EWA is an emerging concern.								3	ROD Objective
53		Seek independent review and analysis. Not all populations exhibiting increasing abundance trend (e.g. delta smelt). For those which are increasing (some salmon), multiple factors are likely responsible and EWA influence has been recent.								3	ROD Objective
54										3	ROD Objective

ID	CALFED Element	Element Objective	CALFED Objectives	Metric Reporting						Metric Data	
				Type	Description	Value	Unit or Qualitative Statement	Frequency	Outcome	Source & Contact	Status of Availability
55	EWA				Obtain water through purchases and operational assets and use it to replace project supplies lost during pumping curtailments for fish	Compensate projects for pumping curtailments		2001-2004	Accomplished in all years		
56	EWA				Improve stream habitat when release of EWA water from an upstream reservoir for transfer through the Delta coincided with an in-stream habitat need	Transfer water on a fish-friendly schedule and if possible improve stream habitat conditions		2001-2004	Incidental benefits		

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	Quality	Description	Value	Unit or Qualitative Statement	Frequency	CALFED	Other	Estimate of Area Covered	State/Regional/Local	Level	Category
55		Most water has been obtained by purchase; few of the operational tools have performed up to expectations.								3	ROD
56		Transfers must be carefully scheduled to avoid adverse impacts when the transfer concludes.								3	ROD