Figure B-~~50~~ 51 illustrates changes in Feather River flow downstream from Thermalito. Flow in the Feather River below Thermalito changes due to changes in the operation of Oroville. Transfer water made available on the Feather River downstream from Thermalito can be temporarily stored in Oroville for release and transfer during the July through September period. Water stored prior to July reduces Feather River flow. Increases and decreases in flow on the Feather River below Thermalito also occur from shifts in timing of SWP water to accommodate transfers. The magnitude of some of these differences is affected by model nuances within CalSim II that can create variations from month-to-month in release of SWP water from Oroville for movement through the Delta.

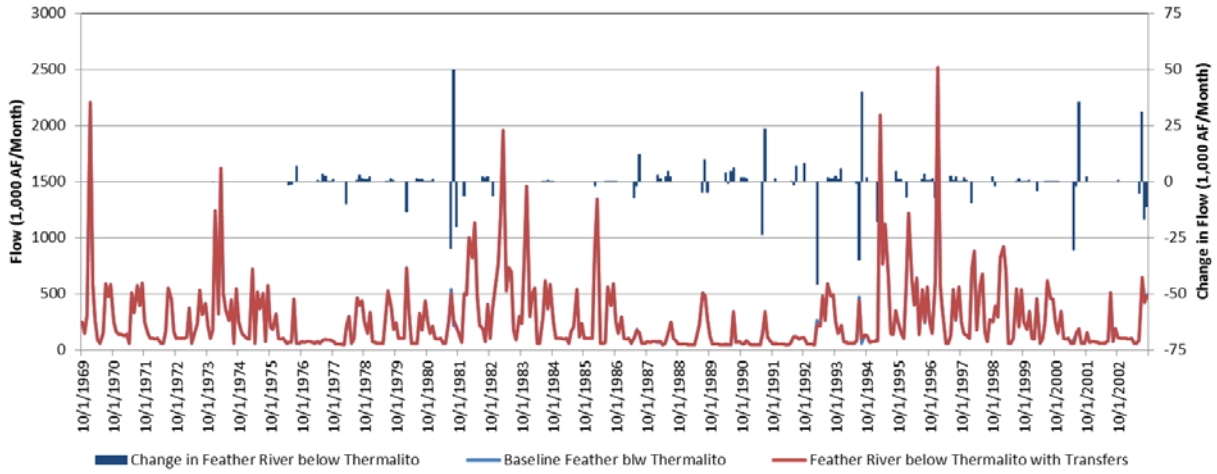


**Figure B-~~50~~51. Feather River below Thermalito with and without Alternative 3 Transfers**

Figure B-~~51~~ 52 illustrates changes in flow on the Yuba River as a result of New Bullards Bar Reservoir release of Browns Valley ID conserved water (increases) and reservoir refill (decreases).

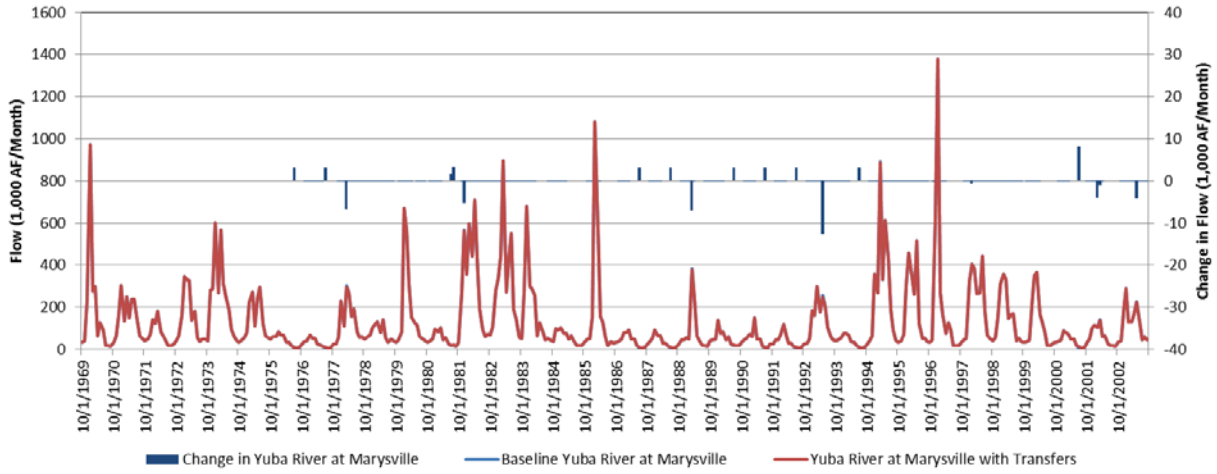


**Figure B-~~51~~52. Yuba River at Marysville with and without Alternative 3 Transfers**

Figure B-~~52~~ 53 illustrates the monthly flow of the Bear River at the confluence with the Feather River. Bear River flow changes as a result of South Sutter WD reservoir release transfers from Camp Far West Reservoir. Flows increase when water is released for transfer and decrease when Camp Far West refills.

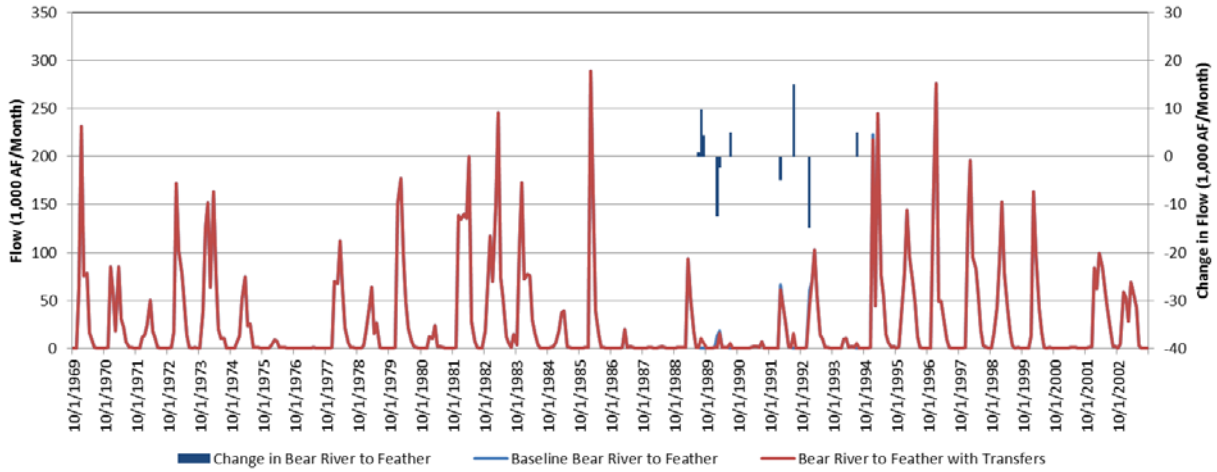


**Figure B-~~52~~53. Bear River to the Feather River with and without Alternative 3 Transfers**

The flow on the Lower Feather River represents an aggregation of flows on the Yuba River, Bear River, and upper portions of the Feather River. There are also increases due to water made available by groundwater substitution transfers along the Feather River between Thermalito and the confluence with the Sacramento. Figure B-~~53~~ 54 illustrates flows and changes in flows for the baseline and Alternative 3.

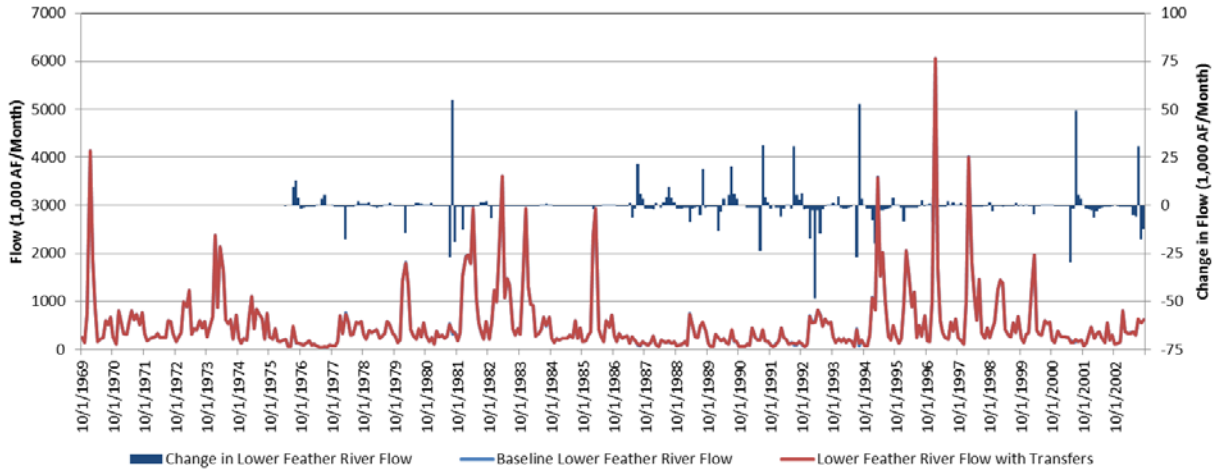


**Figure B-~~53~~54. Lower Feather River with and without Alternative 3 Transfers**

Figure B-~~54~~ 55 illustrates Sacramento River at Freeport under baseline and Alternative 3 transfers. This location is an aggregation of all changes on the

Sacramento River at Wilkins Slough, the Lower Feather River, and the American River at H Street, and changes between those locations and Freeport. Changes between those locations and Freeport include increases in flow due to water made available through groundwater substitution transfers and decreases due to stream-aquifer interaction. Reductions in flow of approximately 50 TAF or more are a result of changes in stream and flood bypass flows during surplus conditions after one or more years of groundwater substation transfers. These changes are also illustrated above in Figure B-~~6~~7.

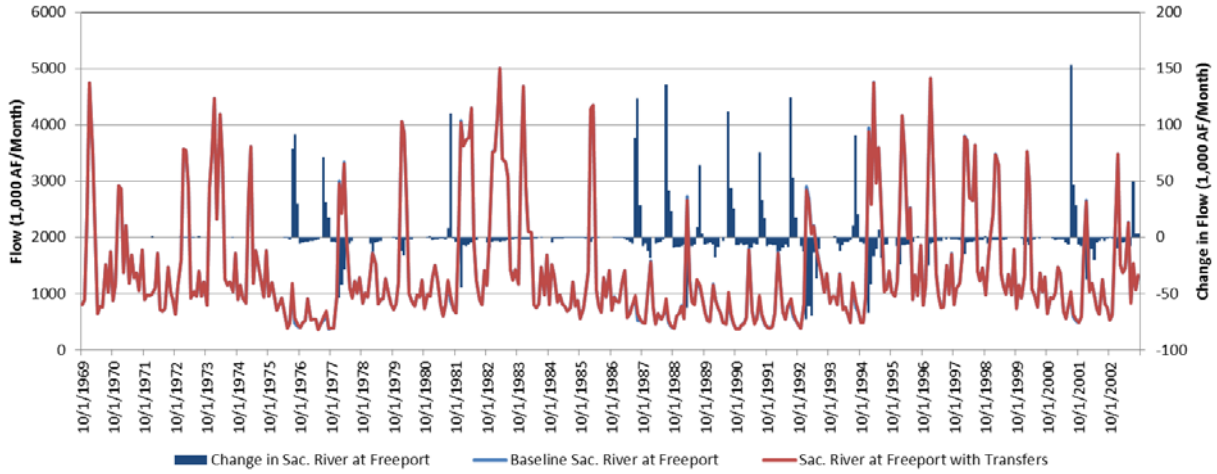


**Figure B-~~54~~55. Sacramento River at Freeport with and without Alternative 3 Transfers**

Figure B-~~55~~ 56 illustrates changes on the Merced River at the confluence with the San Joaquin River. Change in flow corresponds to storage change at Lake McClure; increases represent transfer water made available by reservoir releases at Lake McClure while decreases result from reservoir refill.

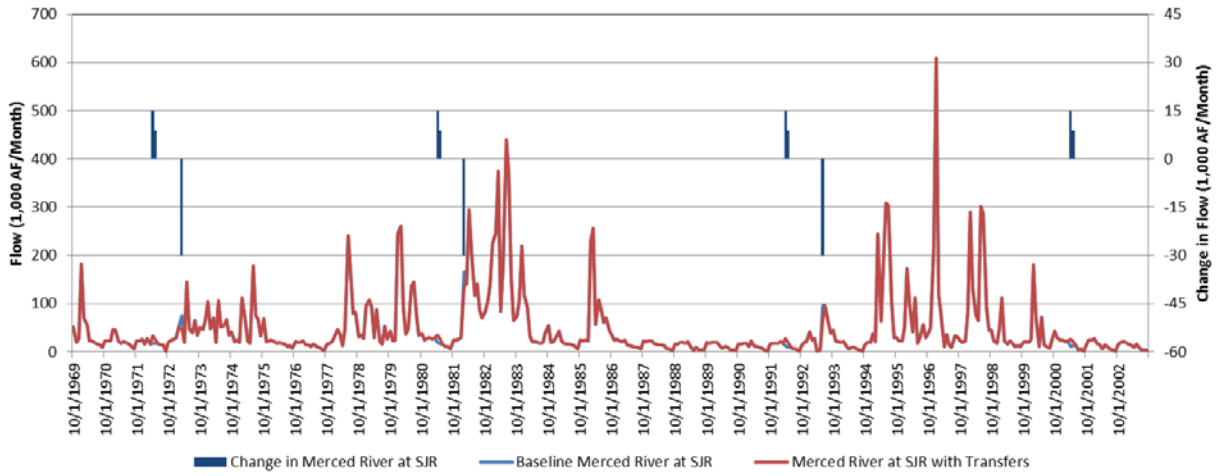


**Figure B-~~55~~56. Merced River at the San Joaquin River with and without Alternative 3 Transfers**

Figure B-~~56~~ 57 illustrates San Joaquin River flows at Vernalis. Increases in flow are Merced ID transfer water to be diverted at Banta Carbona ID and conveyed to the DMC prior to reaching the head of Old River. Decreases in flow occur when Lake McClure refills space vacated by reservoir release transfers and also reduce Delta outflow.

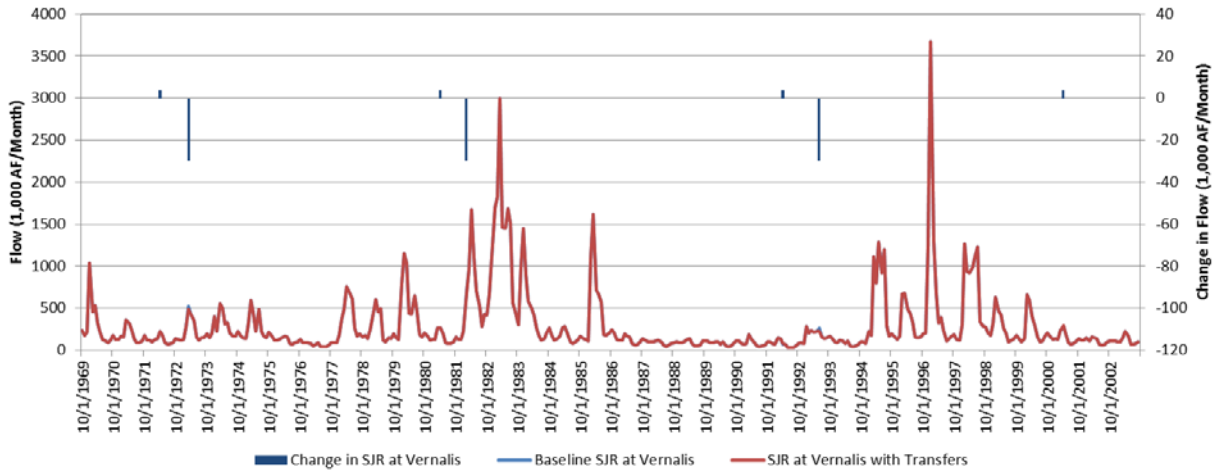


**Figure B-~~56~~57. San Joaquin River at Vernalis with and without Alternative 3 Transfers**

Changes to Delta outflow are illustrated below in Figure B-~~57~~58. Increases in Delta outflow are primarily due to carriage water to facilitate transfers. Decreases in Delta outflow are attributed to reservoir refill upstream and changes in stream-aquifer interaction during surplus conditions.

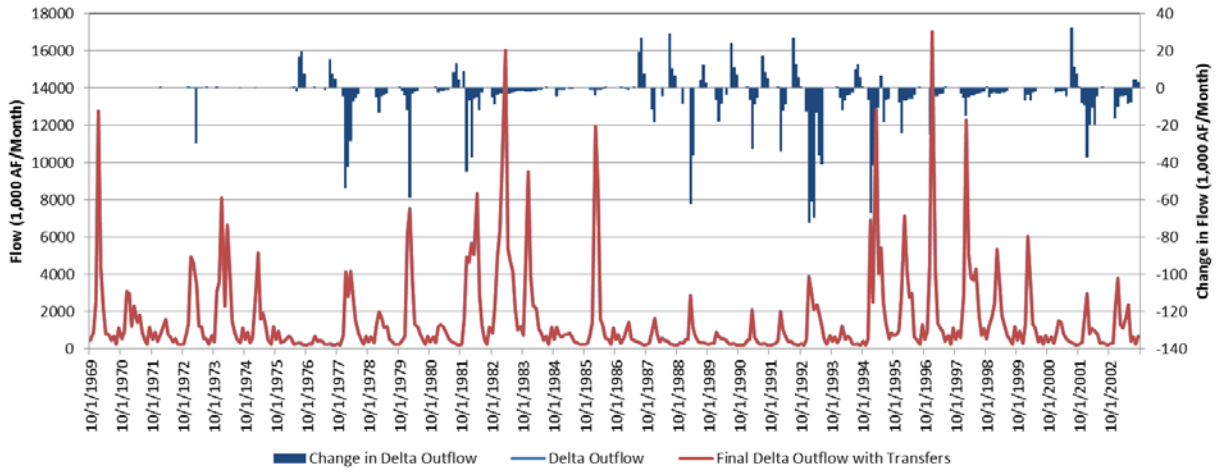


**Figure B-~~57~~58. Delta Outflow with and without Alternative 3 Transfers**

Table B-5 summarizes changes in Delta outflow on a monthly average basis. Average annual Delta outflow is reduced by approximately 31 TAF. Delta outflow increases from July through September due to carriage water for

transfers through the Delta. Delta outflow is reduced from November through June when reservoirs refill and from changes in stream-groundwater interaction during surplus conditions.

**Table B-5. Average Monthly Delta Outflow in (TAF) for Alternative 3**

| Delta Outflow | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Baseline | 393 | 867 | 1,490 | 3,260 | 3,312 | 3,278 | 1,753 | 1,381 | 816 | 546 | 297 | 638 | 18,031 |
| With Transfers | 393 | 867 | 1,485 | 3,250 | 3,300 | 3,268 | 1,748 | 1,378 | 813 | 552 | 301 | 640 | 17,995 |
| Change | 0 | -1 | -5 | -10 | -12 | -10 | -5 | -3 | -3 | 6 | 4 | 2 | -37 |

### *B.6.3.3 Exports and Diversions*

Figure B-~~58~~ 59 illustrates the change in exports at Jones Pumping Plant. Increases are primarily transfer water exported to SLDMWA. Decreases in exports at Jones occur as a result of changes in stream-groundwater interaction that reduce Delta inflow during balanced conditions.

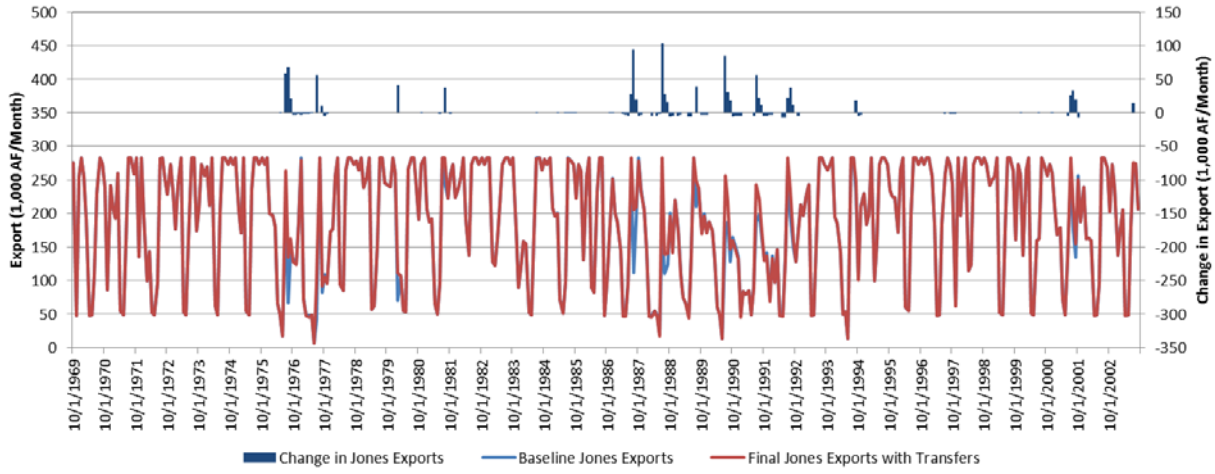


**Figure B-~~58~~59. Exports at Jones Pumping Plant with and without Alternative 3 Transfers**

Table B-6 summarizes the average monthly exports at Jones Pumping Plant. Increases occur during the transfer months of July, August, and September, with an average annual increase of 25 TAF. There are small decreases in most other months.

**Table B-6. Average Monthly Exports at Jones Pumping Plant (TAF) for Alternative 3**

| Jones Exports | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Baseline | 222 | 212 | 235 | 197 | 186 | 198 | 69 | 65 | 153 | 256 | 252 | 223 | 2,268 |
| With Transfers | 221 | 211 | 235 | 197 | 187 | 198 | 69 | 65 | 152 | 269 | 263 | 227 | 2,292 |
| Change | -1 | -1 | 0 | 0 | 1 | 0 | 0 | -1 | -1 | 13 | 11 | 4 | 25 |

Increases in exports at Banks Pumping Plant occur when Banks is used to export transfer water. This is illustrated below in Figure B-~~59~~60.

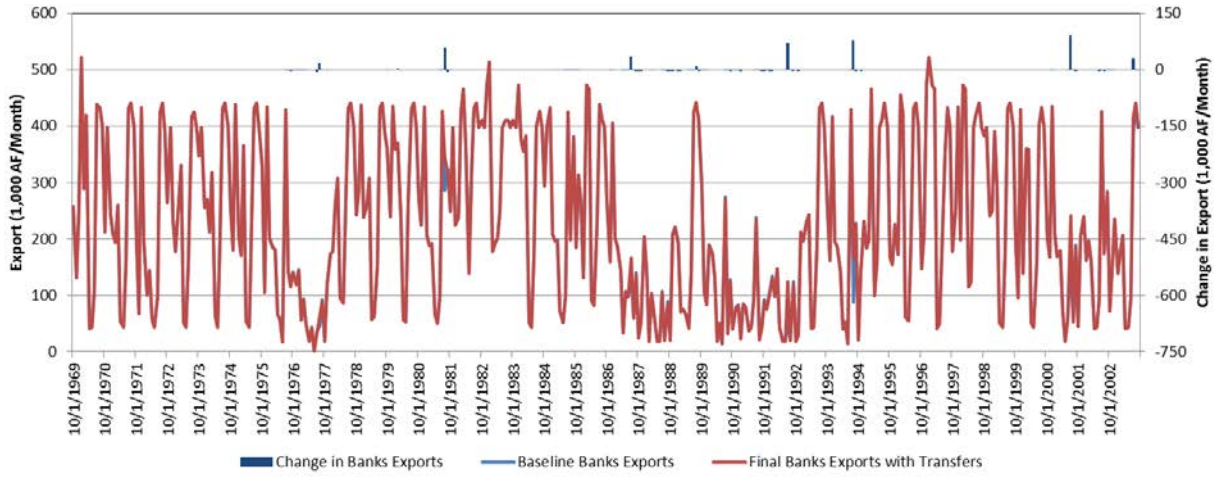


**Figure B-~~59~~60. Exports at Banks Pumping Plant with and without Alternative 3 Transfers**

Table B-7 summarizes the average monthly exports at Banks Pumping Plant. Pumping increases in the months of July, August, and September with an average annual increase of 8.3 TAF.

**Table B-7. Average Monthly Exports at Banks Pumping Plant (TAF) for Alternative 3**

| Banks Exports | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Baseline | 202 | 212 | 307 | 222 | 239 | 261 | 70 | 62 | 156 | 363 | 316 | 320 | 2,731 |
| With Transfers | 201 | 211 | 307 | 221 | 239 | 261 | 70 | 62 | 156 | 370 | 320 | 319 | 2,737 |
| Change | -1 | -1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 4 | -1 | 6 |

Total CVP/SWP exports, the sum of exports at Jones and Banks Pumping Plants, are illustrated in Figure B-~~60~~61.

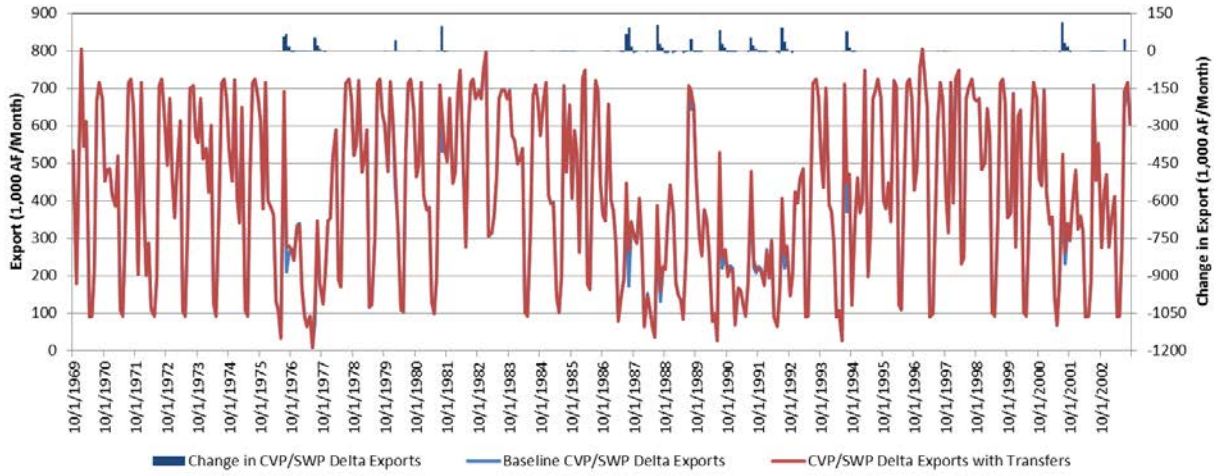


**Figure B-~~60~~61. Total CVP/SWP Exports from the Delta with and without Alternative 3 Transfers**

Table B-8 summarizes the average monthly combined CVP/SWP exports. The average annual change under Alternative 3 is approximately 31 TAF. Exports increase in the July through September period and decrease in most other months.

**Table B-8. Average Monthly Combined CVP/SWP Exports (TAF) for Alternative 3**

| CVP/SWP Exports | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Baseline | 424 | 424 | 543 | 419 | 425 | 459 | 138 | 128 | 309 | 619 | 568 | 543 | 4,998 |
| With Transfers | 422 | 422 | 542 | 418 | 426 | 459 | 138 | 127 | 308 | 638 | 583 | 546 | 5,030 |
| Change | -2 | -2 | -1 | -1 | 1 | 0 | 0 | -1 | -1 | 19 | 16 | 3 | 31 |

Figure B-~~61~~ 62 illustrates baseline, Alternative 3, and the change in East Bay MUD diversions at Freeport. The changes are an increase in diversions during months when East Bay MUD would be taking CVP Project water.

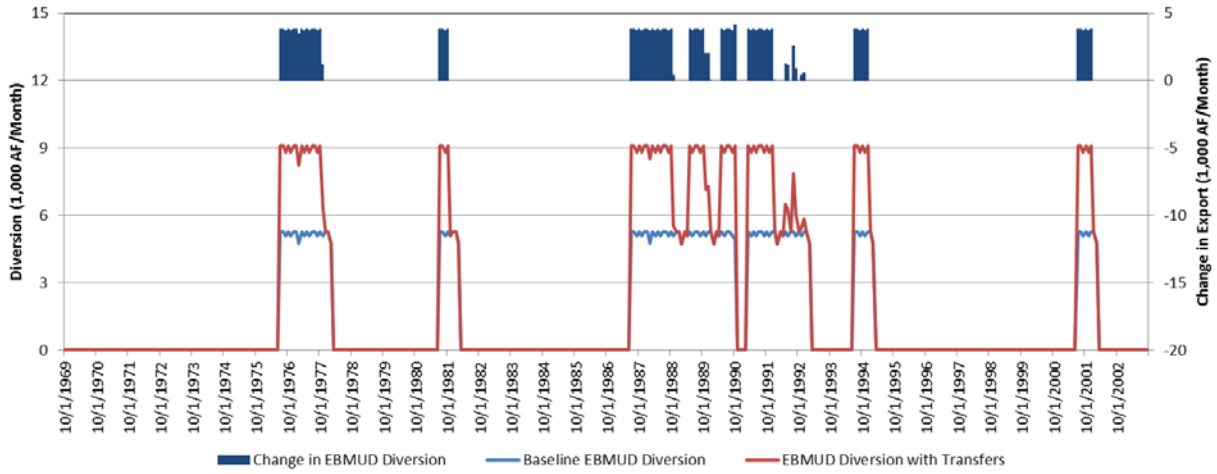


**Figure B-~~61~~62. East Bay MUD Diversions with and without Alternative 3 Transfers**

Contra Costa WD diversions increase to take delivery of transfer water as illustrated below in Figure B-~~62~~63. Contra Costa WD identified an annual transfer demand of up to 15 TAF and this volume of water diverted at a rate of five TAF per month during the July through September period. Contra Costa WD diversions of transfer water are assumed to occur at the point of diversion with the best water quality and available capacity.

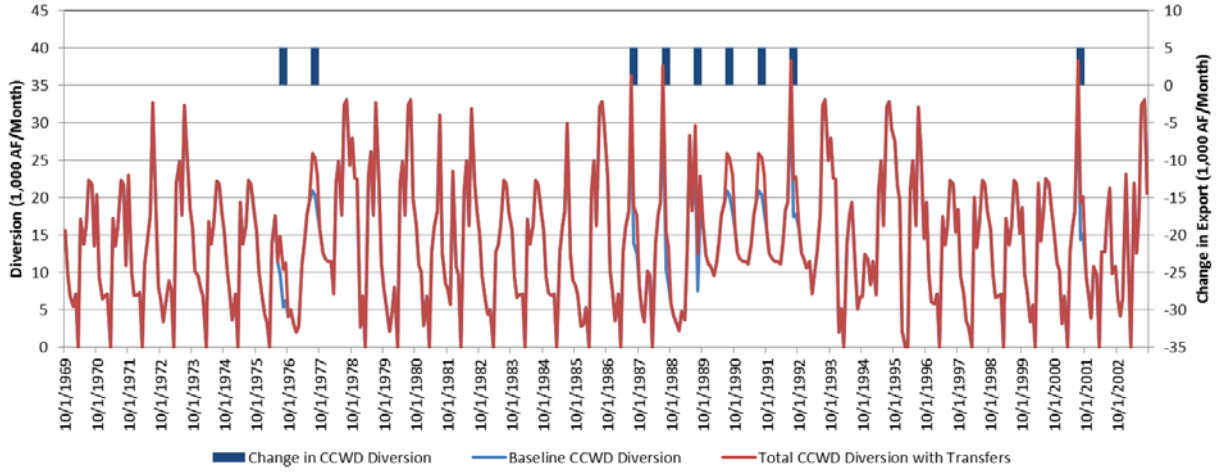


**Figure B-~~62~~63. Contra Costa WD Diversions with and without Alternative 3 Transfers**

## B.6.4 Alternative 4: No Groundwater Substitution

Alternative 4 would include transfers through cropland idling, crop shifting, stored reservoir release, and conservation. It would not include any groundwater substitution transfers.

Figure B-~~63~~ 64 summarizes the quantity of transfer water made available under Alternative 4 on an annual basis and illustrates where the water is diverted or used. As in the other alternatives, a percentage of water to be transferred through the Delta goes to carriage water to maintain Delta water quality with increased exports under the transfer alternative. The volume of crop idling water available under Alternative 4 is greater than under Alternative 2 because some sellers may choose to expand crop idling transfers if groundwater substitution transfers are not used.

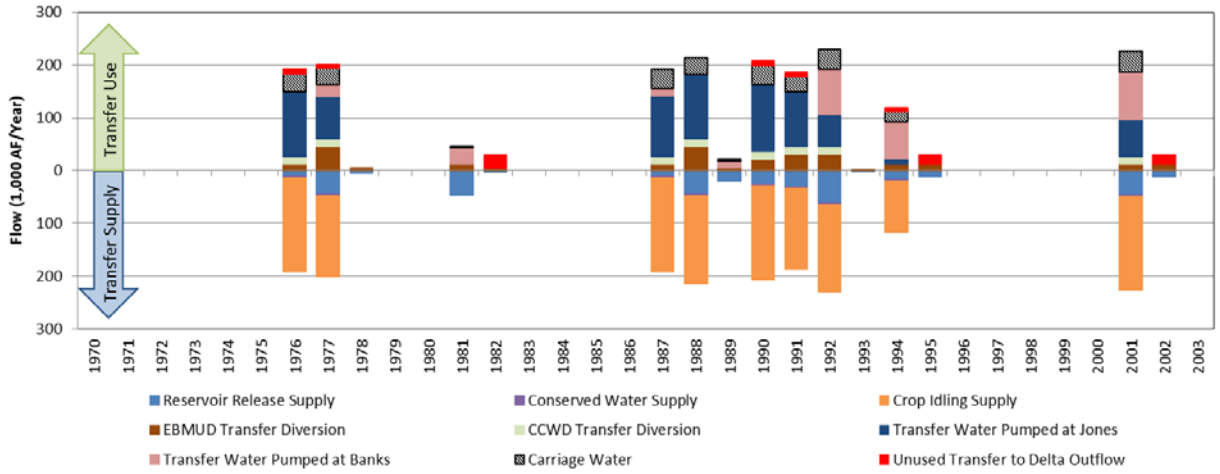


**Figure B-~~63~~64. Annual Transfers Summary for Alternative 4**

### *B.6.4.1 Storage*

Figure B-~~64~~ 65 illustrates the change in operations at Shasta with the Project. Under Alternative 4 Shasta storage increases in some month when transfer water made available in May and June from crop idling can be stored for transfer in July, August, and September. There are no reductions in Shasta storage under this alternative because there are no releases in excess of baseline releases to account for changes in stream-aquifer interaction.

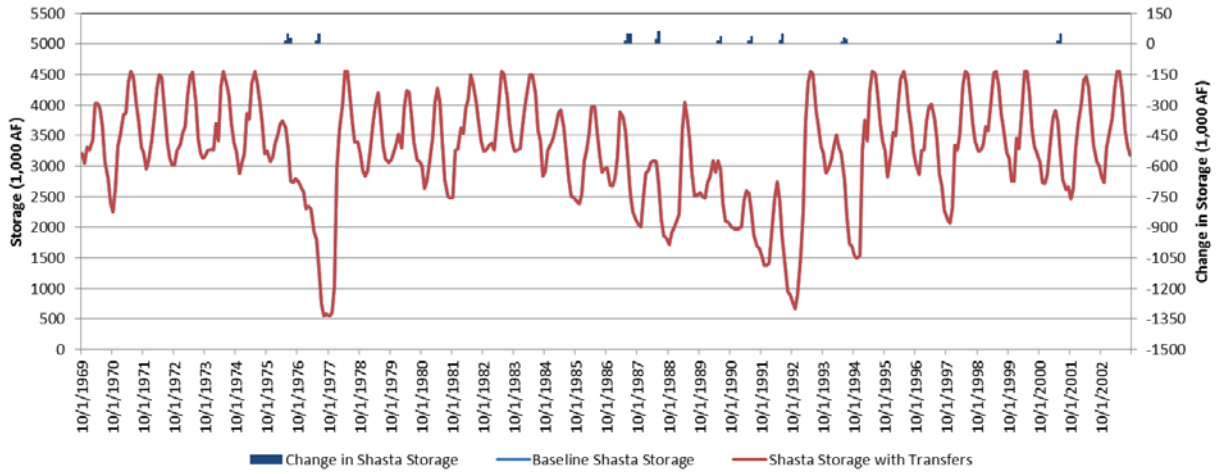


**Figure B-~~64~~65. Shasta Operations with and without Alternative 4 Transfers**

Operations at Folsom under Alternative 4 are illustrated below in Figure B-~~65~~66. Transfer water can be temporarily stored in Folsom for release and delivery in subsequent months. This includes transfers from crop idling in the Sacramento Valley, and reservoir release from upstream Placer County Water Agency reservoirs.

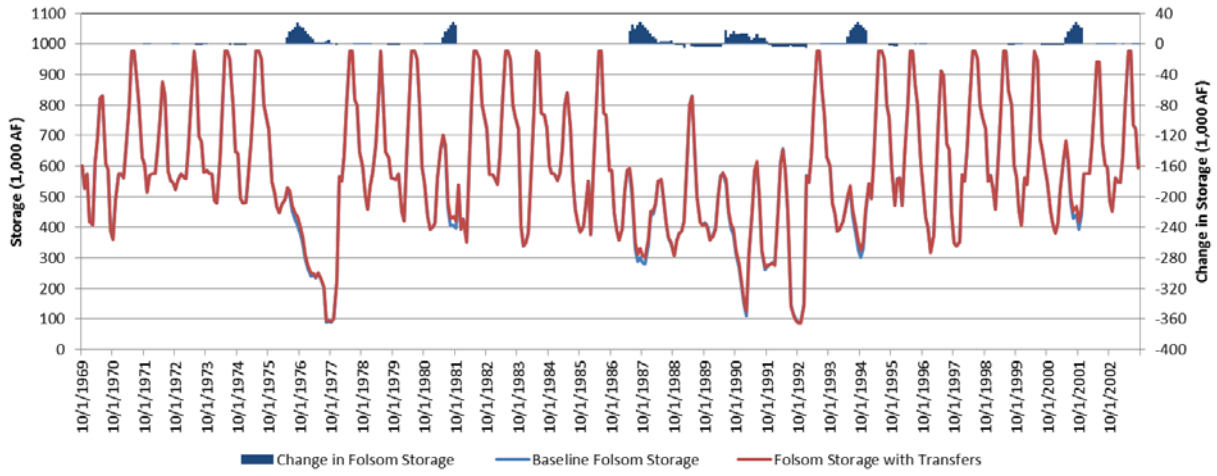


**Figure B-~~65~~66. Folsom Operations with and without Alternative 4 Transfers**

Figure B-~~66~~ 67 illustrates the change in SWP operations at Oroville. Changes in Oroville storage occur from shifts in the timing of delivery of SWP water to accommodate transfers and temporary storage of crop idling water.

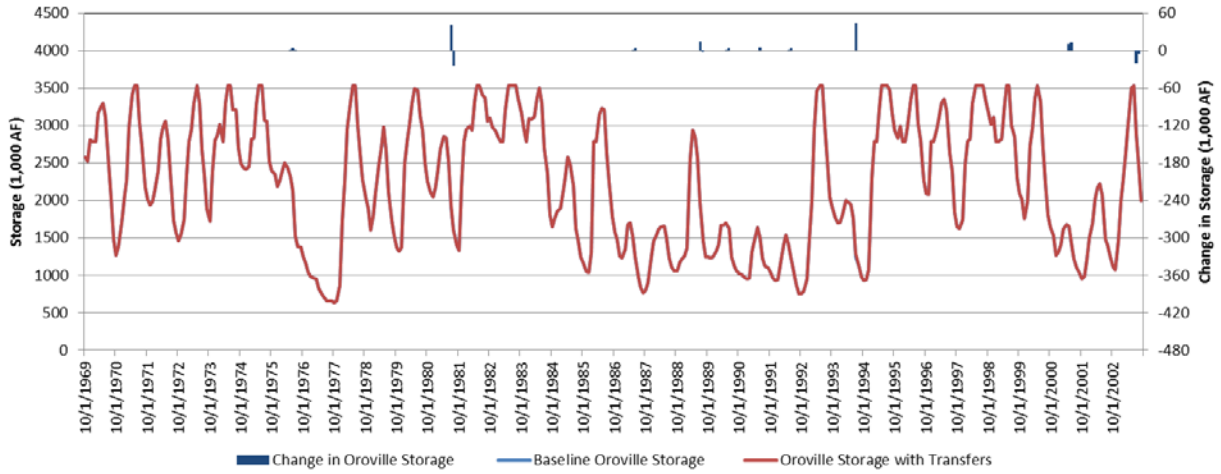


**Figure B-~~66~~67. Oroville Operations with and without Alternative 4 Transfers**

South Sutter WD releases water from Camp Far West Reservoir to participate in reservoir release transfers. Figure B-~~67~~ 68 illustrates the only change in reservoir storage from baseline conditions as the quantity released for transfer. Camp Far West Reservoir storage returns to baseline levels when the reservoir refills.

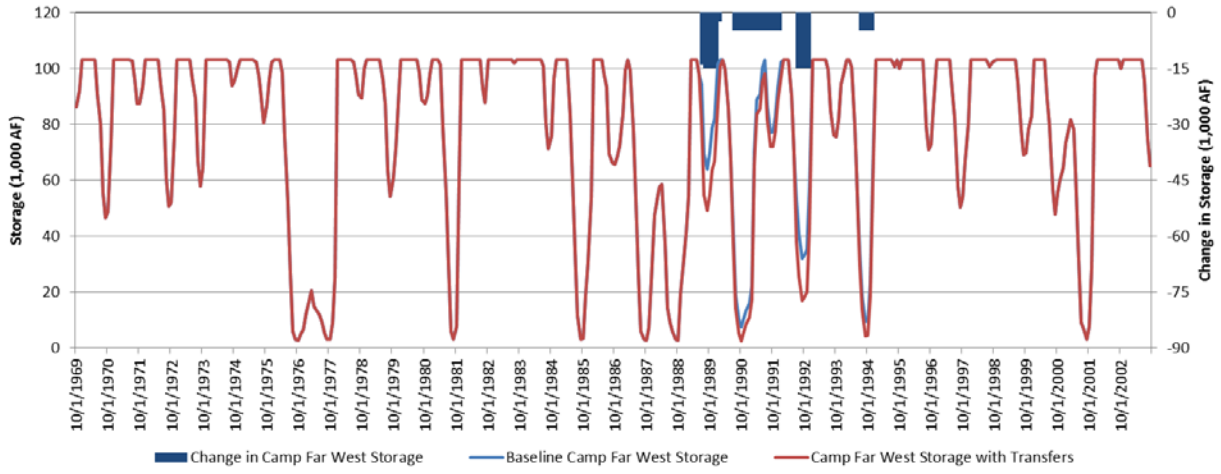


**Figure B-~~67~~68. Camp Far West Operations with and without Alternative 4 Transfers**

Browns Valley ID releases up to five TAF of water from Merle Collins Reservoir for transfer. Changes in Merle Collins storage are the same for Alternatives 2, 3, and 4 because all alternatives include reservoir release transfer measures. Figure B-~~68~~ 69 illustrates Browns Valley ID operations of Merle Collins when making reservoir release transfers of up to five TAF.

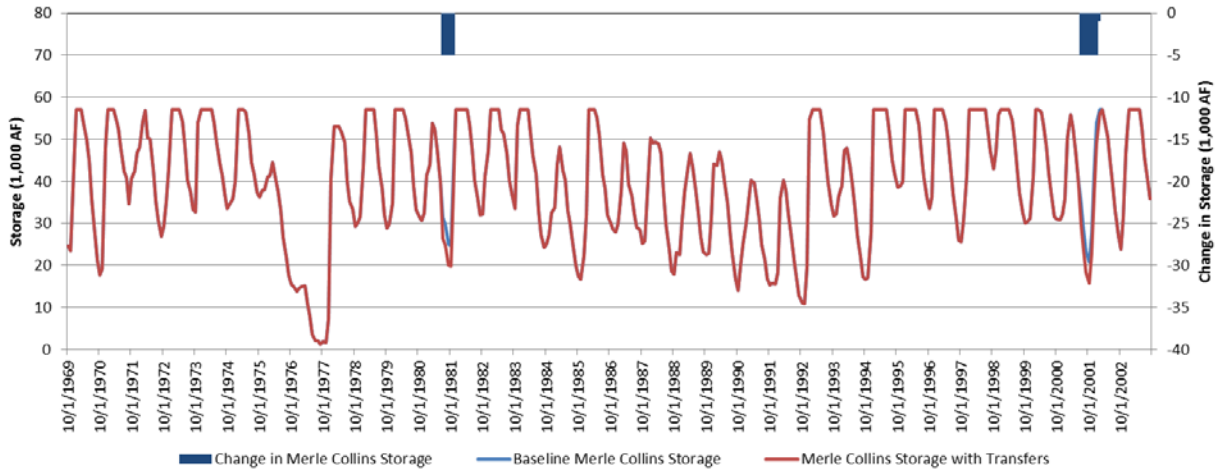


**Figure B-~~68~~69. Merle Collins Operations with and without Alternative 4 Transfers**

Placer County Water Agency releases water from MFP reservoirs for transfer to East Bay MUD. Changes in MFP storage are the same for Alternatives 2, 3, and 4 because all alternatives include reservoir release transfer measures (see Figure B-~~69~~70).

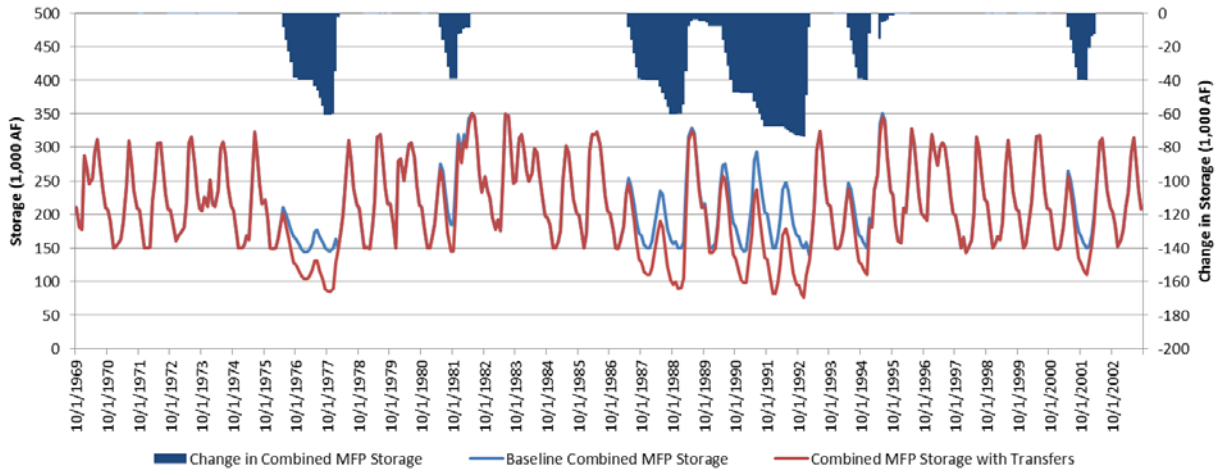


**Figure B-~~69~~70. MFP Operations with and without Alternative 4 Transfers**

Figure B-~~70~~ 71 illustrates Merced ID operations of Lake McClure when making reservoir release transfers of up to 30 TAF.

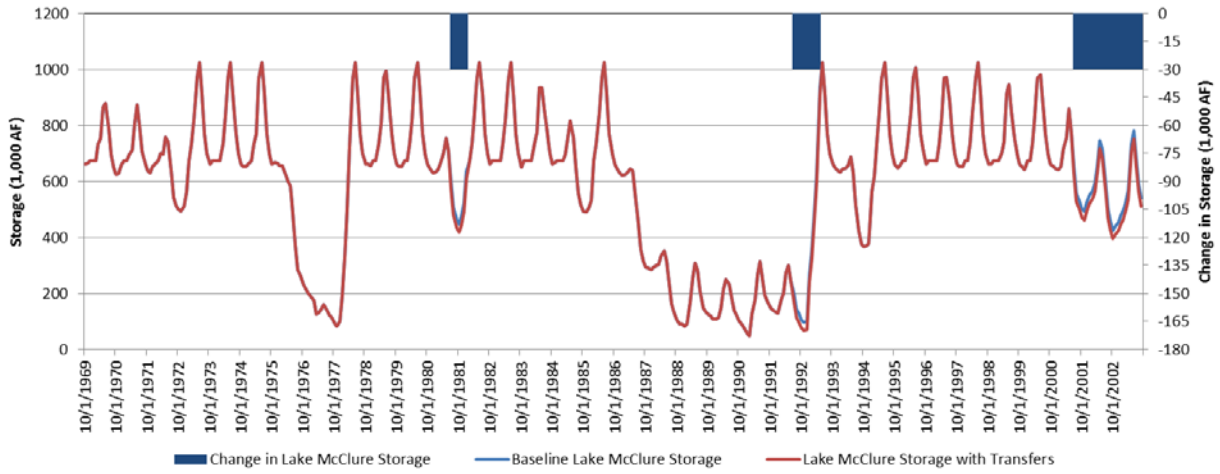


**Figure B-~~70~~71. Lake McClure Operations with and without Alternative 4 Transfers**

Browns Valley ID's conserved water is stored in Yuba County Water Agency's New Bullards Bar Reservoir and released for transfer in years with demand and available export capacity. These releases of conserved water are the only effect to New Bullards Bar Reservoir as illustrated below in Figure B-~~71~~72. New Bullards Bar Reservoir storage returns to baseline levels when the reservoir refills.

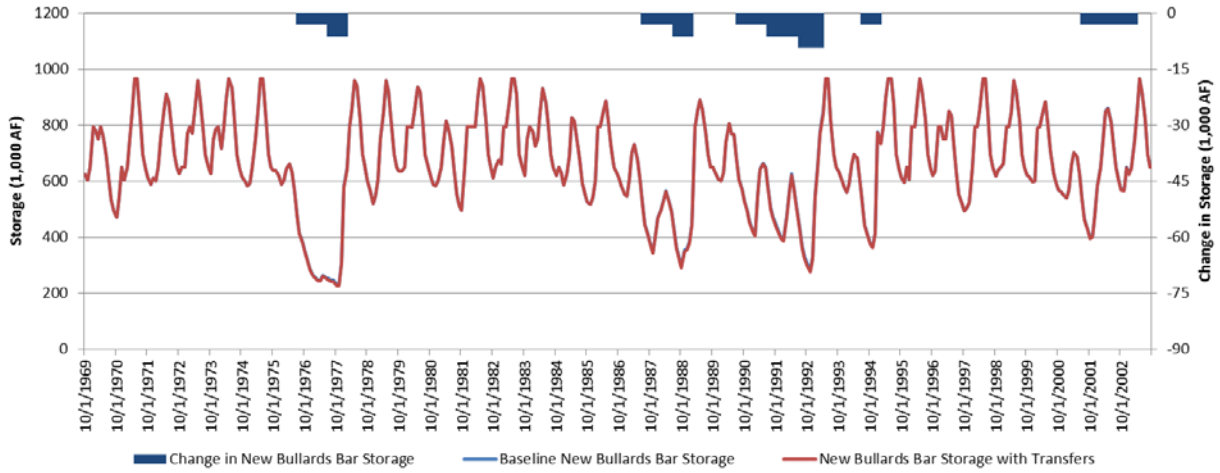


**Figure B-~~71~~72. New Bullards Bar Operations with and without Alternative 4 Transfers**

### *B.6.4.2 Stream Flow*

Releases from Keswick Dam correspond with Shasta operations as illustrated below in Figure B-~~72~~73. Decreases in release occur when crop idling transfers are stored in Shasta and precede increases as stored transfer water is released for transfer through the Delta. There are no releases in response to changes in

stream-groundwater interaction because there are no groundwater substitution transfers in Alternative 4.

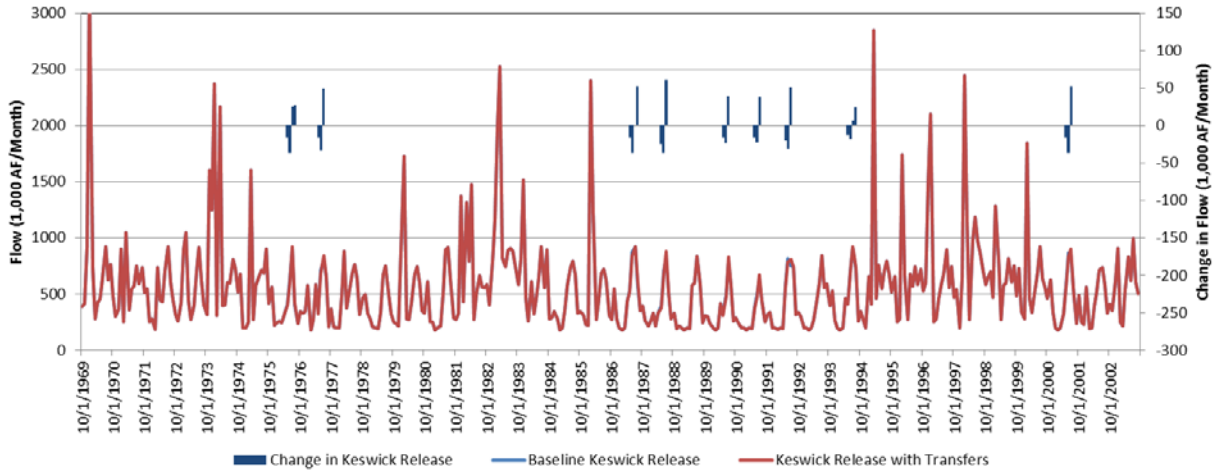


**Figure B-~~72~~73. Keswick Dam Release with and without Alternative 4 Transfers**

Figure B-~~73~~ 74 illustrates the effect of Alternative 4 transfers to the Sacramento River at Wilkins Slough. Increased flows result from changes in Keswick release, plus water made available by crop idling transfers upstream of Wilkins Slough. Decreases occur when transfer water is stored upstream in Shasta.

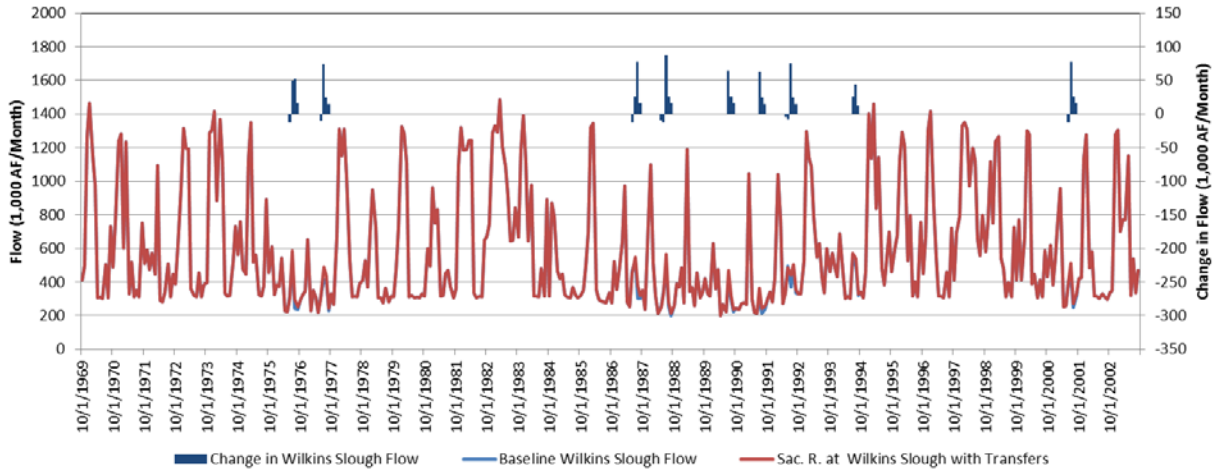


**Figure B-~~73~~74. Sacramento River at Wilkins Slough with and without Alternative 4 Transfers**

Figure B-~~74~~ 75 illustrates Nimbus Dam releases. Nimbus releases reflect CVP operations of Folsom Reservoir. Increases in release occur when Placer County Water Agency transfer water is released from Folsom for diversion at Freeport by East Bay MUD. Decreases can occur if transfer water made available

downstream from Folsom is stored in Folsom and when Placer County Water Agency's upstream reservoirs refill.

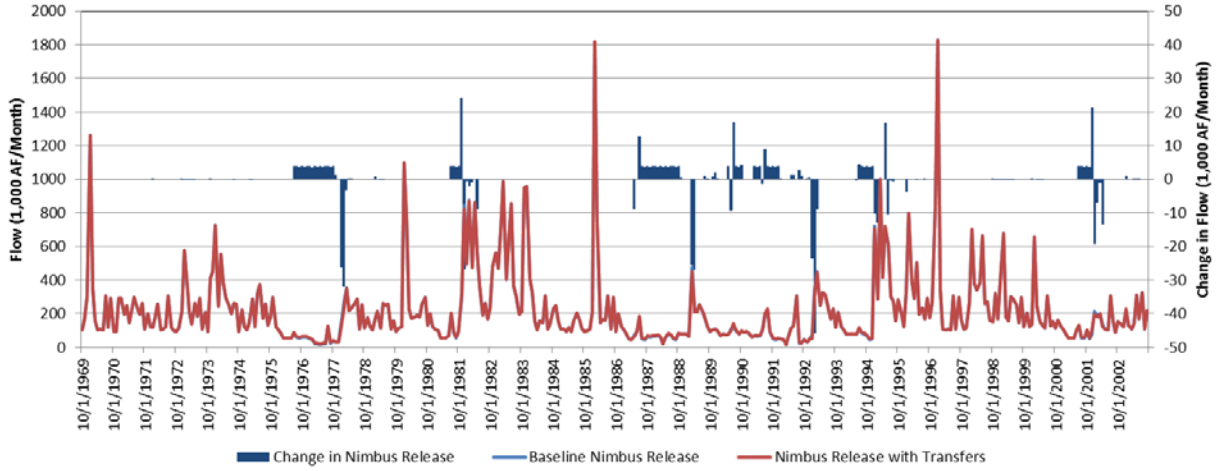


**Figure B-~~74~~75. Nimbus Dam Release with and without Alternative 4 Transfers**

Flows on the American River at H Street, illustrated below in Figure B-~~75~~76, reflect the same changes in flow under Alternative 4 as illustrated above at Nimbus.

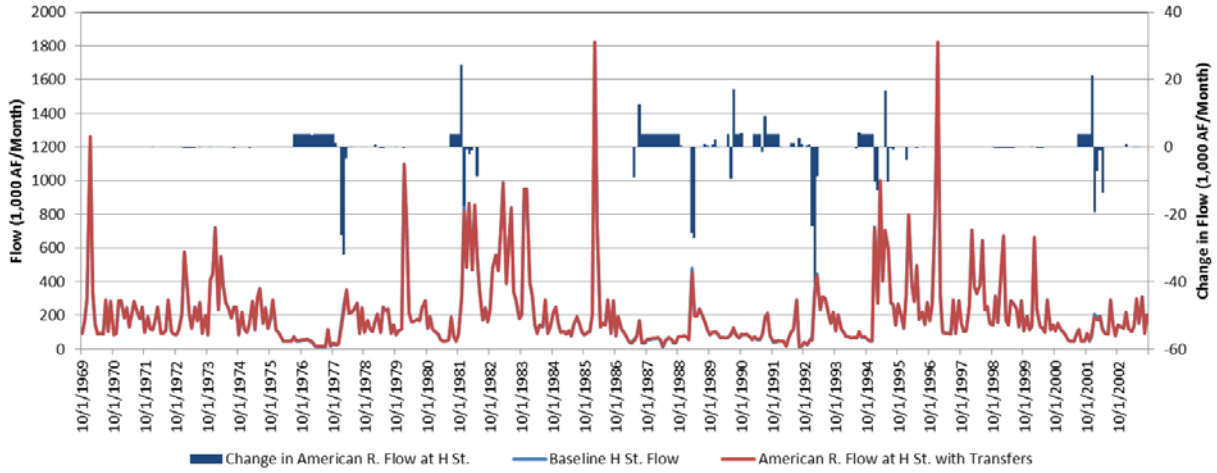


**Figure B-~~75~~76. American River at H Street with and without Alternative 4 Transfers**

Figure B-~~76~~ 77 illustrates change in Feather River flow below Thermalito. Feather River flows change due to changes in operations at Oroville. Increases and decreases in flow on the Feather River below Thermalito are primarily a result of shifting the timing of delivery of SWP water to accommodate transfers. Changes also occur when crop idling water, stored in previous months, is released down the Feather River for delivery through the Delta.

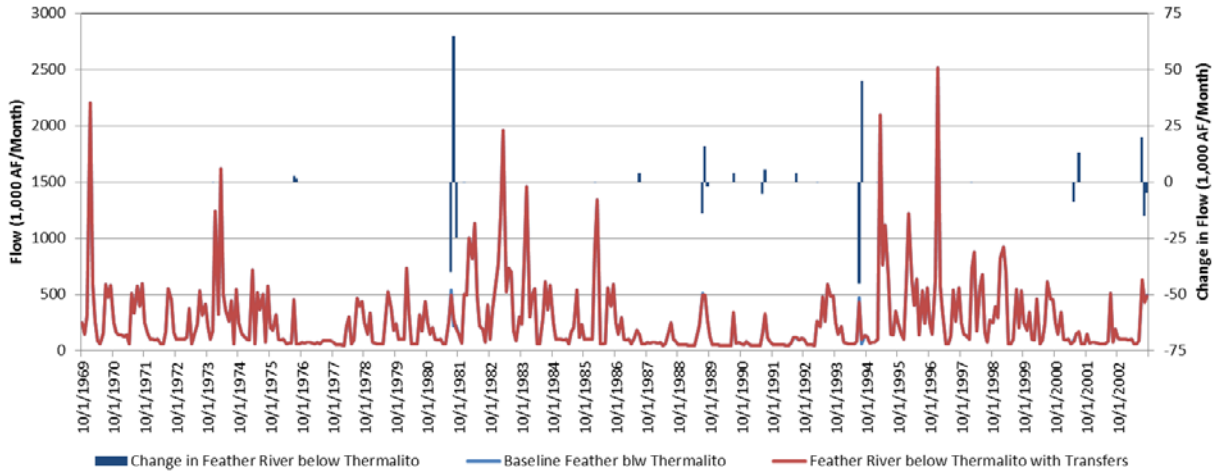


**Figure B-~~76~~77. Feather River below Thermalito with and without Alternative 4 Transfers**

Figure B-~~77~~ 78 illustrates changes in flow on the Yuba River as a result of Browns Valley ID's reservoir release transfers from Merle Collins Reservoir and release of Browns Valley ID's conserved water from New Bullards Bar Reservoir. Decreases occur when these reservoirs refill.

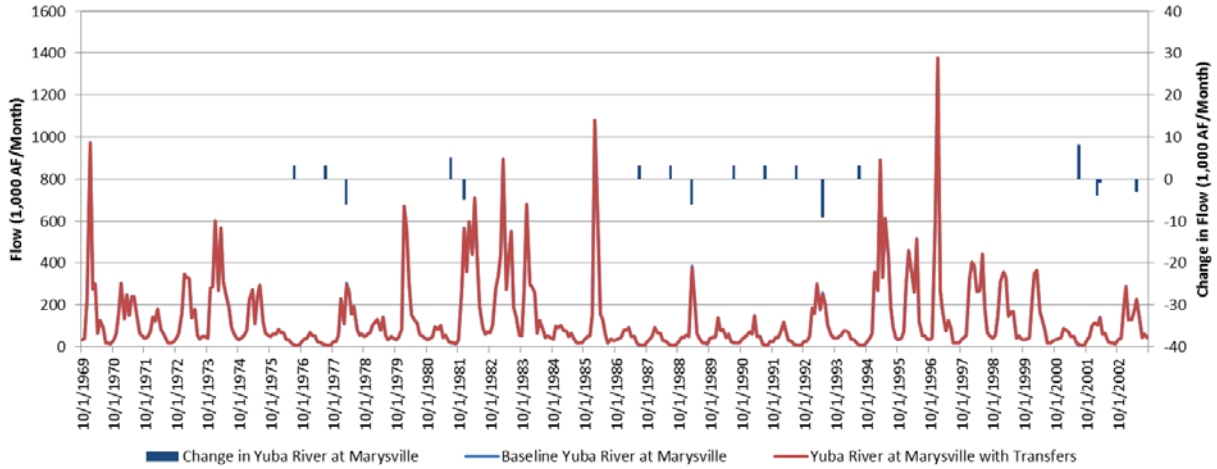


**Figure B-~~77~~78. Yuba River at Marysville with and without Alternative 4 Transfers**

Figure B-~~78~~ 79 illustrates the response of Bear River flows into the Feather River as a result of South Sutter WD reservoir release transfers from Camp Far West Reservoir. Flows increase when water is released for transfer and decrease when Camp Far West refills.

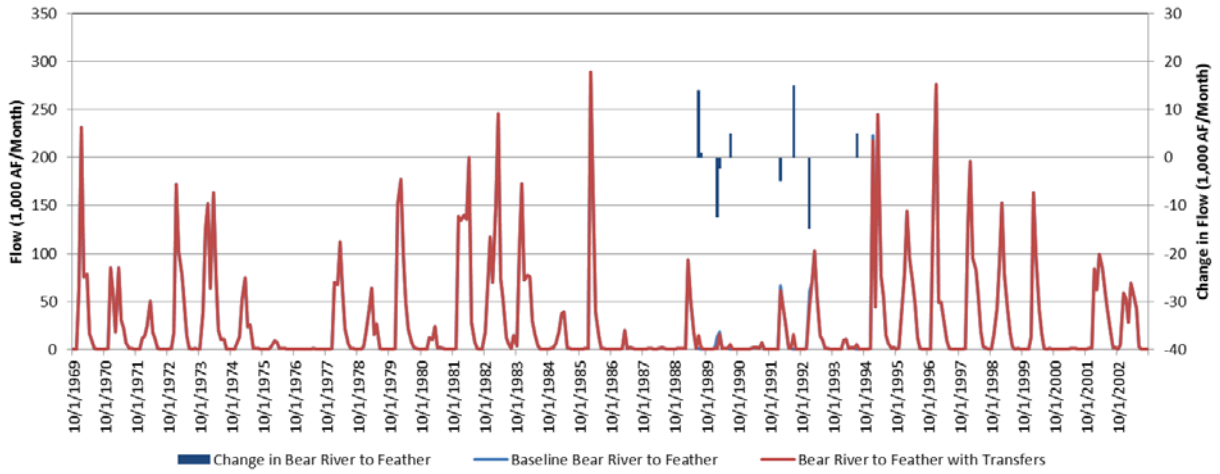


**Figure B-~~78~~79. Bear River to the Feather River with and without Alternative 4 Transfers**

The flow on the Lower Feather River represents an aggregation of flows on the Yuba River, Bear River, and upper portions of the Feather River. There are also increases due to water made available by crop idling transfers. Figure B-~~79~~ 80 represents the effect to the Feather River system.

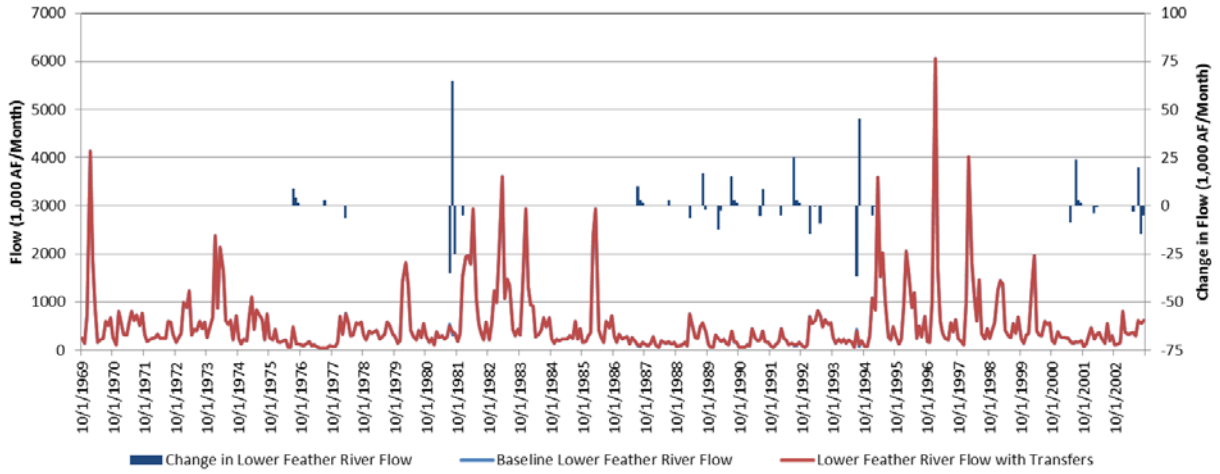


**Figure B-~~79~~80. Lower Feather River with and without Alternative 4 Transfers**

Figure B-~~80~~ 81 illustrates the flow of the Sacramento River at Freeport. This location is an aggregation of all changes on the Sacramento River at Wilkins Slough, the Lower Feather River, and the American River at H Street, and changes between those locations and Freeport. Changes between those locations and Freeport include increases in flow due to water made available through crop idling transfers.

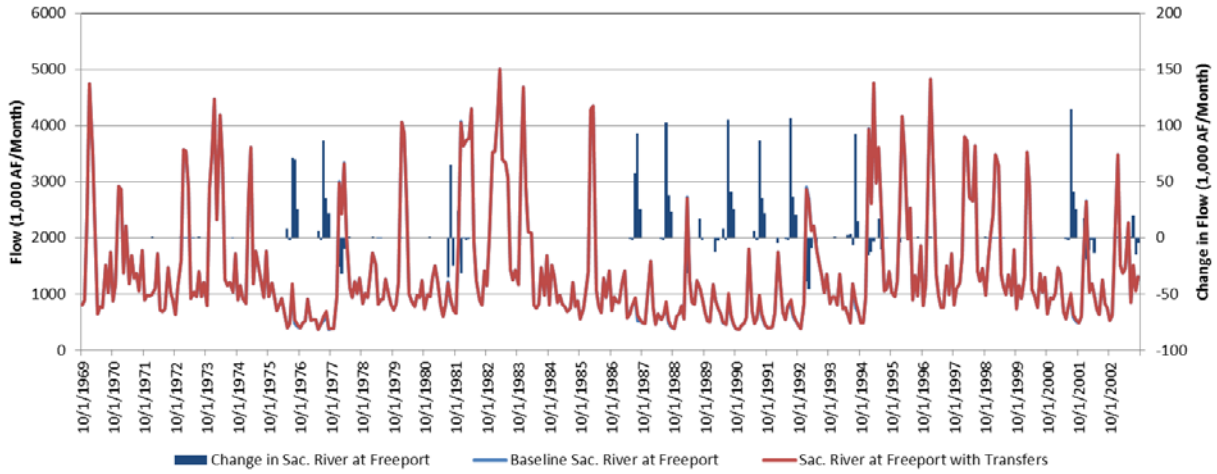


**Figure B-~~80~~81. Sacramento River at Freeport with and without Alternative 4 Transfers**

Figure B-~~81~~ 82 illustrates changes on the Merced River at the confluence with the San Joaquin River. Increases in Merced River flow are transfer water made available by reservoir releases at Lake McClure; decreases are a result of reservoir refill.

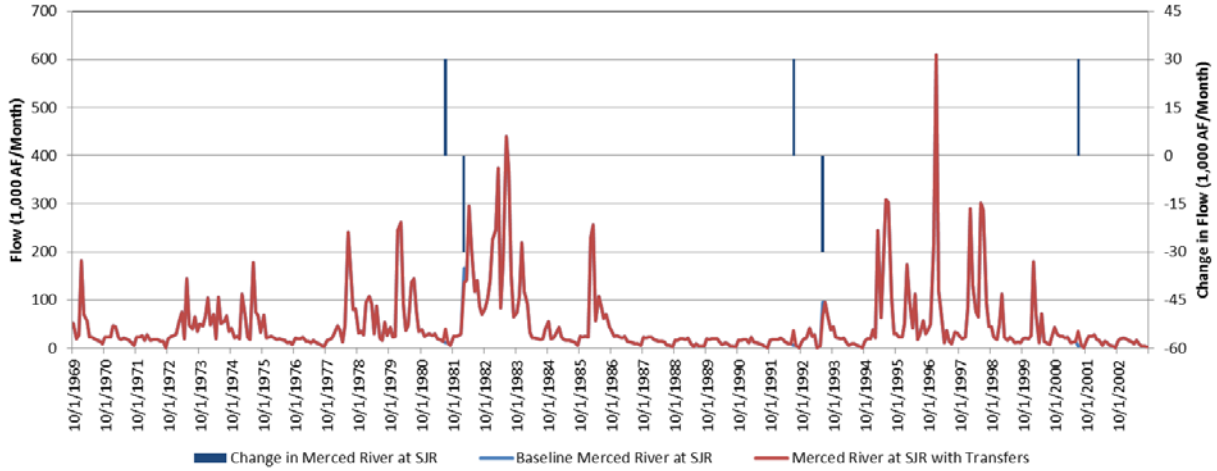


**Figure B-~~81~~82. Merced River at the San Joaquin River with and without Alternative 4 Transfers**

Figure B-~~82~~ 83 illustrates San Joaquin River flows at Vernalis. Increases in flow result from Merced ID transfers. Under Alternative 4, transfer water made available by Merced ID is diverted at CVP/SWP export facilities in the south Delta. Therefore, changes at Vernalis equal changes in Merced River flows at the confluence with the San Joaquin River.

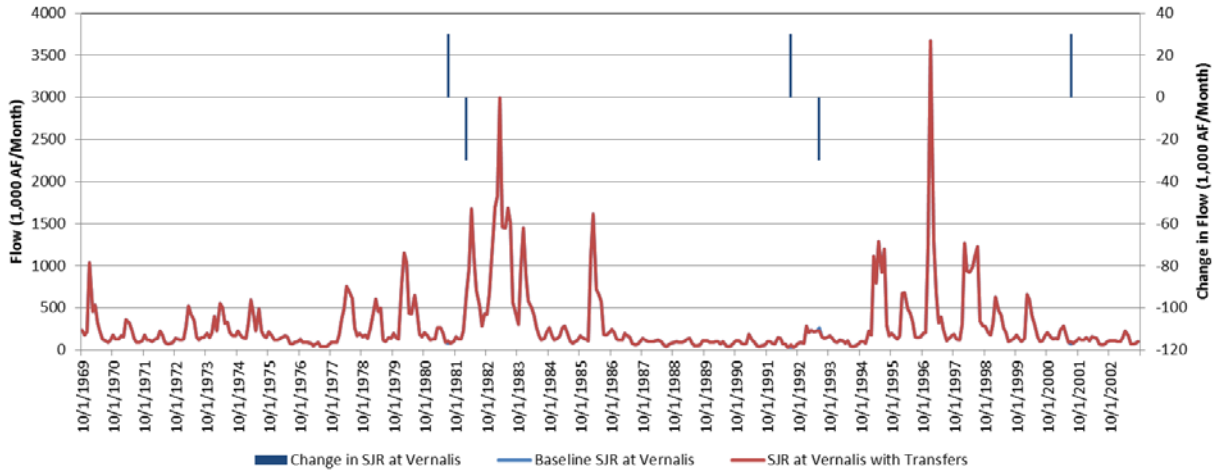


**Figure B-~~82~~83. San Joaquin River at Vernalis with and without Alternative 4 Transfers**

Changes to Delta outflow are illustrated below in Figure B-~~83~~84. Increases in Delta outflow are primarily due to carriage water to facilitate transfers through the Delta. Decreases in Delta outflow are attributed to reservoir refill upstream.

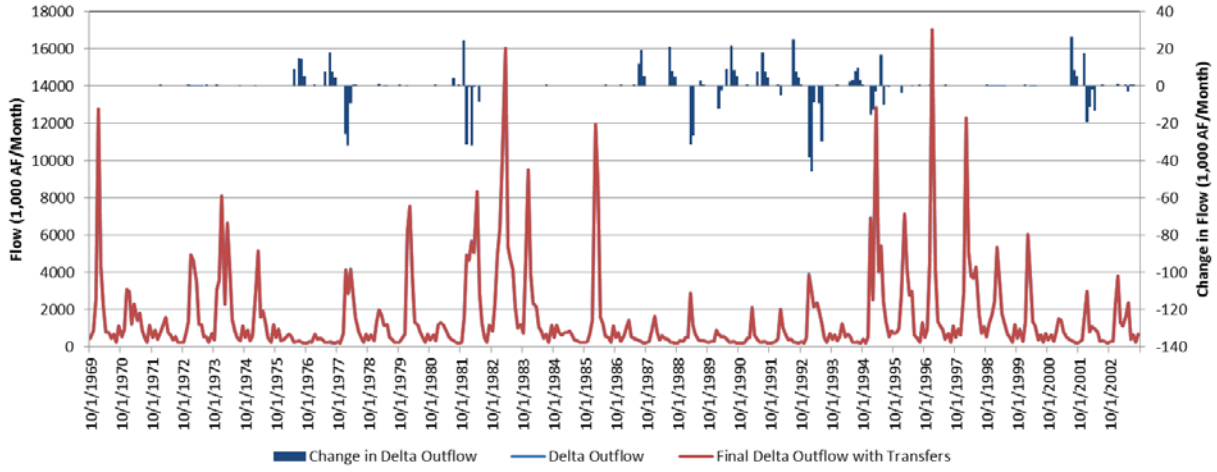


**Figure B-~~83~~84. Delta Outflow with and without Alternative 4 Transfers**

Table B-9 summarizes these changes on an average monthly and annual basis. Average annual Delta outflow is reduced by one TAF with increases primarily from July through September for carriage water and decreases primarily from January through March as reservoirs that made transfer releases refill.

**Table B-9. Average Monthly Delta Outflow (TAF) for Alternative 4**

| Delta Outflow | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Baseline | 393 | 867 | 1,490 | 3,260 | 3,312 | 3,278 | 1,753 | 1,381 | 816 | 546 | 297 | 638 | 18,031 |
| With Transfers | 393 | 868 | 1,489 | 3,257 | 3,307 | 3,277 | 1,751 | 1,382 | 815 | 551 | 300 | 640 | 18,030 |
| Change | 0 | 1 | 0 | -3 | -4 | -2 | -1 | 1 | -1 | 5 | 3 | 1 | -1 |

### *B.6.4.3 Exports and Diversions*

Figure B-~~84~~ 85 illustrates the change in exports at Jones Pumping Plant. Under Alternative 4 there are only increases in exports.

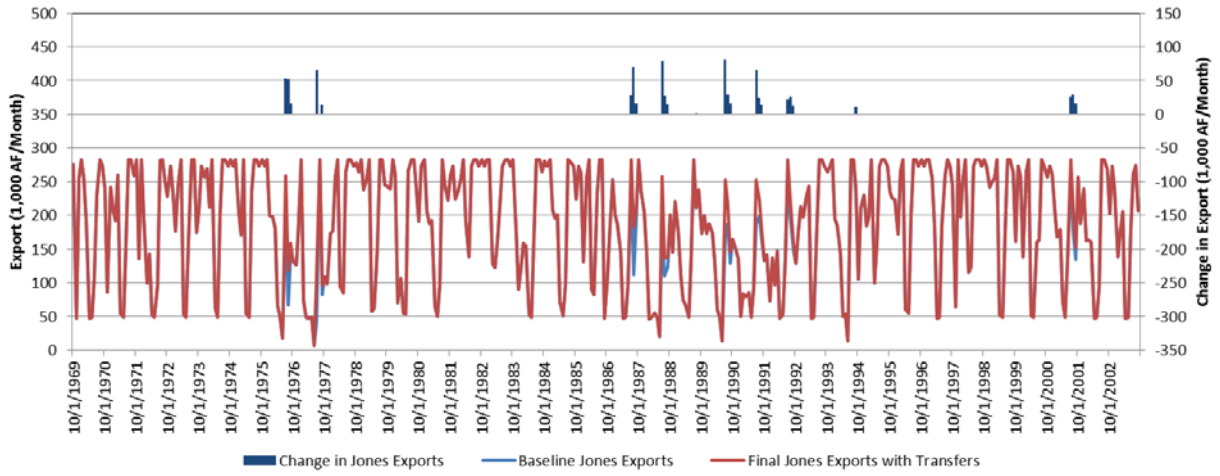


**Figure B-~~84~~85. Exports at Jones Pumping Plant with and without Alternative 4 Transfers**

Table B-10 summarizes the average monthly exports at Jones Pumping Plant. Increases occur during the transfer months of July, August, and September, with an average annual increase of 24 TAF.

**Table B-10. Average Monthly Exports at Jones Pumping Plant (TAF) for Alternative 4**

| Jones Exports | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Baseline | 222 | 212 | 235 | 197 | 186 | 198 | 69 | 65 | 153 | 256 | 252 | 223 | 2,268 |
| With Transfers | 222 | 212 | 235 | 197 | 186 | 198 | 69 | 65 | 153 | 268 | 259 | 227 | 2,291 |
| Change | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 8 | 4 | 24 |

Increases in Banks Pumping Plant exports occur when Banks is used to export transfer water. Decreases occur when the timing of SWP water as simulated in the CalSim II baseline is shifted to help facilitate transfers. These changes are illustrated below in Figure B-~~85~~86.

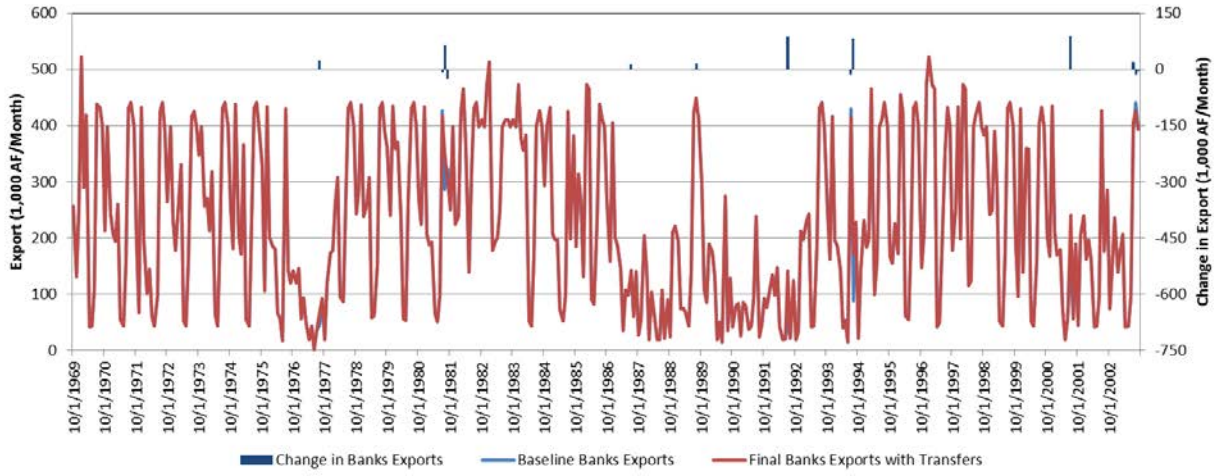


**Figure B-~~85~~86. Exports at Banks Pumping Plant with and without Alternative 4 Transfers**

Table B-11 summarizes average monthly exports at Banks Pumping Plant. Average annual Banks exports increase by ten TAF.

**Table B-11. Average Monthly Exports at Banks Pumping Plant (TAF) for Alternative 4**

| Banks Exports | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Baseline | 202 | 212 | 307 | 222 | 239 | 261 | 70 | 62 | 156 | 363 | 316 | 320 | 2,731 |
| With Transfers | 202 | 212 | 307 | 222 | 239 | 261 | 70 | 62 | 156 | 369 | 321 | 319 | 2,740 |
| Change | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 5 | -1 | 10 |

Total CVP/SWP exports, the sum of exports at Jones and Banks Pumping Plants, are illustrated in Figure B-~~86~~87.

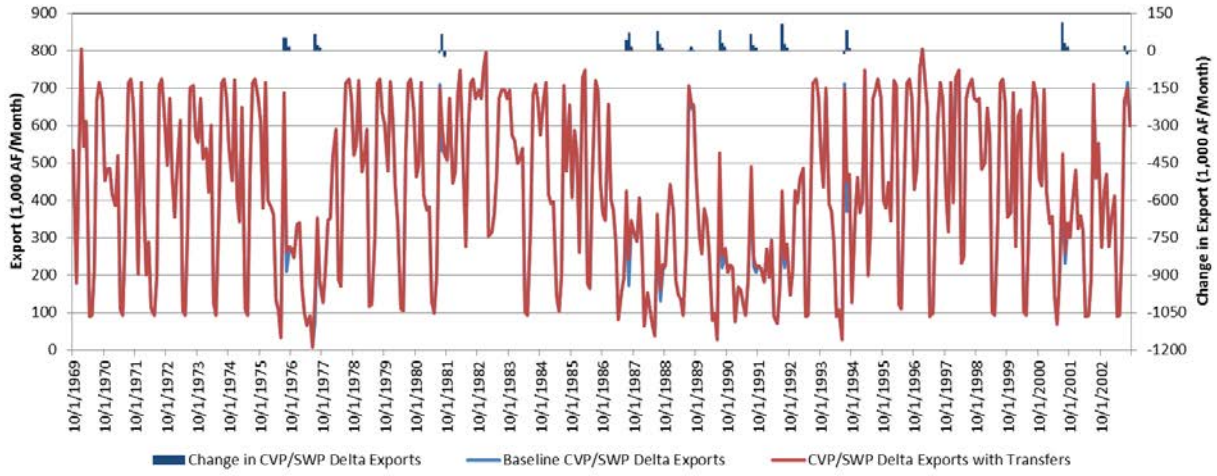


**Figure B-~~86~~87. Total CVP/SWP Exports from the Delta with and without Alternative 4 Transfers**

Table B-12 summarizes average monthly combined CVP/SWP exports. Average annual combined exports increase by 33 TAF with changes in the July through September period only.

**Table B-12. Average Monthly Combined CVP/SWP Exports (TAF) for Alternative 4**

| CVP/SWP Exports | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Baseline | 424 | 424 | 543 | 419 | 425 | 459 | 138 | 128 | 309 | 619 | 568 | 543 | 4,998 |
| With Transfers | 424 | 424 | 543 | 419 | 425 | 459 | 138 | 128 | 309 | 637 | 580 | 546 | 5,032 |
| Change | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 13 | 3 | 33 |

Figure B-~~87~~ 88 illustrates diversions made by East Bay MUD at Freeport under both the baseline and with Project scenarios. Baseline diversions represent East Bay MUD taking delivery of CVP Project water under their existing water service contract.

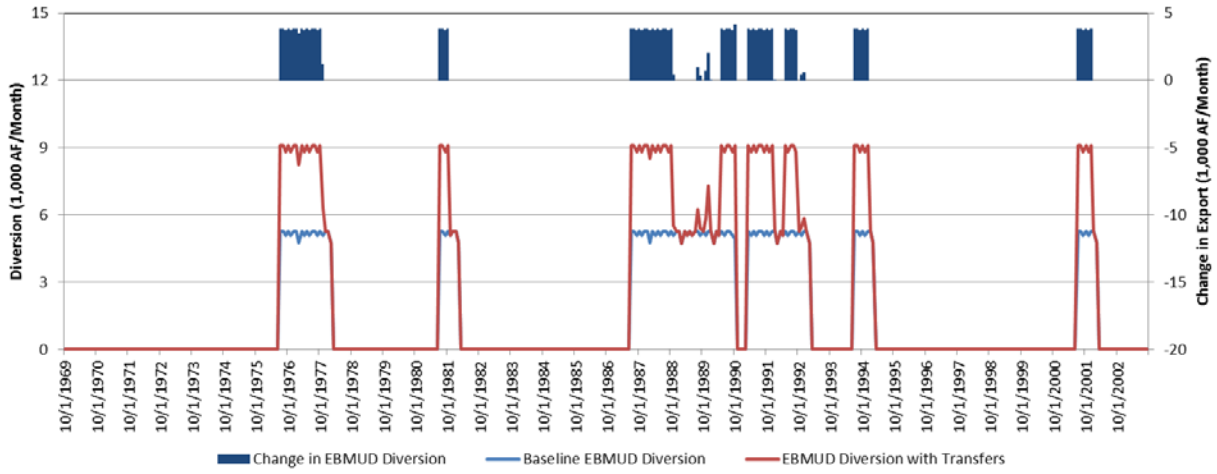


**Figure B-~~87~~88. East Bay MUD Diversions with and without Alternative 4 Transfers**

Contra Costa WD diversions increase to take delivery of transfer water as is illustrated below in Figure B-~~88~~89.

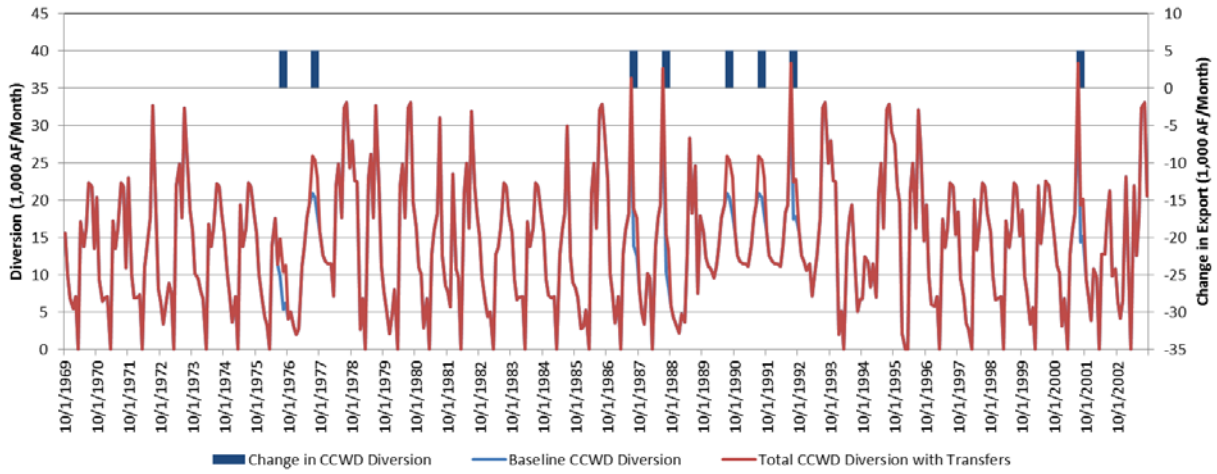


**Figure B-~~88~~89. Contra Costa WD Diversions with and without Alternative 4 Transfers**

## B.7 References

MBK Engineers. 2002. *Analysis of Water Conserved Under the Upper Main Water Conservation Project*. Prepared for Browns Valley Irrigation District. May. Available online at http://www.bvid.org/pub.html [Accessed March 6, 2015].

National Oceanic and Atmospheric Administration Fisheries Service. 2009. Biological Opinion on the Long-Term Central Valley Project and State Water Project Operations Criteria and Plan. National Marine Fisheries Service, Southwest Region, Long Beach, CA. June 4, 2009. 844 pp.

Reclamation. 2009. Cropland Idling, Issue No. 1 – DRAFT Rice Water Transfer Pattern. Available online at http://www.water.ca.gov/watertransfers/docs/Issue1-Rice.pdf [Accessed March 6, 2015].

U.S. Fish and Wildlife Service. 2008. Biological Opinion on the Coordinated Operations of the Central Valley Project (CVP) and State Water Project (SWP). Final. December 15, 2008.

# Attachment 1: CalSim II Assumptions for Baseline Operations

| | **Existing Condition**[1] |
|---|---|
| **Planning Horizon** | 2014 |
| **Period of Simulation** | 82 years (1922-2003) |
| **HYDROLOGY** | |
| **Level of Development (land use)** | 2005 Level[3] |
| **DEMANDS** | |
| **North of Delta (excluding the American River)** | |
| CVP | Land-use based, limited by contract amounts[4] |
| SWP (FRSA) | Land-use based, limited by contract amounts[5] |
| Non-project | Land-use based, limited by water rights and SWRCB Decisions for Existing Facilities |
| Antioch Water Works | Pre-1914 water right |
| Federal refuges | Recent historical Level 2 water needs[6] |
| **American River Basin** | |
| Water rights | Year 2005, full water rights[7] |
| CVP | Year 2005 plus Freeport Regional Water Project[7] |
| **San Joaquin River Basin**[9] | |
| Friant Unit | Limited by contract amounts, based on current allocation policy |
| Lower basin | Land-use based, based on district level operations and constraints |
| Stanislaus River basin[10 19] | Land-use based, based on New Melones Interim Operations Plan, up to full CVP Contractor deliveries (155 TAF per year ) depending on New Melones Index |
| **South of Delta** | |
| CVP | Demand based on contract amounts[4] |
| Federal refuges | Firm Level 2 water needs[6] |
| Contra Costa WD | 195 TAF per year CVP contract supply and water rights[11] |
| SWP[5 12] | Demand based on full Table A amounts (4.13 MAF per year) |
| Article 56 | Based on 2001-2008 contractor requests |
| Article 21 | MWD demand up to 200 TAF per month (December-March) subject to conveyance capacity, KCWA demand up to 180 TAF per month, and other contractor demands up to 34 TAF per month, subject to conveyance capacity |
| North Bay Aqueduct | 77 TAF per year demand under SWP contracts, up to 43.7 cfs of excess flow under Fairfield, Vacaville and Benicia Settlement Agreement |
| **FACILITIES** | |
| **System-wide** | Existing facilities |
| **Sacramento Valley** | |
| Shasta Reservoir | Existing, 4,552 TAF capacity |
| Red Bluff Diversion Dam | Diversion dam operated with gates out all year, NOAA Fisheries BO (Jun 2009) Action I.3.1[19]; assume permanent facilities in place |

| | **Existing Condition**[1] |
|---|---|
| Colusa Basin | Existing conveyance and storage facilities |
| Upper American River | Placer County Water Agency American River pump station |
| Lower Sacramento River | Freeport Regional Water Project |
| Fremont Weir | Existing (un-notched) Weir |
| **Delta Export Conveyance** | |
| SWP Banks Pumping Plant (South Delta) | Physical capacity is 10,300 cfs, permitted capacity is 6,680 cfs in all months and up to 8,500 cfs during Dec 15th - Mar 15th depending on Vernalis flow conditions[20] ;additional capacity of 500 cfs (up to 7,180 cfs) allowed Jul–Sep for reducing impact of NOAA Fisheries BO (Jun 2009) Action IV.2.1[19] on SWP[21] |
| CVP C.W. "Bill" Jones Pumping Plant (formerly Tracy PP) | Permit capacity is 4,600 cfs in all months (allowed for by the DMC-California Aqueduct Intertie) |
| Upper DMC Capacity | Exports limited to 4,200 cfs plus diversion upstream from DMC constriction plus 400 cfs<br>DMC-California Aqueduct Intertie |
| Los Vaqueros Reservoir | Enlarged storage capacity (160 TAF), existing pump location, Alternate Intake<br>project included[14] |
| **San Joaquin River** | |
| Millerton Lake (Friant Dam) | Existing, 520 TAF capacity |
| **South of Delta (CVP/SWP project facilities)** | |
| South Bay Aqueduct | SBA rehabilitation, 430 cfs capacity from junction with California Aqueduct to Alameda County FC&WSD Zone 7 point |
| California Aqueduct East Branch | Existing capacity |
| **REGULATORY STANDARDS** | |
| **Trinity River** | |
| Minimum Flow below Lewiston Dam | Trinity EIS Preferred Alternative (369-815 TAF per year) |
| Trinity Reservoir end-of-September minimum storage | Trinity EIS Preferred Alternative (600 TAF as able) |
| **Clear Creek** | |
| Minimum flow below Whiskeytown Dam | Downstream water rights, 1963 Reclamation proposal to USFWS and NPS, predetermined Central Valley Protection Improvement Act 3406(b)(2) flows[22], and NOAA Fisheries BO (Jun 2009) Action I.1.1[19] |
| **Upper Sacramento River** | |
| Shasta Reservoir end-of-September minimum storage | NOAA Fisheries 2004 Winter-run Biological Opinion (1,900 TAF in non-critical dry years), and NOAA Fisheries BO (Jun 2009) Action I.2.1[19] |
| Minimum flow below Keswick Dam | Flows for the SWRCB Water Rights Order 90-5, predetermined Central Valley Protection Improvement Act 3406(b)(2) flows, and NOAA Fisheries BO (Jun 2009) Action I.2.2[19] |
| **Feather River** | |
| Minimum flow below Thermalito Diversion Dam | 2006 Settlement Agreement (700 / 800 cfs). |
| Minimum flow below Thermalito Afterbay outlet | 1983 DWR, CDFW agreement (750 – 1,700 cfs) |
| **Yuba River** | |
| Minimum flow below Daguerre Point Dam | D-1644 Operations (Lower Yuba River Accord)[15] |

| | Existing Condition[1] |
|---|---|
| **American River** | |
| Minimum flow below Nimbus Dam | American River Flow Management as required by NOAA Fisheries BO (Jun 2009) Action II.1[19] |
| Minimum flow at H Street Bridge | SWRCB D-893 |
| **Lower Sacramento River** | |
| Minimum flow near Rio Vista | SWRCB D-1641 |
| **Mokelumne River** | |
| Minimum flow below Camanche Dam | Federal Energy Regulatory Commission 2916-029[13], 1996 (Joint Settlement Agreement) |
| Minimum flow below Woodbridge Diversion Dam | Federal Energy Regulatory Commission 2916-029[13], 1996 (Joint Settlement Agreement) |
| **Stanislaus River** | |
| Minimum flow below Goodwin Dam | 1987 Reclamation, CDFW agreement, and flows required for NOAA Fisheries BO (Jun 2009) Action III.1.2 and III.1.3[19] |
| Minimum dissolved oxygen | SWRCB D-1422 |
| **Merced River** | |
| Minimum flow below Crocker-Huffman Diversion Dam | Davis-Grunsky (180 – 220 cfs, Nov – Mar) and Cowell Agreement |
| Minimum flow at Shaffer Bridge | Federal Energy Regulatory Commission 2179 (25 – 100 cfs) |
| **Tuolumne River** | |
| Minimum flow at Lagrange Bridge | Federal Energy Regulatory Commission 2299-024, 1995 (Settlement Agreement) (94 – 301 TAF per year) |
| **San Joaquin River** | |
| San Joaquin River below Friant Dam/Mendota Pool | Interim San Joaquin River Restoration flows limited by existing channel capacities |
| Maximum salinity near Vernalis | SWRCB D-1641 |
| Minimum flow near Vernalis | SWRCB D-1641 and NOAA Fisheries BO (Jun 2009) Action IV.2.1 Phase II flows not provided due to lack of agreement for purchasing water. |
| **Sacramento-San Joaquin Delta** | |
| Delta Outflow Index (flow and salinity) | SWRCB D-1641 and USFWS BO (Dec 2008) Action 4[19] |
| Delta Cross Channel gate operation | SWRCB D-1641 with additional days closed from Oct 1-Jan 31 based on NOAA Fisheries BO (Jun 2009) Action IV.1.2[19] (closed during flushing flows from Oct 1-Dec 14 unless adverse water quality conditions) |
| South Delta exports (Jones PP and Banks PP) | SWRCB D-1641 export limits and Vernalis flow-based export limits in Apr -May as required by NOAA Fisheries BO (June 2009) Action IV.2.1 Phase II[19] (additional 500 cfs allowed for Jul-Sep for reducing impact on SWP)[21] |
| Combined Flow in Old and Middle River | USFWS BO (Dec 2008) Actions 1-3 and NOAA Fisheries BO (Jun 2009) Action IV.2.3[19] |
| **OPERATIONS CRITERIA: RIVER-SPECIFIC** | |
| **Upper Sacramento River** | |
| Flow objective for navigation at Wilkins Slough | NOAA Fisheries BO (Jun 2009) Action I.4[19]; 3,250 – 5,000 cfs based on CVP water supply condition |

| | Existing Condition[1] |
|---|---|
| **American River** | |
| Folsom Dam flood control | Variable 400/670 flood control diagram (without outlet modifications) |
| **Feather River** | |
| Flow at mouth of Feather River (above Verona) | Maintain the CDFW/DWR flow target of 2,800 cfs for Apr - Sep dependent on Oroville inflow and FRSA allocation |
| **Stanislaus River** | |
| Flow below Goodwin Dam | Revised Operations Plan and NOAA Fisheries BO (Jun 2009) Action III.1.2 and III.1.3[19] |
| **San Joaquin River** | |
| Salinity at Vernalis | Grasslands Bypass Project (partial implementation) |
| **OPERATIONS CRITERIA: SYSTEMWIDE** | |
| **CVP Water Allocation** | |
| CVP settlement and exchange | 100% (75% in Shasta critical years) |
| CVP refuges | 100% (75% in Shasta critical years) |
| CVP agriculture | 100% - 0% based on supply. South-of-Delta allocations are additionally limited due to D-1641, USFWS BO (Dec 2008), and NOAA Fisheries BO (Jun 2009) export restrictions[19] |
| CVP municipal & industrial | 100% - 50% based on supply. South-of-Delta allocations are additionally limited due to D-1641, USFWS BO (Dec 2008), and NOAA Fisheries BO (Jun 2009) export restrictions[19] |
| **SWP Water Allocation** | |
| North of Delta (FRSA) | Contract-specific |
| South of Delta (including North Bay Aqueduct) | Based on supply; equal prioritization between Ag and M&I based on Monterey Agreement; allocations are limited due to D-1641, USFWS BO (Dec 2008), and NOAA Fisheries BO (Jun 2009) export restrictions[19] |
| **CVP/SWP Coordinated Operations** | |
| Sharing of responsibility for in-basin use | 1986 Coordinated Operations Agreement (East Bay MUD FRWP and 2/3 of the North Bay Aqueduct diversions are considered as Delta export, 1/3 of the North Bay Aqueduct diversion is considered as in-basin use) |
| Sharing of surplus flows | 1986 Coordinated Operations Agreement |
| Sharing of restricted export capacity for project-specific priority pumping | Equal sharing of export capacity under SWRCB D-1641, USFWS BO (Dec 2008), and NOAA Fisheries BO (Jun 2009) export restrictions[19] |
| Water transfers | Acquisitions by SWP contractors are wheeled at priority in Banks Pumping Plant over non- SWP users; LYRA included for SWP contractors[21] |
| Sharing of export capacity for lesser priority and wheeling-related pumping | Cross Valley Canal wheeling (max of 128 TAF per year), CALFED ROD defined Joint Point of Diversion |
| San Luis Reservoir | San Luis Reservoir is allowed to operate to a minimum storage of 100 TAF |
| **CVPIA 3406(b)(2)** | |
| Policy decision | Per May 2003 Department of Interior decision |
| Allocation | 800 TAF per year, 700 TAF per year in 40-30-30 dry years, and 600 TAF per year in 40-30-30 critical years |

| | Existing Condition[1] |
|---|---|
| Actions | Pre-determined non-discretionary USFWS BO (Dec 2008) upstream fish flow objectives (Oct- Jan) for Clear Creek and Keswick Dam, non-discretionary NOAA Fisheries BO (Jun 2009) actions for the American and Stanislaus Rivers, and NOAA Fisheries BO (Jun 2009) actions leading to export restrictions[19] |
| Accounting adjustments | No discretion assumed under USFWS BO (Dec 2008) and NOAA Fisheries BO (Jun 2009)[19], no accounting |
| **WATER MANAGEMENT ACTIONS** | |
| **Water Transfer Supplies** | |
| Lower Yuba River Accord[21] | Yuba River acquisitions for reducing impact of NOAA Fisheries BO export restrictions[19] on SWP |

Notes:

1 These assumptions were developed under the direction of the DWR and Reclamation management team for the Bay Delta Conservation Plan (BDCP) Habitat Conservation Plan and EIR/EIS. Additional modifications were made by Reclamation and the Long-Term Water Transfer Project team and coordinated with Reclamation.

2 Footnote removed.

3 The Sacramento Valley hydrology used in the Existing Condition CalSim II model reflects nominal 2005 land use assumptions. The nominal 2005 land use was determined by interpolation between the 1995 and projected 2020 land use assumptions associated with Bulletin 160-98. The San Joaquin Valley hydrology reflects 2005 land use assumptions developed by Reclamation to support Reclamation studies.

4 CVP contract amounts have been reviewed and updated according to existing and amended contracts, as appropriate. Assumptions regarding CVP agricultural and municipal and industrial (M&I) service contracts and Settlement Contract amounts are documented in the Delivery Specifications attachments to the BDCP CalSim II assumptions document.

5 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 II assumptions document.

6 Water needs for Federal refuges have been reviewed and updated and are documented in the Delivery Specifications attachments to the BDCP CalSim II assumptions document.

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

8 Footnote removed.

9 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.

10 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 NOAA Fisheries BO (Jun 2009) Action III.1.3.

11 The actual amount diverted is reduced because of supplies from the Los Vaqueros project. The existing Los Vaqueros storage capacity is 160 TAF. Associated water rights for Delta excess flows are included.

12 Under Existing Conditions 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 PP and the California Aqueduct have available capacity to divert from the Delta for direct delivery.

13 Mokelumne River flows reflect East Bay MUD operations in consideration of supplies associated with the Freeport Regional Water Project.

14 The Contra Costa WD Alternate Intake Project, an intake at Victoria Canal, that operates as an alternate Delta diversion for Los Vaqueros Reservoir.

15 D-1644 and the Lower Yuba River Accord are assumed to be implemented for the Existing Conditions baselines. 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.

16 Footnote removed.

17 Footnote removed.

18 Footnote removed.

19 In cooperation with Reclamation, NOAA Fisheries, USFWS, and California Department of Fish and Wildlife, DWR has developed assumptions for implementation of the USFWS BO (Dec 15th 2008) and NOAA Fisheries BO (June 4th 2009) in CalSim II.

[20] Current U.S. Army Corps of Engineering permit for Banks PP 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 during Dec 15th – Mar 15th up to a maximum diversion of 8,500 cfs, if Vernalis flow exceeds 1,000 cfs.

[21] Acquisitions of Component 1 water under the Lower Yuba River Accord, and use of 500 cfs dedicated capacity at Banks PP during Jul– Sep, are assumed to be used to reduce as much of the impact of the Apr-May Delta export actions on SWP contractors as possible.

[22] Delta actions, under USFWS discretionary use of CVPIA 3406(b)(2) allocations, are no longer dynamically operated and accounted for in the CalSim II model. The Combined Old and Middle River Flow and Delta Export restrictions under the USFWS BO (Dec 15th 2008) and the NOAA Fisheries BO (June 4th 2009) severely limit any discretion that would have been otherwise assumed in selecting Delta actions under the CVPIA 3406(b)(2) accounting criteria. Therefore, it is anticipated that CVPIA 3406(b)(2) account availability for upstream river flows below Whiskeytown, Keswick and Nimbus Dams would be very limited. It appears the integration of BO Reasonable and Prudent Alternative actions will likely exceed the 3406(b)(2) allocation in all water year types. Upstream flows on Clear Creek and the Sacramento River are pre-determined based on CVPIA 3406(b)(2) based operations from the Aug 2008 BA Study 7.0 and Study 8.0 for Existing Conditions baselines. The procedures for dynamic operation and accounting of CVPIA 3406(b)(2) are not included in CalSim II.

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

Key:

CVP = Central Valley Project
FRSA = Feather River Service Area
TAF = thousand acre-feet
MAF = million acre-feet
KCWA = Kern County Water Agency
BO = biological opinion
DMC = Delta-Mendota Cana
NBA = North Bay Aqueduct
EIS = Environmental Impact Statement
NPS = National Park Service
CDFW = California Department of Fish and Wildlife
LYRA = Lower Yuba River Accord
SWP = State Water Project
SWRCB = State Water Resources Control Board
WD = Water District
MWD = Metropolitan Water District of Southern California
cfs = cubic feet per second
PP = Pumping Plant
SBA = South Bay Aqueduct
FC&WSD = Flood Control and Water Service District
USFWS = U.S. Fish and Wildlife Service
DWR = Department of Water Resources
FRWP = Freeport Regional Water Project
ROD = Record of Decision
CALFED = State (CAL) and Federal (FED) agencies participating in the Bay-Delta Accord
CVPIA = Central Valley Project Improvement Act
NOAA Fisheries = National Oceanic and Atmospheric Administration Fisheries Service

# Attachment 2: Monthly Simulated Transfers by Seller for each Alternative

The following tables show the volume of water simulated as transferred by each seller for each alternative. A separate table is included for each type of transfer: groundwater substitution, reservoir release, conserved water, and crop idling.

**Table B1. Simulated Groundwater Substitution Transfers for Alternatives 2 & 3 (1,000 acre-feet)**

| WY | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|
| **Conaway Preservation Group** | | | | | | | |
| 1976 | 0.0 | 0.0 | 8.6 | 5.4 | 5.4 | 2.7 | 22.1 |
| 1977 | 0.0 | 0.0 | 10.0 | 4.0 | 4.0 | 2.0 | 20.1 |
| 1981 | 0.0 | 0.0 | 8.6 | 5.4 | 5.4 | 2.7 | 22.1 |
| 1987 | 4.3 | 8.6 | 8.6 | 5.4 | 5.4 | 2.7 | 35.0 |
| 1988 | 0.0 | 8.6 | 8.6 | 5.4 | 5.4 | 2.7 | 30.7 |
| 1989 | 0.0 | 8.6 | 8.6 | 5.4 | 5.4 | 2.7 | 30.7 |
| 1990 | 0.0 | 0.0 | 8.6 | 5.4 | 5.4 | 2.7 | 22.1 |
| 1991 | 0.0 | 0.0 | 10.0 | 4.0 | 4.0 | 2.0 | 20.1 |
| 1992 | 5.0 | 10.0 | 10.0 | 4.0 | 4.0 | 2.0 | 35.0 |
| 1994 | 0.0 | 0.0 | 0.5 | 4.0 | 4.0 | 2.0 | 10.6 |
| 2001 | 0.0 | 8.6 | 8.6 | 5.4 | 5.4 | 2.7 | 30.7 |
| 2003 | 0.0 | 0.0 | 0.0 | 5.4 | 5.4 | 2.7 | 13.5 |
| **Natomas Central Mutual Water Company** | | | | | | | |
| 1976 | 0.0 | 0.0 | 6.0 | 6.0 | 6.0 | 3.0 | 21.0 |
| 1977 | 0.0 | 0.0 | 6.0 | 6.0 | 6.0 | 3.0 | 21.0 |
| 1981 | 0.0 | 0.0 | 6.0 | 6.0 | 6.0 | 3.0 | 21.0 |
| 1987 | 3.0 | 6.0 | 6.0 | 6.0 | 6.0 | 3.0 | 30.0 |
| 1988 | 0.0 | 6.0 | 6.0 | 6.0 | 6.0 | 3.0 | 27.0 |
| 1989 | 0.0 | 6.0 | 6.0 | 6.0 | 6.0 | 3.0 | 27.0 |
| 1990 | 0.0 | 0.0 | 6.0 | 6.0 | 6.0 | 3.0 | 21.0 |
| 1991 | 0.0 | 0.0 | 6.0 | 6.0 | 6.0 | 3.0 | 21.0 |
| 1992 | 3.0 | 6.0 | 6.0 | 6.0 | 6.0 | 3.0 | 30.0 |
| 1994 | 0.0 | 0.0 | 0.0 | 6.0 | 6.0 | 3.0 | 15.0 |
| 2001 | 0.0 | 6.0 | 6.0 | 6.0 | 6.0 | 3.0 | 27.0 |
| 2003 | 0.0 | 0.0 | 0.0 | 6.0 | 6.0 | 3.0 | 15.0 |
| **Sacramento Suburban Water District*** | | | | | | | |
| 1976 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1977 | 0.0 | 0.0 | 0.0 | 0.0 | 1.8 | 0.0 | 1.8 |
| 1981 | 0.0 | 0.0 | 0.0 | 1.8 | 0.0 | 0.0 | 1.8 |
| 1987 | 0.0 | 0.0 | 0.0 | 1.8 | 0.0 | 0.0 | 1.8 |
| 1988 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1989 | 0.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 25.0 |
| 1990 | 0.0 | 0.0 | 0.0 | 1.8 | 0.0 | 0.0 | 1.8 |
| 1991 | 0.0 | 0.0 | 0.0 | 1.8 | 1.8 | 0.0 | 3.7 |
| 1992 | 0.0 | 0.0 | 0.0 | 1.8 | 0.0 | 0.0 | 1.8 |
| 1994 | 0.0 | 0.0 | 0.0 | 1.8 | 0.0 | 0.0 | 1.8 |
| 2001 | 0.0 | 0.0 | 0.0 | 1.8 | 0.0 | 0.0 | 1.8 |
| 2003 | 0.0 | 0.0 | 0.0 | 5.0 | 5.0 | 5.0 | 15.0 |

*Sacramento Suburban WD simulated to pump 3,800 acre-feet in October 1989 for transfer to EBMUD

**Table B1. Simulated Groundwater Substitution Transfers for Alternatives 2 & 3 (1,000 acre-feet)**

| WY | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|
| **Glenn-Colusa Irrigation District** | | | | | | | |
| 1976 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 25.0 |
| 1977 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1981 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 25.0 |
| 1987 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 25.0 |
| 1988 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 25.0 |
| 1989 | 0.0 | 3.8 | 3.7 | 3.0 | 3.0 | 2.9 | 16.4 |
| 1990 | 0.0 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 20.8 |
| 1991 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1992 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1994 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2001 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 25.0 |
| 2003 | 0.0 | 0.0 | 0.0 | 4.2 | 4.2 | 4.2 | 12.5 |
| **Pleasant Grove-Verona Mutual Water Company** | | | | | | | |
| 1976 | 0.0 | 0.0 | 3.2 | 4.0 | 4.0 | 2.0 | 13.2 |
| 1977 | 0.0 | 0.0 | 3.2 | 2.8 | 2.8 | 1.4 | 10.2 |
| 1981 | 0.0 | 0.0 | 3.2 | 4.0 | 4.0 | 2.0 | 13.2 |
| 1987 | 1.6 | 3.2 | 3.2 | 4.0 | 4.0 | 2.0 | 18.0 |
| 1988 | 0.0 | 3.2 | 3.2 | 4.0 | 4.0 | 2.0 | 16.4 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 0.0 | 3.2 | 4.0 | 4.0 | 2.0 | 13.2 |
| 1991 | 0.0 | 0.0 | 3.2 | 2.8 | 2.8 | 1.4 | 10.2 |
| 1992 | 1.6 | 3.2 | 3.2 | 2.8 | 2.8 | 1.4 | 15.0 |
| 1994 | 0.0 | 0.0 | 0.0 | 2.8 | 2.8 | 1.4 | 7.0 |
| 2001 | 0.0 | 3.2 | 3.2 | 4.0 | 4.0 | 2.0 | 16.4 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.8 | 0.8 | 0.4 | 2.1 |
| **Reclamation District 108** | | | | | | | |
| 1976 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 15.0 |
| 1977 | 0.0 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 12.5 |
| 1981 | 1.5 | 1.5 | 1.5 | 2.5 | 2.5 | 2.5 | 12.1 |
| 1987 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 15.0 |
| 1988 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 15.0 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 12.5 |
| 1991 | 0.0 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 12.5 |
| 1992 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 15.0 |
| 1994 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 15.0 |
| 2001 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 15.0 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

**Table B1. Simulated Groundwater Substitution Transfers for Alternatives 2 & 3 (1,000 acre-feet)**

| WY | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|
| **Sycamore Mutual Water Company** | | | | | | | |
| 1976 | 1.5 | 3.0 | 3.0 | 3.0 | 3.0 | 1.5 | 15.0 |
| 1977 | 0.0 | 1.2 | 1.2 | 1.6 | 1.6 | 0.8 | 6.4 |
| 1981 | 0.0 | 0.0 | 0.0 | 3.0 | 3.0 | 1.5 | 7.5 |
| 1987 | 1.5 | 3.0 | 3.0 | 3.0 | 3.0 | 1.5 | 15.0 |
| 1988 | 1.5 | 3.0 | 3.0 | 3.0 | 3.0 | 1.5 | 15.0 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 3.0 | 3.0 | 3.0 | 3.0 | 1.5 | 13.5 |
| 1991 | 0.0 | 1.2 | 1.2 | 1.6 | 1.6 | 0.8 | 6.4 |
| 1992 | 0.6 | 1.2 | 1.2 | 1.6 | 1.6 | 0.8 | 7.0 |
| 1994 | 0.6 | 1.2 | 1.2 | 1.6 | 1.6 | 0.8 | 7.0 |
| 2001 | 1.5 | 3.0 | 3.0 | 3.0 | 3.0 | 1.5 | 15.0 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Sacramento County Water Agency** | | | | | | | |
| 1976 | 0.0 | 0.0 | 0.0 | 5.0 | 5.0 | 5.0 | 15.0 |
| 1977 | 0.0 | 0.0 | 0.0 | 5.0 | 5.0 | 5.0 | 15.0 |
| 1981 | 0.0 | 0.0 | 0.0 | 5.0 | 5.0 | 5.0 | 15.0 |
| 1987 | 0.0 | 0.0 | 0.0 | 5.0 | 5.0 | 5.0 | 15.0 |
| 1988 | 0.0 | 0.0 | 0.0 | 5.0 | 5.0 | 5.0 | 15.0 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 0.0 | 0.0 | 5.0 | 5.0 | 5.0 | 15.0 |
| 1991 | 0.0 | 0.0 | 0.0 | 5.0 | 5.0 | 5.0 | 15.0 |
| 1992 | 0.0 | 0.0 | 0.0 | 5.0 | 5.0 | 5.0 | 15.0 |
| 1994 | 0.0 | 0.0 | 0.0 | 5.0 | 5.0 | 5.0 | 15.0 |
| 2001 | 0.0 | 0.0 | 0.0 | 5.0 | 5.0 | 5.0 | 15.0 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Garden Highway Mutual Water Company** | | | | | | | |
| 1976 | 0.0 | 2.2 | 2.2 | 2.5 | 2.5 | 2.5 | 11.8 |
| 1977 | 0.0 | 1.2 | 1.2 | 1.3 | 1.3 | 1.3 | 6.3 |
| 1981 | 0.0 | 0.0 | 0.0 | 2.3 | 2.3 | 2.3 | 6.9 |
| 1987 | 2.2 | 2.2 | 2.2 | 2.5 | 2.5 | 2.5 | 14.0 |
| 1988 | 0.0 | 1.2 | 1.2 | 1.3 | 1.3 | 1.3 | 6.3 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 2.2 | 2.2 | 2.5 | 2.5 | 2.5 | 11.8 |
| 1991 | 0.0 | 0.0 | 1.2 | 1.3 | 1.3 | 1.3 | 5.2 |
| 1992 | 2.2 | 2.2 | 2.2 | 2.5 | 2.5 | 2.5 | 14.0 |
| 1994 | 0.0 | 0.0 | 2.2 | 2.5 | 2.5 | 2.5 | 9.7 |
| 2001 | 0.0 | 2.2 | 2.2 | 2.5 | 2.5 | 2.5 | 11.8 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

**Table B1. Simulated Groundwater Substitution Transfers for Alternatives 2 & 3 (1,000 acre-feet)**

| WY | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|
| **Cordua Irrigation District** | | | | | | | |
| 1976 | 0.0 | 0.0 | 0.0 | 4.8 | 4.8 | 2.4 | 12.0 |
| 1977 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.0 | 0.0 | 0.0 | 4.8 | 4.8 | 2.4 | 12.0 |
| 1988 | 0.0 | 0.0 | 0.0 | 4.8 | 4.8 | 2.4 | 12.0 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 0.0 | 0.0 | 4.8 | 4.8 | 2.4 | 12.0 |
| 1991 | 0.0 | 0.0 | 0.0 | 4.8 | 4.8 | 2.4 | 12.0 |
| 1992 | 0.0 | 0.0 | 0.0 | 4.8 | 4.8 | 2.4 | 12.0 |
| 1994 | 0.0 | 0.0 | 0.0 | 4.8 | 4.8 | 2.4 | 12.0 |
| 2001 | 0.0 | 0.0 | 0.0 | 4.8 | 4.8 | 2.4 | 12.0 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Goose Club Farms/Teichert** | | | | | | | |
| 1976 | 0.0 | 0.0 | 1.6 | 2.4 | 2.4 | 1.2 | 7.6 |
| 1977 | 0.0 | 0.0 | 1.6 | 2.4 | 2.4 | 1.2 | 7.6 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.8 | 1.6 | 1.6 | 2.4 | 2.4 | 1.2 | 10.0 |
| 1988 | 0.0 | 1.6 | 1.6 | 2.4 | 2.4 | 1.2 | 9.2 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 0.0 | 1.6 | 2.4 | 2.4 | 1.2 | 7.6 |
| 1991 | 0.0 | 0.0 | 1.6 | 2.4 | 2.4 | 1.2 | 7.6 |
| 1992 | 0.8 | 1.6 | 1.6 | 2.4 | 2.4 | 1.2 | 10.0 |
| 1994 | 0.0 | 0.0 | 0.0 | 2.4 | 2.4 | 1.2 | 6.0 |
| 2001 | 0.0 | 1.6 | 1.6 | 2.4 | 2.4 | 1.2 | 9.2 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **River Garden Farms** | | | | | | | |
| 1976 | 0.0 | 0.0 | 1.6 | 2.0 | 2.0 | 1.0 | 6.6 |
| 1977 | 0.0 | 0.0 | 1.2 | 1.2 | 1.2 | 0.6 | 4.2 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.8 | 1.6 | 1.6 | 2.0 | 2.0 | 1.0 | 9.0 |
| 1988 | 0.0 | 1.6 | 1.6 | 2.0 | 2.0 | 1.0 | 8.2 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 0.0 | 1.6 | 2.0 | 2.0 | 1.0 | 6.6 |
| 1991 | 0.0 | 0.0 | 1.2 | 1.2 | 1.2 | 0.6 | 4.2 |
| 1992 | 0.6 | 1.2 | 1.2 | 1.2 | 1.2 | 0.6 | 6.0 |
| 1994 | 0.0 | 0.0 | 0.0 | 1.2 | 1.2 | 0.6 | 3.0 |
| 2001 | 0.0 | 1.6 | 1.6 | 2.0 | 2.0 | 1.0 | 8.2 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

**Table B1. Simulated Groundwater Substitution Transfers for Alternatives 2 & 3 (1,000 acre-feet)**

| WY | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|
| **Cranmore Farms** | | | | | | | |
| 1976 | 0.0 | 0.0 | 2.1 | 1.1 | 1.1 | 0.6 | 4.9 |
| 1977 | 0.0 | 0.0 | 1.5 | 0.9 | 0.9 | 0.4 | 3.7 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 1.0 | 2.1 | 2.1 | 1.1 | 1.1 | 0.6 | 8.0 |
| 1988 | 0.0 | 2.1 | 2.1 | 1.1 | 1.1 | 0.6 | 7.0 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 0.0 | 2.1 | 1.1 | 1.1 | 0.6 | 4.9 |
| 1991 | 0.0 | 0.0 | 1.5 | 0.9 | 0.9 | 0.4 | 3.7 |
| 1992 | 0.8 | 1.5 | 1.5 | 0.9 | 0.9 | 0.4 | 6.0 |
| 1994 | 0.0 | 0.0 | 0.0 | 0.9 | 0.9 | 0.4 | 2.1 |
| 2001 | 0.0 | 2.1 | 2.1 | 1.1 | 1.1 | 0.6 | 7.0 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Tule Basin Farms** | | | | | | | |
| 1976 | 0.0 | 0.0 | 1.5 | 1.4 | 1.4 | 0.7 | 5.0 |
| 1977 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.8 | 1.5 | 1.5 | 1.4 | 1.4 | 0.7 | 7.3 |
| 1988 | 0.0 | 1.5 | 1.5 | 0.0 | 0.0 | 0.0 | 3.0 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 | 0.0 | 1.5 |
| 1991 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 | 0.0 | 1.5 |
| 1992 | 0.8 | 1.5 | 0.0 | 0.0 | 0.0 | 0.0 | 2.3 |
| 1994 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2001 | 0.0 | 1.5 | 1.5 | 1.4 | 1.4 | 0.7 | 6.6 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Reclamation District 1004** | | | | | | | |
| 1976 | 0.0 | 0.0 | 0.0 | 2.9 | 2.9 | 1.4 | 7.2 |
| 1977 | 0.0 | 0.0 | 0.0 | 2.2 | 2.2 | 1.1 | 5.4 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.0 | 0.0 | 0.0 | 2.9 | 2.9 | 1.4 | 7.2 |
| 1988 | 0.0 | 0.0 | 0.0 | 2.9 | 2.9 | 1.4 | 7.2 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 0.0 | 0.0 | 2.9 | 2.9 | 1.4 | 7.2 |
| 1991 | 0.0 | 0.0 | 0.0 | 2.2 | 2.2 | 1.1 | 5.4 |
| 1992 | 0.0 | 0.0 | 0.0 | 2.2 | 2.2 | 1.1 | 5.4 |
| 1994 | 0.0 | 0.0 | 0.0 | 2.2 | 2.2 | 1.1 | 5.4 |
| 2001 | 0.0 | 0.0 | 0.0 | 2.9 | 2.9 | 1.4 | 7.2 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

**Table B1. Simulated Groundwater Substitution Transfers for Alternatives 2 & 3 (1,000 acre-feet)**

| WY | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|
| **Te Velde Trust** | | | | | | | |
| 1976 | 0.0 | 0.0 | 1.1 | 1.8 | 1.8 | 0.9 | 5.5 |
| 1977 | 0.0 | 0.0 | 0.8 | 0.4 | 0.4 | 0.2 | 1.8 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.5 | 1.1 | 1.1 | 1.8 | 1.8 | 0.9 | 7.1 |
| 1988 | 0.0 | 1.1 | 1.1 | 1.8 | 1.8 | 0.9 | 6.6 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 0.0 | 1.1 | 1.8 | 1.8 | 0.9 | 5.5 |
| 1991 | 0.0 | 0.0 | 0.8 | 0.4 | 0.4 | 0.2 | 1.8 |
| 1992 | 0.4 | 0.8 | 0.8 | 0.4 | 0.4 | 0.2 | 2.9 |
| 1994 | 0.0 | 0.0 | 0.0 | 0.4 | 0.4 | 0.2 | 1.0 |
| 2001 | 0.0 | 1.1 | 1.1 | 1.8 | 1.8 | 0.9 | 6.6 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Butte Water District** | | | | | | | |
| 1976 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 5.5 |
| 1977 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 5.5 |
| 1988 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 4.6 |
| 1991 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1992 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 5.5 |
| 1994 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 5.5 |
| 2001 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 5.5 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Anderson-Cottonwood Irrigation District** | | | | | | | |
| 1976 | 0.5 | 1.0 | 1.0 | 1.4 | 1.4 | 0.7 | 5.9 |
| 1977 | 0.0 | 1.0 | 1.0 | 1.4 | 1.4 | 0.7 | 5.5 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.5 | 1.0 | 1.0 | 1.4 | 1.4 | 0.7 | 5.9 |
| 1988 | 0.5 | 1.0 | 1.0 | 1.4 | 1.4 | 0.7 | 5.9 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 1.0 | 1.0 | 1.4 | 1.4 | 0.7 | 5.5 |
| 1991 | 0.0 | 1.0 | 1.0 | 1.4 | 1.4 | 0.7 | 5.5 |
| 1992 | 0.5 | 1.0 | 1.0 | 1.4 | 1.4 | 0.7 | 5.9 |
| 1994 | 0.5 | 1.0 | 1.0 | 1.4 | 1.4 | 0.7 | 5.9 |
| 2001 | 0.5 | 1.0 | 1.0 | 1.4 | 1.4 | 0.7 | 5.9 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

**Table B1. Simulated Groundwater Substitution Transfers for Alternatives 2 & 3 (1,000 acre-feet)**

| WY | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|
| **City of Sacramento** | | | | | | | |
| 1976 | 0.0 | 0.0 | 0.0 | 1.7 | 1.7 | 1.7 | 5.0 |
| 1977 | 0.0 | 0.0 | 0.0 | 1.7 | 1.7 | 1.7 | 5.0 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.0 | 0.0 | 0.0 | 1.7 | 1.7 | 1.7 | 5.0 |
| 1988 | 0.0 | 0.0 | 0.0 | 1.7 | 1.7 | 1.7 | 5.0 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 0.0 | 0.0 | 1.7 | 1.7 | 1.7 | 5.0 |
| 1991 | 0.0 | 0.0 | 0.0 | 1.7 | 1.7 | 1.7 | 5.0 |
| 1992 | 0.0 | 0.0 | 0.0 | 1.7 | 1.7 | 1.7 | 5.0 |
| 1994 | 0.0 | 0.0 | 0.0 | 1.7 | 1.7 | 1.7 | 5.0 |
| 2001 | 0.0 | 0.0 | 0.0 | 1.7 | 1.7 | 1.7 | 5.0 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Reclamation District 2068** | | | | | | | |
| 1976 | 0.0 | 0.0 | 0.8 | 0.8 | 0.8 | 0.8 | 3.0 |
| 1977 | 0.0 | 0.0 | 0.8 | 0.8 | 0.8 | 0.8 | 3.0 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 4.5 |
| 1988 | 0.0 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 3.8 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 0.0 | 0.8 | 0.8 | 0.8 | 0.8 | 3.0 |
| 1991 | 0.0 | 0.0 | 0.8 | 0.8 | 0.8 | 0.8 | 3.0 |
| 1992 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 4.5 |
| 1994 | 0.0 | 0.0 | 0.0 | 0.8 | 0.8 | 0.8 | 2.3 |
| 2001 | 0.0 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 3.8 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Gilsizer Slough Ranch** | | | | | | | |
| 1976 | 0.0 | 0.0 | 0.5 | 0.8 | 0.8 | 0.8 | 2.9 |
| 1977 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.5 | 0.5 | 0.5 | 0.8 | 0.8 | 0.8 | 3.9 |
| 1988 | 0.0 | 0.5 | 0.5 | 0.0 | 0.0 | 0.0 | 1.0 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.5 |
| 1991 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.5 |
| 1992 | 0.5 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| 1994 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2001 | 0.0 | 0.5 | 0.5 | 0.8 | 0.8 | 0.8 | 3.4 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

**Table B1. Simulated Groundwater Substitution Transfers for Alternatives 2 & 3 (1,000 acre-feet)**

| WY | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|
| **Pelger Mutual Water Company** | | | | | | | |
| 1976 | 0.0 | 0.0 | 0.9 | 0.6 | 0.6 | 0.3 | 2.5 |
| 1977 | 0.0 | 0.0 | 0.1 | 0.5 | 0.5 | 0.2 | 1.3 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.4 | 0.9 | 0.9 | 0.6 | 0.6 | 0.3 | 3.8 |
| 1988 | 0.0 | 0.9 | 0.9 | 0.6 | 0.6 | 0.3 | 3.3 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 0.0 | 0.9 | 0.6 | 0.6 | 0.3 | 2.5 |
| 1991 | 0.0 | 0.0 | 0.1 | 0.5 | 0.5 | 0.2 | 1.3 |
| 1992 | 0.1 | 0.1 | 0.1 | 0.5 | 0.5 | 0.2 | 1.5 |
| 1994 | 0.0 | 0.0 | 0.0 | 0.5 | 0.5 | 0.2 | 1.2 |
| 2001 | 0.0 | 0.9 | 0.9 | 0.6 | 0.6 | 0.3 | 3.3 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Pope Ranch** | | | | | | | |
| 1976 | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.3 | 2.0 |
| 1977 | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.3 | 2.0 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.3 | 0.6 | 0.6 | 0.6 | 0.6 | 0.3 | 2.8 |
| 1988 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.3 | 2.5 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.3 | 2.0 |
| 1991 | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.3 | 2.0 |
| 1992 | 0.3 | 0.6 | 0.6 | 0.6 | 0.6 | 0.3 | 2.8 |
| 1994 | 0.0 | 0.0 | 0.0 | 0.6 | 0.6 | 0.3 | 1.4 |
| 2001 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.3 | 2.5 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Eastside Mutual Water Company** | | | | | | | |
| 1976 | 0.2 | 0.4 | 0.4 | 0.5 | 0.5 | 0.2 | 2.2 |
| 1977 | 0.0 | 0.4 | 0.4 | 0.4 | 0.4 | 0.2 | 1.8 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.2 | 0.4 | 0.4 | 0.5 | 0.5 | 0.2 | 2.2 |
| 1988 | 0.2 | 0.4 | 0.4 | 0.5 | 0.5 | 0.2 | 2.2 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 0.4 | 0.4 | 0.5 | 0.5 | 0.2 | 2.0 |
| 1991 | 0.0 | 0.4 | 0.4 | 0.4 | 0.4 | 0.2 | 1.8 |
| 1992 | 0.2 | 0.4 | 0.4 | 0.4 | 0.4 | 0.2 | 2.0 |
| 1994 | 0.2 | 0.4 | 0.4 | 0.4 | 0.4 | 0.2 | 2.0 |
| 2001 | 0.2 | 0.4 | 0.4 | 0.5 | 0.5 | 0.2 | 2.2 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

**Table B2. Simulated Crop Idling Transfers for Alternative 2 (1,000 acre-feet)**

| WY | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|
| **Glenn-Colusa Irrigation District** | | | | | | | |
| 1976 | 0.0 | 9.9 | 14.5 | 15.8 | 15.8 | 9.9 | 66.0 |
| 1977 | 0.0 | 9.9 | 14.5 | 15.8 | 15.8 | 9.9 | 66.0 |
| 1981 | 0.0 | 0.6 | 0.8 | 0.9 | 0.9 | 0.6 | 3.7 |
| 1987 | 0.0 | 9.9 | 14.5 | 15.8 | 15.8 | 9.9 | 66.0 |
| 1988 | 0.0 | 9.9 | 14.5 | 15.8 | 15.8 | 9.9 | 66.0 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 9.9 | 14.5 | 15.8 | 15.8 | 9.9 | 66.0 |
| 1991 | 0.0 | 9.9 | 14.5 | 15.8 | 15.8 | 9.9 | 66.0 |
| 1992 | 0.0 | 9.9 | 14.5 | 15.8 | 15.8 | 9.9 | 66.0 |
| 1994 | 0.0 | 9.9 | 14.5 | 15.8 | 15.8 | 9.9 | 66.0 |
| 2001 | 0.0 | 9.9 | 14.5 | 15.8 | 15.8 | 9.9 | 66.0 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Reclamation District 108** | | | | | | | |
| 1976 | 0.0 | 3.0 | 4.4 | 4.8 | 4.8 | 3.0 | 20.0 |
| 1977 | 0.0 | 3.0 | 4.4 | 4.8 | 4.8 | 3.0 | 20.0 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.0 | 3.0 | 4.4 | 4.8 | 4.8 | 3.0 | 20.0 |
| 1988 | 0.0 | 3.0 | 4.4 | 4.8 | 4.8 | 3.0 | 20.0 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 3.0 | 4.4 | 4.8 | 4.8 | 3.0 | 20.0 |
| 1991 | 0.0 | 3.0 | 4.4 | 4.8 | 4.8 | 3.0 | 20.0 |
| 1992 | 0.0 | 3.0 | 4.4 | 4.8 | 4.8 | 3.0 | 20.0 |
| 1994 | 0.0 | 3.0 | 4.4 | 4.8 | 4.8 | 3.0 | 20.0 |
| 2001 | 0.0 | 3.0 | 4.4 | 4.8 | 4.8 | 3.0 | 20.0 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Butte Water District** | | | | | | | |
| 1976 | 0.0 | 0.9 | 1.3 | 1.4 | 1.4 | 0.9 | 6.0 |
| 1977 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.0 | 0.9 | 1.3 | 1.4 | 1.4 | 0.9 | 6.0 |
| 1988 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 0.9 | 1.3 | 1.4 | 1.4 | 0.9 | 6.0 |
| 1991 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1992 | 0.0 | 0.9 | 1.3 | 1.4 | 1.4 | 0.9 | 6.0 |
| 1994 | 0.0 | 0.9 | 1.3 | 1.4 | 1.4 | 0.9 | 6.0 |
| 2001 | 0.0 | 0.9 | 1.3 | 1.4 | 1.4 | 0.9 | 6.0 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

**Table B2. Simulated Crop Idling Transfers for Alternative 2 (1,000 acre-feet)**

| WY | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|
| **Reclamation District 1004** | | | | | | | |
| 1976 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 1977 | 0.0 | 1.1 | 1.7 | 1.8 | 1.8 | 1.1 | 7.5 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 1988 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 1991 | 0.0 | 1.1 | 1.7 | 1.8 | 1.8 | 1.1 | 7.5 |
| 1992 | 0.0 | 1.1 | 1.7 | 1.8 | 1.8 | 1.1 | 7.5 |
| 1994 | 0.0 | 0.7 | 1.1 | 1.2 | 1.2 | 0.7 | 5.0 |
| 2001 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Sycamore Mutual Water Company** | | | | | | | |
| 1976 | 0.0 | 0.8 | 1.1 | 1.2 | 1.2 | 0.8 | 5.0 |
| 1977 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.0 | 0.8 | 1.1 | 1.2 | 1.2 | 0.8 | 5.0 |
| 1988 | 0.0 | 0.8 | 1.1 | 1.2 | 1.2 | 0.8 | 5.0 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 0.8 | 1.1 | 1.2 | 1.2 | 0.8 | 5.0 |
| 1991 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 1992 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 1994 | 0.0 | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | 1.0 |
| 2001 | 0.0 | 0.8 | 1.1 | 1.2 | 1.2 | 0.8 | 5.0 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Reclamation District 2068** | | | | | | | |
| 1976 | 0.0 | 0.5 | 0.7 | 0.7 | 0.7 | 0.5 | 3.0 |
| 1977 | 0.0 | 0.5 | 0.7 | 0.7 | 0.7 | 0.5 | 3.0 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.0 | 0.5 | 0.7 | 0.7 | 0.7 | 0.5 | 3.0 |
| 1988 | 0.0 | 0.5 | 0.7 | 0.7 | 0.7 | 0.5 | 3.0 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 0.5 | 0.7 | 0.7 | 0.7 | 0.5 | 3.0 |
| 1991 | 0.0 | 0.5 | 0.7 | 0.7 | 0.7 | 0.5 | 3.0 |
| 1992 | 0.0 | 0.5 | 0.7 | 0.7 | 0.7 | 0.5 | 3.0 |
| 1994 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 |
| 2001 | 0.0 | 0.5 | 0.7 | 0.7 | 0.7 | 0.5 | 3.0 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

**Table B2. Simulated Crop Idling Transfers for Alternative 2 (1,000 acre-feet)**

| WY | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|
| **Pelger Mutual Water Company** | | | | | | | |
| 1976 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1977 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.4 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1988 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1991 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.4 |
| 1992 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.4 |
| 1994 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

**Table B3. Simulated Crop Idling Transfers for Alternative 4 (1,000 acre-feet)**

| WY | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|
| **Glenn-Colusa Irrigation District** | | | | | | | |
| 1976 | 0.0 | 9.9 | 14.5 | 15.8 | 15.8 | 9.9 | 66.0 |
| 1977 | 0.0 | 9.9 | 14.5 | 15.8 | 15.8 | 9.9 | 66.0 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.0 | 9.9 | 14.5 | 15.8 | 15.8 | 9.9 | 66.0 |
| 1988 | 0.0 | 9.9 | 14.5 | 15.8 | 15.8 | 9.9 | 66.0 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 9.9 | 14.5 | 15.8 | 15.8 | 9.9 | 66.0 |
| 1991 | 0.0 | 9.9 | 14.5 | 15.8 | 15.8 | 9.9 | 66.0 |
| 1992 | 0.0 | 9.9 | 14.5 | 15.8 | 15.8 | 9.9 | 66.0 |
| 1994 | 0.0 | 9.9 | 14.5 | 15.8 | 15.8 | 9.9 | 66.0 |
| 2001 | 0.0 | 9.9 | 14.5 | 15.8 | 15.8 | 9.9 | 66.0 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Conaway Preservation Group** | | | | | | | |
| 1976 | 0.0 | 3.2 | 4.7 | 5.1 | 5.1 | 3.2 | 21.3 |
| 1977 | 0.0 | 2.4 | 3.5 | 3.8 | 3.8 | 2.4 | 16.0 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.0 | 3.2 | 4.7 | 5.1 | 5.1 | 3.2 | 21.3 |
| 1988 | 0.0 | 3.2 | 4.7 | 5.1 | 5.1 | 3.2 | 21.3 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 3.2 | 4.7 | 5.1 | 5.1 | 3.2 | 21.3 |
| 1991 | 0.0 | 2.4 | 3.5 | 3.8 | 3.8 | 2.4 | 16.0 |
| 1992 | 0.0 | 2.4 | 3.5 | 3.8 | 3.8 | 2.4 | 16.0 |
| 1994 | 0.0 | 2.4 | 3.5 | 3.8 | 3.8 | 2.4 | 16.0 |
| 2001 | 0.0 | 3.2 | 4.7 | 5.1 | 5.1 | 3.2 | 21.3 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Reclamation District 108** | | | | | | | |
| 1976 | 0.0 | 3.0 | 4.4 | 4.8 | 4.8 | 3.0 | 20.0 |
| 1977 | 0.0 | 3.0 | 4.4 | 4.8 | 4.8 | 3.0 | 20.0 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.0 | 3.0 | 4.4 | 4.8 | 4.8 | 3.0 | 20.0 |
| 1988 | 0.0 | 3.0 | 4.4 | 4.8 | 4.8 | 3.0 | 20.0 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 3.0 | 4.4 | 4.8 | 4.8 | 3.0 | 20.0 |
| 1991 | 0.0 | 3.0 | 4.4 | 4.8 | 4.8 | 3.0 | 20.0 |
| 1992 | 0.0 | 3.0 | 4.4 | 4.8 | 4.8 | 3.0 | 20.0 |
| 1994 | 0.0 | 2.4 | 3.6 | 3.9 | 3.9 | 2.4 | 16.2 |
| 2001 | 0.0 | 3.0 | 4.4 | 4.8 | 4.8 | 3.0 | 20.0 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

**Table B3. Simulated Crop Idling Transfers for Alternative 4 (1,000 acre-feet)**

| WY | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|
| **Butte Water District** | | | | | | | |
| 1976 | 0.0 | 1.7 | 2.5 | 2.8 | 2.8 | 1.7 | 11.5 |
| 1977 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.0 | 1.7 | 2.5 | 2.8 | 2.8 | 1.7 | 11.5 |
| 1988 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 1.7 | 2.5 | 2.8 | 2.8 | 1.7 | 11.5 |
| 1991 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1992 | 0.0 | 1.7 | 2.5 | 2.8 | 2.8 | 1.7 | 11.5 |
| 1994 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2001 | 0.0 | 1.7 | 2.5 | 2.8 | 2.8 | 1.7 | 11.5 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Reclamation District 1004** | | | | | | | |
| 1976 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 1977 | 0.0 | 1.1 | 1.7 | 1.8 | 1.8 | 1.1 | 7.5 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 1988 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 1991 | 0.0 | 1.1 | 1.7 | 1.8 | 1.8 | 1.1 | 7.5 |
| 1992 | 0.0 | 1.1 | 1.7 | 1.8 | 1.8 | 1.1 | 7.5 |
| 1994 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2001 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Sycamore Mutual Water Company** | | | | | | | |
| 1976 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 1977 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 1988 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 1991 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 1992 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 1994 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2001 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

**Table B3. Simulated Crop Idling Transfers for Alternative 4 (1,000 acre-feet)**

| WY | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|
| **Goose Club Farms/ Teichert** | | | | | | | |
| 1976 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 1977 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 1988 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 1991 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 1992 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 1994 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2001 | 0.0 | 1.5 | 2.2 | 2.4 | 2.4 | 1.5 | 10.0 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Pleasant Grove-Verona Mutual Water Company** | | | | | | | |
| 1976 | 0.0 | 1.4 | 2.0 | 2.2 | 2.2 | 1.4 | 9.0 |
| 1977 | 0.0 | 1.4 | 2.0 | 2.2 | 2.2 | 1.4 | 9.0 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.0 | 1.4 | 2.0 | 2.2 | 2.2 | 1.4 | 9.0 |
| 1988 | 0.0 | 1.4 | 2.0 | 2.2 | 2.2 | 1.4 | 9.0 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 1.4 | 2.0 | 2.2 | 2.2 | 1.4 | 9.0 |
| 1991 | 0.0 | 1.4 | 2.0 | 2.2 | 2.2 | 1.4 | 9.0 |
| 1992 | 0.0 | 1.4 | 2.0 | 2.2 | 2.2 | 1.4 | 9.0 |
| 1994 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2001 | 0.0 | 1.4 | 2.0 | 2.2 | 2.2 | 1.4 | 9.0 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Reclamation District 2068** | | | | | | | |
| 1976 | 0.0 | 1.1 | 1.7 | 1.8 | 1.8 | 1.1 | 7.5 |
| 1977 | 0.0 | 1.1 | 1.7 | 1.8 | 1.8 | 1.1 | 7.5 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.0 | 1.1 | 1.7 | 1.8 | 1.8 | 1.1 | 7.5 |
| 1988 | 0.0 | 1.1 | 1.7 | 1.8 | 1.8 | 1.1 | 7.5 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 1.1 | 1.7 | 1.8 | 1.8 | 1.1 | 7.5 |
| 1991 | 0.0 | 1.1 | 1.7 | 1.8 | 1.8 | 1.1 | 7.5 |
| 1992 | 0.0 | 1.1 | 1.7 | 1.8 | 1.8 | 1.1 | 7.5 |
| 1994 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2001 | 0.0 | 1.1 | 1.7 | 1.8 | 1.8 | 1.1 | 7.5 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

**Table B3. Simulated Crop Idling Transfers for Alternative 4 (1,000 acre-feet)**

| WY | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|
| **Te Velde Trust** | | | | | | | |
| 1976 | 0.0 | 1.0 | 1.5 | 1.7 | 1.7 | 1.0 | 7.0 |
| 1977 | 0.0 | 0.2 | 0.3 | 0.4 | 0.4 | 0.2 | 1.5 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.0 | 1.0 | 1.5 | 1.7 | 1.7 | 1.0 | 7.0 |
| 1988 | 0.0 | 1.0 | 1.5 | 1.7 | 1.7 | 1.0 | 7.0 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 1.0 | 1.5 | 1.7 | 1.7 | 1.0 | 7.0 |
| 1991 | 0.0 | 0.2 | 0.3 | 0.4 | 0.4 | 0.2 | 1.5 |
| 1992 | 0.0 | 0.2 | 0.3 | 0.4 | 0.4 | 0.2 | 1.5 |
| 1994 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2001 | 0.0 | 1.0 | 1.5 | 1.7 | 1.7 | 1.0 | 7.0 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Pelger Mutual Water Company** | | | | | | | |
| 1976 | 0.0 | 0.4 | 0.6 | 0.6 | 0.6 | 0.4 | 2.5 |
| 1977 | 0.0 | 0.3 | 0.4 | 0.5 | 0.5 | 0.3 | 1.9 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.0 | 0.4 | 0.6 | 0.6 | 0.6 | 0.4 | 2.5 |
| 1988 | 0.0 | 0.4 | 0.6 | 0.6 | 0.6 | 0.4 | 2.5 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 0.4 | 0.6 | 0.6 | 0.6 | 0.4 | 2.5 |
| 1991 | 0.0 | 0.3 | 0.4 | 0.5 | 0.5 | 0.3 | 1.9 |
| 1992 | 0.0 | 0.3 | 0.4 | 0.5 | 0.5 | 0.3 | 1.9 |
| 1994 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2001 | 0.0 | 0.4 | 0.6 | 0.6 | 0.6 | 0.4 | 2.5 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Cranmore Farms** | | | | | | | |
| 1976 | 0.0 | 0.4 | 0.6 | 0.6 | 0.6 | 0.4 | 2.5 |
| 1977 | 0.0 | 0.4 | 0.6 | 0.6 | 0.6 | 0.4 | 2.5 |
| 1981 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 0.0 | 0.4 | 0.6 | 0.6 | 0.6 | 0.4 | 2.5 |
| 1988 | 0.0 | 0.4 | 0.6 | 0.6 | 0.6 | 0.4 | 2.5 |
| 1989 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 0.0 | 0.4 | 0.6 | 0.6 | 0.6 | 0.4 | 2.5 |
| 1991 | 0.0 | 0.4 | 0.6 | 0.6 | 0.6 | 0.4 | 2.5 |
| 1992 | 0.0 | 0.4 | 0.6 | 0.6 | 0.6 | 0.4 | 2.5 |
| 1994 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2001 | 0.0 | 0.4 | 0.6 | 0.6 | 0.6 | 0.4 | 2.5 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

## Table B4: Simulated Reservoir Release Transfers for Specified Alternatives (1,000 acre-feet)

| WY | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|
| **South Sutter Water District: Alts. 2, 3, & 4** | | | | | | | |
| 1989 | 0 | 0 | 0 | 14 | 1 | 0 | 15 |
| 1990 | 0 | 0 | 0 | 5 | 0 | 0 | 5 |
| 1992 | 0 | 0 | 0 | 15 | 0 | 0 | 15 |
| 1994 | 0 | 0 | 0 | 5 | 0 | 0 | 5 |
| **Browns Valley Irrigation District: Alts. 2, 3, & 4** | | | | | | | |
| 1981 | 0 | 0 | 0 | 5 | 0 | 0 | 5 |
| 2001 | 0 | 0 | 0 | 5 | 0 | 0 | 5 |

Additionally, Browns Valley ID is simulated to make a conserved water transfer of 3,100 acre-feet in July of the following years: 1976, 1977, 1987, 1988, 1990, 1991, 1992, 1994, and 2001. This conserved water transfer operates similar to a reservoir release transfer from New Bullards Bar Reservoir.

| WY | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|
| **Placer County Water Agency: Alts. 2, 3, & 4** | | | | | | | |
| 1976<br>1977 | 0 | 8.2 | 7.5 | 6.8 | 7.2 | 9.0 | 38.7 |
| 1977 | 0 | 4.1 | 3.2 | 4.3 | 4.9 | 5.5 | 22.0 |
| 1981 | 0 | 8.2 | 7.8 | 7.9 | 8.1 | 7.4 | 39.4 |
| 1987 | 0 | 8.2 | 7.6 | 8.2 | 8.3 | 7.2 | 39.5 |
| 1988 | 0 | 4.1 | 3.8 | 4.0 | 4.5 | 4.6 | 21.0 |
| 1990 | 0 | 8.2 | 8.0 | 7.7 | 8.2 | 7.7 | 39.8 |
| 1991 | 0 | 5.2 | 3.9 | 3.5 | 4.1 | 3.8 | 20.5 |
| 1992 | 0 | 1.2 | 1.2 | 1.3 | 1.3 | 0.9 | 5.9 |
| 1994 | 0 | 8.4 | 7.9 | 8.2 | 7.9 | 6.7 | 39.0 |
| 2001 | 0 | 8.2 | 7.6 | 8.2 | 8.3 | 7.3 | 39.5 |

Values shown are releases from PCWA reservoirs into Folsom Reservoir. Water is released from Folsom for rediversion at Freeport by EBMUD at approximately 3,800 acre-feet per month from July through February.

| WY | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|
| **Merced Irrigation District: Alts. 2 & 3** | | | | | | | |
| 1972 | 18 | 12 | 0 | 0 | 0 | 0 | 30 |
| 1981 | 18 | 12 | 0 | 0 | 0 | 0 | 30 |
| 1992 | 18 | 12 | 0 | 0 | 0 | 0 | 30 |
| 2001 | 18 | 12 | 0 | 0 | 0 | 0 | 30 |

In Alts. 2 & 3 transfers from Merced ID are diverted from facilities on the lower San Joaquin River.

| WY | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|
| **Merced Irrigation District: Alt. 4** | | | | | | | |
| 1981 | 0 | 0 | 0 | 30 | 0 | 0 | 30 |
| 1992 | 0 | 0 | 0 | 30 | 0 | 0 | 30 |
| 2001 | 0 | 0 | 0 | 30 | 0 | 0 | 30 |

In Alt. 4 transfers from Merced ID are diverted from CVP/SWP facilities in the south Delta.

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