Comparison of CalSim II modeling assumptions for January 2015 USBR Benchmark and Water Forum Alternatives.

	January 2015 USBR Benchmark	Base Case (2006 Flow Management Standard)	Modified Flow Management Standard
Planning horizon[a]	Year 2030	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Period of simulation	82 years (1922-2003)	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
HYDROLOGY			
Inflows/Supplies	Historical	Historical, with updates from PCWA[y]	Same as Base Case
Climate Change	None	None	Same as Base Case
Level of development	Projected 2030 level[c]	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
DEMANDS, WATER RIGHTS, CVP and SWP CONTRACTS			
Sacramento River Region (excluding American River)			
CVP[d]	Land-use based, full buildout of contract amounts	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
SWP (FRSA)[e,m]	Land-use based, limited by contract amounts	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Non-project	Land-use based, limited by water rights and SWRCB Decisions for Existing Facilities	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Antioch Water Works	Pre-1914 water right	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Federal refuges[f]	Firm Level 2 water needs	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Sacramento River Region—American River			
Water rights (including settlement contracts)	Year 2025, full water rights[g]	Year 2030, modified to reflect PCWA deliveries to San Juan Water District, City of Roseville, and Sac Suburban Water District. Also includes Water Forum Dry-Year Actions.[z]	Same as Base Case
CVP	Year 2025, full contracts, including Freeport Regional Water Project	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
San Joaquin River Region[h]			
Friant Unit	Limited by contract amounts, based on current allocation policy	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Lower Basin	Land-use based, based on district level operations and constraints	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark

Stanislaus River[i]	Land-use based, Revised Operations Plant and NMFS BO (June 2009) Actions III.1.2 and III.1.3[v]	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
San Francisco Bay, Central Coast, Tulare Lake and South Coast Regions (CVP and SWP project facilities)			
CVP[d]	Demand based on contract amounts	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
CCWD[j]	195 TAF/year CVP contract supply and water rights	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
SWP[e,k]	Demand based on Table A amounts	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Article 56	Based on 2001-2008 contractor requests	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Article 21	MWD demand up to 200 TAF/month from December to March subject to conveyance capacity, Kern County Water Agency demand up to 180 TAF/month, and other contractor demands up to 34 TAF/month in all months, subject to conveyance capacity	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
North Bay Aqueduct (NBA)	77 TAF/yr demand under SWP contracts, up to 43.7 cfs of excess flow under Fairfield, Vacaville, and Benicia Settlement Agreement	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Federal refuges[f]	Firm Level 2 water needs	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
FACILITIES			
Systemwide	Existing facilities	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Sacramento River Region			
Shasta Lake	Existing, 4,552 TAF capacity	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Red Bluff Diversion Dam	Diversion dam operated with gates out all year, NMFS BO (June 2009) Action I.3.1[v]; assume permanent facilities in place	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Colusa Basin	Existing conveyance and storage facilities	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Lower American River	Hodge criteria for diversion at Fairbairn	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Upper American River[g,l]	PCWA American River Pump Station	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark

Lower Sacramento River	Freeport Regional Water Project[n]	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Fremont Weir	Notched weir operations	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
San Joaquin River Region			
Millerton Lake (Friant Dam)	Existing, 520 TAF capacity	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Lower San Joaquin River	City of Stockton Delta Water Supply Project, 30-mgd capacity	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Delta Region			
SWP Banks Pumping Plant (South Delta)	Physical capacity is 10,300 cfs but 6,680 cfs permitted capacity in all months up to 8,500 cfs during Dec. 15 through Mar. 15 depending on Vernalis flow conditions[o]; additional capacity of 500 cfs (up to 7,180 cfs) allowed for July through Sept. for reducing impact of NMFS BO (June 2009) Action IV.2.1 Phase II[v] on SWP[w]	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
CVP C.W. Bill Jones Pumping Plant (Tracy Pumping Plant)	Permit capacity is 4,600 cfs in all months (allowed for by the Delta-Mendota Canal-California Aqueduct Intertie)	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Upper Delta-Mendota Canal Capacity	Existing plus 400 cfs Delta-Mendota Canal-California Aqueduct Intertie	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
CCWD Intakes / Los Vaqueros Reservoir	Los Vaqueros existing storage capacity, 100 TAF, existing pump locations, AIP included[p]	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
San Francisco Bay Region			
South Bay Aqueduct (SBA)	SBA rehabilitation, 430 cfs capacity from junction with California Aqueduct to Zone 7 Water Agency diversion point	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
South Coast Region			
California Aqueduct East Branch	Existing capacity	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
REGULATORY STANDARDS			
North Coast Region			

Trinity River			
Minimum flow below Lewiston Dam	Trinity EIS Preferred Alternative (369-815 TAF/year)	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Trinity Reservoir end-of-September minimum storage	Trinity EIS Preferred Alternative (600 TAF as able)	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Sacramento River Region			
Clear Creek			
Minimum flow below Whiskeytown Dam	Downstream water rights, 1963 Reclamation Proposal to USFWS and NPS, predetermined CVPIA 3406(b)(2) flows[q], and NMFS BO (June 2009) Action I.1.1[v]	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Upper Sacramento River			
Shasta Lake end-of-September minimum storage	NMFS 2004 Winter-run Biological Opinion, (1900 TAF in non-critically dry years), and NMFS BO (June 2009) Action I.2.1[v]	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Minimum flow below Keswick Dam	SWRCB WR 90-5, predetermined CVPIA 3406(b)(2) , and NMFS BO (June 2009) Action I.2.2[v]	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Feather River			
Minimum flow below Thermalito Diversion Dam	2006 Settlement Agreement (700/800 cfs)	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Minimum flow below Thermalito Afterbay outlet	1983 DWR, DFW Agreement (750-1,700 cfs)	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Yuba River			
Minimum flow below Daguerre Point Dam	Operations under Lower Yuba River Accord[r]	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
American River			
Minimum flow below Nimbus Dam	American River Flow Managements as required by NMFS BO (June 2009) Action II.1[v] i.e., 2006 Flow Management Standard	American River Flow Managements as required by NMFS BO (June 2009) Action II.1[v], as modified by the Water Forum[aa]	Modified Flow Management Standard[ab]
Minimum Flow at H Street	SWRCB D-893	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark

Bridge			
Lower Sacramento River			
Minimum flow near Rio Vista	SWRCB D-1641	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
San Joaquin River Region			
Mokelumne River			
Minimum flow below Camanche Dam	FERC 2916-029, 1996 (Joint Settlement Agreement) (100-325 cfs)	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Minimum flow below Woodbridge Diversion Dam	FERC 2916-029, 1996 (Joint Settlement Agreement) (25-300 cfs)	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Stanislaus River			
Minimum flow below Goodwin Dam	1987 Reclamation, DFW agreement, and flows required for NMFS BO (June 2009) Action III.1.2 and III.1.3[v]	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Minimum dissolved oxygen	SWRCB D-1422	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Merced River			
Minimum flow below Crocker-Huffman Diversion Dam	Davis-Grunsky (180-220 cfs, Nov.-Mar.), and Cowell Agreement	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Minimum flow at Shaffer Bridge	FERC 2179 (25-100 cfs)	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Tuolumne River			
Minimum flow at Lagrange Bridge	FERC 2299-024, 1995 (Settlement Agreement) (94-301 TAF/yr)	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Updated Tuolumne River	New Don Pedro operations	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
San Joaquin River			
San Joaquin River below Friant Dam/ Mendota Pool	San Joaquin River Restoration-full flows, not constrained by current canal capacity[u]	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Maximum salinity near Vernalis	SWRCB D-1641	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Minimum flow near Vernalis	SWRCB D-1641, and NMFS BO (June 2009) Action IV.2.1[v]	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Sacramento River – San Joaquin Delta Region			

Delta Outflow Index (Flow and Salinity)	SWRCB D-1641 and USFWS BO (Dec. 2008) Action 4	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Delta Cross Channel gate operation	SWRCB D-1641 with additional days closed from Oct. 1 – Jan. 31 based on NMFS BO (June 2009) Action IV.1.2[v] (closed during flushing flows from Oct. 1 – Dec. 14 unless adverse water quality conditions)	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
South Delta exports (Jones Pumping Plant and Banks Pumping Plant)	SWRCB D-1641, Vernalis flow-based export limits Apr. 1 – May 31 as required by NMFS BO (June 2009) Action IV.2.1[v] (additional 500 cfs allowed for July – Sept. For reducing impact on SWP)[w]	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Combined Flow in OMR	USFWS BO (Dec. 2008) Actions 1 through 3 and NMFS BO (June 2009) Action IV.2.3[v]	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
OPERATIONS CRITERIA: RIVER-SPECIFIC			
Sacramento River Region			
Upper Sacramento River			
Flow objective for navigation (Wilkins Slough)	NMFS BO (June 2009) Action I.4[v]; 3,500 – 5,000 cfs based on CVP water supply condition	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
American River			
Folsom Dam flood control	Variable 400/670 flood control diagram (without outlet modifications)	Variable 400/600 flood control diagram (without outlet modifications)[ac]	Same as Base Case
Feather River			
Flow at Mouth of Feather River (above Verona)	Maintain DFW/DWR flow target of 2,800 cfs for Apr. through Sept. dependent on Oroville inflow and FRSA allocation	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
San Joaquin River Region			
Stanislaus River			
Flow below Goodwin Dam[i]	Revised Operations Plant and NMFS BO (June 2009) Action III.1.2 and III.1.3[v]	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
San Joaquin River			

Salinity at Vernalis	Grasslands Bypass Project (full implementation)	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
OPERATIONS CRITERIA: SYSTEMWIDE			
CVP water allocation			
Settlement/Exchange	100 percent (75 percent in Shasta critical years)	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Refuges	100 percent (75 percent in Shasta critical years)	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Agriculture Service	100 percent-0 percent based on supply, South-of-Delta allocations are additionally limited due to D-1641, USFWS BO (Dec. 2008) and NMFS BO (June 2009) export restrictions[v]	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Municipal & Industrial Service	100 percent-50 percent based on supply, South-of-Delta allocations are additionally limited due to D-1641, USFWS BO (Dec. 2008) and NMFS BO (June 2009) export restrictions[v]	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
SWP water allocation			
North of Delta (FRSA)	Contract specific	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
South of Delta (including North Bay Aqueduct)	Based on supply; equal prioritization between Ag and M&I based on Monterey Agreement; allocations are additionally limited due to D-1641 and USFWS BO (Dec. 2008) and NMFS BO (June 2009) export restrictions[v]	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
CVP-SWP coordinated operations			
Sharing of responsibility for in-basin-use	1986 Coordinated Operations Agreement (FRWP EBMUD and 2/3 of the North Bay Aqueduct diversions considered as Delta Export; 1/3 of the North Bay Aqueduct diversion as in-basin-use)	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Sharing of surplus flows	1986 Coordinated Operations Agreement	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Sharing of total allowable export capacity for project-specific priority pumping	Equal sharing of export capacity under SWRCB D-1641, USFWS BO (Dec. 2008) and NMFS BO (June 2009)	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark

	export restrictions[v]		
Water transfers	Acquisitions by SWP contractors are wheeled at priority in Banks Pumping Plant over non-SWP users; Lower Yuba River Accord included for SWP contractors[w]	Same as January 2015 USBR Benchmark but also includes PCWA Transfer to EBMUD[ad]	Same as Base Case
Sharing of total allowable export capacity for lesser priority and wheeling-related pumping	Cross Valley Canal wheeling (max of 128 TAF/year), CALFED ROD defined Joint Point of Diversion (JPOD)	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
San Luis Reservoir	San Luis Reservoir is allowed to operate to a minimum storage of 100 TAF	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
CVPIA 3406(b)(2)[v,q]			
Policy Decision	Per May 2003 Department Decision:	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Allocation	800 TAF, 700 TAF in 40-30-30 dry years, and 600 TAF in 40-30-30 critical years as a function of Ag allocation	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Actions	Predetermined upstream fish flow objectives below Whiskeytown and Keswick Dams, non-discretionary NMFS BO (June 2009) actions for the American and Stanislaus Rivers, and NMFS BO (June 2009) and USFWS BO (Dec. 2008) actions leading to export restrictions[v]	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Accounting	Releases for non-discretionary USFWS BO (Dec. 2008) and NMFS BO (June 2009)v actions may or may not always be deemed (b)(2) actions; in general, it is anticipated that, accounting of these actions using (b)(2) metrics, the sum would exceed the (b)(2) allocation in many years; therefore no additional actions are	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark

	considered and no accounting logic is included in the model [q]		
WATER MANAGEMENT ACTIONS			
Water Transfer Supplies (long-term programs)			
Lower Yuba River Accord[w]	Yuba River acquisitions for reducing impact of NMFS BO export restrictions[v] on SWP	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Phase 8	None	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
Water Transfers (short-term or temporary programs)			
Sacramento Valley acquisitions conveyed through Banks Pumping Plant[x]	Post-analysis of available capacity	Same as January 2015 USBR Benchmark	Same as January 2015 USBR Benchmark
PCWA Transfer to EBMUD	None	Transfer of PCWA Water Forum Dry-Year Action water to EBMUD through the Freeport Regional Water Project.[ad]	Same as Base Case

[a.] These assumptions have been developed under the direction of the Department of Water Resources and Bureau of Reclamation management team for the BDCP HCP and EIR/EIS. Additional modifications were made by Reclamation for its October 2014 NEPA NAA and January 2015 Benchmark scenarios.

[b.] footnote removed

[c.] The Sacramento Valley hydrology used in the January 2015 USBR Benchmark CalSim II model reflects 2020 land-use assumptions associated with Bulletin 160-98. The San Joaquin Valley hydrology reflects draft 2030 land-use assumptions developed by Reclamation.

[d.] CVP contract amounts have been reviewed and updated according to existing and amended contracts, as appropriate. Assumptions regarding CVP agricultural and M&I service contracts and Settlement Contract amounts are documented in the Delivery Specifications attachments to the BDCP CalSim assumptions document. [e.] SWP contract amounts have been updated as appropriate based on recent Table A transfers/agreements. Assumptions regarding SWP agricultural and M&I contract amounts are documented in the Delivery Specifications attachments to the BDCP CalSim assumptions document. [f.] Water needs for Federal refuges have been reviewed and updated, as appropriate. Assumptions regarding firm Level 2 refuge water needs are documented in the Delivery Specifications attachments to the BDCP CalSim assumptions document. Refuge Level 4 (and incremental Level 4) water is not included.

[g.] Assumptions regarding American River water rights and CVP contracts are documented in the Delivery Specifications attachments to the BDCP CalSim assumptions document. The Sacramento Area Water Forum agreement, its dry year diversion reductions, Middle Fork Project operations and "mitigation" water is not included.

[h.] The new CalSim II representation of the San Joaquin River has been included in this model package (CalSim II San Joaquin River Model, Reclamation, 2005). Updates to the San Joaquin River have been included since the preliminary model release in August 2005. The model reflects the difficulties of ongoing groundwater overdraft problems. The 2030 level of development representation of the San Joaquin River Basin does not make any attempt to offer solutions to groundwater overdraft problems. In addition a dynamic groundwater simulation is not yet developed for the San Joaquin River Valley. Groundwater extraction/recharge and stream-groundwater interaction are static assumptions and may not accurately reflect a response to simulated actions. These limitations should be considered in the analysis of results.

[i.] The CalSim II model representation for the Stanislaus River does not necessarily represent Reclamation's current or future operational policies. A suitable plan for supporting flows has not been developed for NMFS BO (June 2009) Action 3.1.3.

[j.] The actual amount diverted is operated in conjunction with supplies from the Los Vaqueros project. The existing Los Vaqueros storage capacity is 100 TAF. Associated water rights for Delta excess flows are included.

[k.] It is assumed that SWP Contractors demand for Table A allocations vary from 3.0 to 4.1 million acre-feet (MAF)/year. It is assumed that SWP Contractors can take delivery of all Table A allocations and Article 21 supplies. Article 56 provisions are assumed and allow for SWP Contractors to manage storage and delivery conditions such that full Table A allocations can be delivered. Article 21 deliveries are limited in Wet years under the assumption that demand is decreased in these conditions. Article 21 deliveries for the NBA are dependent on excess conditions only, all other Article 21 deliveries also require that San Luis Reservoir be at capacity and that Banks Pumping Plant and the California Aqueduct have available capacity to divert from the Delta for direct delivery.

[l.] PCWA American River pumping facility upstream of Folsom Lake is included. The diversion is assumed to be as much as 70 TAF/Yr.

[m.] Demand for rice straw decomposition water from Thermalito Afterbay was added to the model and updated to reflect historical diversion from Thermalito in the October through January period.

[n.] footnote removed

[o.] Current USACE permit for Banks Pumping Plant allows for an average diversion rate of 6,680 cfs in all months. Diversion rate can increase up to 1/3 of the rate of San Joaquin River flow at Vernalis from Dec. 15th to Mar. 15th, up to a maximum diversion of 8,500 cfs, if Vernalis flow exceeds 1,000 cfs.

[p.] The CCWD AIP is an intake at Victoria Canal that operates as an alternate Delta diversion for Los Vaqueros Reservoir. This assumption is consistent with the future no-project condition defined by the Los Vaqueros Enlargement study team.

[q.] CVPIA (b)(2) fish actions are not dynamically determined in the CalSim II model, nor is (b)(2) accounting done in the model. Since the USFWS BO and NMFS BO were issued, the Department has exercised its discretion to use (b)(2) in the delta by accounting some or all of the export reductions required under those biological opinions as (b)(2) actions. Similarly, since the USFWS BO and NMFS BO were issued, the Department has exercised its discretion to use (b)(2) upstream by accounting some or all of the release augmentations (relative to the hypothetical (b)(2) base case) below Whiskeytown, Nimbus, and Goodwin as (b)(2) actions. It is therefore assumed for modeling purposes that (b)(2) availability for other upstream actions will be limited to covering Sacramento releases, in the fall and winter. For modeling purposes, predetermined time series of minimum instream flow requirements are specified. The time series are based on the Aug. 2008 BA Study 7.0 and Study 8.0 simulations which did include dynamically determined (b)(2) actions.

[r.] The Lower Yuba River Accord is assumed to be implemented. The Yuba River is not dynamically modeled in CalSim II. Yuba River hydrology and availability of water acquisitions under the Lower Yuba River Accord are based on modeling performed and provided by the Lower Yuba River Accord EIS/EIR study team.

[s.] footnote removed

[t.] footnote removed

[u.] SJR Restoration Water Year 2010 Interim Flows Project are assumed, but are not input into the models; operation not regularly defined at this time

[v.] In cooperation with Reclamation, National Marine Fisheries Service, U.S. Fish and Wildlife Service, and California Department of Fish and Wildlife, the Department of Water Resources has developed assumptions for implementation of the USFWS BO (Dec. 15, 2008) and NMFS BO (June 4, 2009) in CalSim II.

[w.] Acquisitions of Component 1 water under the Lower Yuba River Accord, and use of 500 cfs dedicated capacity at Banks Pumping Plant during July through Sept., are assumed to be used to reduce as much of the impact of the April through May Delta export actions on SWP contractors as possible.

[x.] Only acquisitions of Lower Yuba River Accord Component 1 water are included.

[y.] PCWA conducted hydrologic analysis of operations of the Middle Fork Project and SMUD's Upper American River Project and provided the output from those analyses to the Water Forum as inputs to CalSim II.

[z.] Water Forum Dry-Year Actions are defined in Section 5 of the Water Forum Agreement, available at http://waterforum.org/stakeholders/agreement/

[aa.] The Water Forum made several updates to the representation of the 2006 FMS, including modification to the computation of the off-ramp provision.

[ab.] In addition to minimum releases from Nimbus Dam, the Modified Flow Management Standard includes: (1) new hydrologic indices used for determining the minimum release requirement; (2) end-of-month storage requirements in May and December; (3) redd dewatering protection adjustments; and (4) a March pulse flow.

[ac.] The Water Forum used storage crediting in UARP and MFP reservoirs to represent required Folsom Reservoir flood reservation for the 400/600 flood control diagram.

[ad.] Among PCWA's Water Forum dry-year actions is the release of water from MFP reservoirs for transfer to EBMUD through the Freeport RWP. As part of its hydrologic analysis described above, PCWA provided a timeseries for transfers from the MFP to storage in Folsom Reservoir, and for subsequent release and rediversion at the Freeport RWP. The CalSim II modeling excludes the PCWA transfer from COA calculations.