Appendix B: Beneficiary Analysis – Service Category 1

Table B1: Sutter Bypass - Summary of Flows

Location	1957 Design	57 Design 100-yr				
Inflows						
Sacramento River US Mouton Wier	135,000 cfs		131,600 cfs		137,400 cfs	
Flow Attenuation	0 cfs		-2,600 cfs		-300 cfs	
Subtotal Inflows:	135,000 cfs		129,000 cfs		137,100 cfs	
Bypass Diversions						
Moulton Wier to Bypass	Not Tabulated		21,900 cfs		24,500 cfs	
Colusa Wier to Bypass	69,000 cfs		57,700 cfs		61,100 cfs	
Tisdale Wier to bypass	36,000 cfs		17,200 cfs		17,900 cfs	
Subtotal Diversions:	105,000 cfs	78%	96,800 cfs	75%	103,500 cfs	75%
Outflow						
Sacramento River US Fremont Weir	30,000 cfs		32,200 cfs		33,600 cfs	

Table B2: Yolo Bypass - Summary of Flows

Location	1957 Design	1957 Design 100-yr			200-yr	
Inflows						
Sacramento River US Fremont Weir	30,000 cfs		32,200 cfs		33,600 cfs	
Sutter Bypass Outflow	180,000 cfs		347,000 cfs		354,700 cfs	
Feather River Outflow	200,000 cfs		77,400 cfs		79,900 cfs	
American River US Confluence with Sac River	180,000 cfs		120,800 cfs		137,000 cfs	
Drainage Inflow	34,000 cfs		3,600 cfs		4,100 cfs	
Subtotal Inflows:	624,000 cfs		581,000 cfs		609,300 cfs	
Bypass Diversions						
Fremont Weir Flow to Bypass	343,000 cfs		362,100 cfs		375,100 cfs	
Sacramento Weir Flow to Bypass	103,000 cfs		106,500 cfs		117,600 cfs	
Subtotal Diversions:	446,000 cfs	71%	468,600 cfs	81%	492,700 cfs	81%
Outflow						
Sacramento River US Freemont Bridge	110,000 cfs		112,400 cfs		116,600 cfs	

	LMAs within each	Length of SPFC	O&M Budget per	
Impact Areas	Impact Area	Levees (miles)	Levee Mile	O&M Budget
SAC24	8361 Facilities	29.34	\$46,000	\$1,349,568
SAC30	RD 1001	7.32	\$46,000	\$336,720
	RD 70	7.91	\$46,000	\$363,860
SAC32/SAC33	RD 1660	9.09	\$46,000	\$418,140
	8361 Facilities	4.51	\$46,000	\$207,510
SAC34/SAC11	RD 1500	20.65	\$46,000	\$949,900
34034/34011	8361 Facilities	4.43	\$46,000	\$203,978
Total		83.25		\$3,829,676

Table B3: Sutter Bypass - Levee OMRR&R Budget

Table B4: Yolo Bypass - Levee OMRR&R Budget

	LMAs within each	Length of SPFC	O&M Budget per	
Impact Areas	Impact Area	Levees (miles)	Levee Mile	O&M Budget
SAC14/SAC15	8361 Facilities	3.80	\$46,000	\$174,800
SAC16	RD 2035	7.63	\$46,000	\$350,980
SAC17	8361 Facilities	2.14	\$46,000	\$98,440
	RD 537	6.12	\$46,000	\$281,520
SAC35	RD 1600	5.59	\$46,000	\$257,140
	8361 Facilities	3.75	\$46,000	\$172,513
SAC36	RD 1000			
	RD 900	6.42	\$58,000	\$372,360
SAC38/SAC39	8361 Facilities	1.79	\$58,000	\$103,577
	MA04	3.47	\$58,000	\$201,293
SAC42	RD 999	13.04	\$46,000	\$599,840
	RD 2068	5.44	\$46,000	\$250,240
SAC59	RD 2098	3.60	\$46,000	\$165,600
SAC61	RD 2060	0.64	\$46,000	\$29,440
SAC62	RD 536	4.63	\$46,000	\$212,980
Total		68.06		\$3,270,723

	Benefit Percentages	Budget Allocation
Sutter Bypass		
OMRR&R Budget		\$3,829,676
General Benefit from Bypass Operations	30%	\$1,148,903
Special Benefit from Bypass Operations	70%	\$2,680,773
Flood Risk Benefit from Bypass Diversions	75%	\$2,010,580
Yolo Bypass		
OMRR&R Budget		\$3,270,723
General Benefit from Bypass Operations	30.0%	\$981,217
Special Benefit from Bypass Operations	70.0%	\$2,289,506
Flood Risk Benefit from Sac River OMRR&R	80.0%	\$1,831,605

Table B6: Sutter Bypass - Special Benefit Allocation to Impact Areas

Impact Areas	LMAs within each Impact Area	Crop Damages (\$)	Structure Damages (\$)	Total Damages (\$)	Percentage of Sac River Total Damages	Allocation of Sac River Special Benefit	Percentage of Total Damages	Allocation of Bypass Special Benefit	Total Allocation of Bypass Special Benefit
SAC08/SAC09/SAC10	RD 108 RD 787 RD 2047 SWLD	6,059,641	14,737,107	20,796,749	36.3%	\$729,816	34.6%	\$231,707	\$961,523
SAC12/SAC13	RD 787 RD 730 KLRDD	290,001	1,992,650	2,282,651	4.0%	\$80,105	0.0%	\$0	\$80,105
SAC24	LD001S MA03 8361 Facilities	0	0	0	0.0%	\$0	0.0%	\$0	\$0
SAC25	LD001S	19,179	4,312,692	4,331,870			7.2%	\$48,263	\$48,263
SAC27/SAC28	RD 784	21,087	789,451	810,537			1.3%	\$9,031	\$9,031
SAC30	RD 1001	1,353,280	4,854,460	6,207,740	10.8%	\$217,847	10.3%	\$69,163	\$287,010
SAC32/SAC33	RD 70 RD 1660 8361 Facilities	3,463,019	8,502,159	11,965,178	20.9%	\$419,892	19.9%	\$133,310	\$553,201
SAC34/SAC11	RD 1500 8361 Facilities	4,692,340	11,348,578	16,040,918	28.0%	\$562,921	26.7%	\$178,720	\$741,640
Total		15,898,548	46,537,097	62,435,644	100.0%	\$2,010,580	100.0%	\$670,193	\$2,680,773

Note: SAC24 is protected entirely by 8361 bypass facilities which are considered to provide general benefit, not special benefit.

Impact Areas	LMAs within each	-	Structure Damages (\$)	Total Damages (\$)	Percentage of Sac River Total Damages	Allocation of Sac River Special Benefit	Percentage of Total Damages	Allocation of Bypass Special Benefit	Total Allocation of Bypass Special Benefit
					D = C / Total [C]	E= J x Total[J]			
SAC14/SAC15	RD 730 KLRDD 8361 Facilities	0	0	0	0.0%	\$0	0.0%	\$0	\$0
SAC16	RD 2035	361,204	3,351,492	3,712,696	4.5%	\$81,567	1.9%	\$8,598	\$90,165
SAC17	8361 Facilities	0	0	0	0.0%	\$0	0.0%	\$0	\$0
SAC35	RD 537 RD 1600 8361 Facilities	565,229	941,284	1,506,513	1.8%	\$33,098	0.8%	\$3,489	\$36,587
SAC36	RD 1000	8,364	4,566,968	4,575,332	5.5%	\$100,519	2.3%	\$10,596	\$111,115
SAC38/SAC39	RD 900 8361 Facilities MA04	1,113	6,570,005	6,571,118	7.9%	\$144,366	3.3%	\$15,218	\$159,584
SAC40	ARFCD	0	7,137,042	7,137,042	8.6%	\$156,799	3.6%	\$16,529	\$173,328
SAC41	RD 307	228,140	743,210	971,350	1.2%	\$21,340	0.5%	\$2,250	\$23,590
SAC42	RD 999	887,340	2,455,370	3,342,710	4.0%	\$73,438	1.7%	\$7,741	\$81,180
SAC43	RD 999	12	48,367	48,379			0.0%	\$112	\$112
SAC44	RD 744 MA09SacCity	1,557,180	4,648,935	6,206,115			3.1%	\$14,373	\$14,373
SAC45	MA09	158	2,224,111	2,224,269			1.1%	\$5,151	\$5,151
SAC46	RD 150	1,580,570	2,730,911	4,311,481			2.2%	\$9,985	\$9,985
SAC47	RD 0369 RD 0551 RD 0755	3,622,750	34,332,710	37,955,460			19.2%	\$87,901	\$87,901

Table B7: Yolo Bypass - Special Benefit Allocation to Impact Areas

Impact Areas	LMAs within each Impact Area	Crop Damages (\$)	Structure Damages (\$)	Total Damages (\$)	Percentage of Sac River Total Damages	Allocation of Sac River Special Benefit	Percentage of Total Damages	Allocation of Bypass Special Benefit	Total Allocation of Bypass Special Benefit
SAC48	RD 0551	1,522	6,224,866	6,226,388			3.1%	\$14,420	\$14,42
SAC49	RD 0349	990,534	2,038,421	3,028,955			1.5%	\$7,015	\$7,01
SAC50	RD 0003	1,736,060	6,767,358	8,503,418			4.3%	\$19,693	\$19,69
SAC51	RD 0369 RD 0554	18,414	330,410	348,823			0.2%	\$808	\$80
SAC52	RD 0554	69,163	3,380,810	3,449,973			1.7%	\$7,990	\$7,99
SAC53	RD 0563	2,036,250	7,519,919	9,556,169			4.8%	\$22,131	\$22,13
SAC54	RD 0556 BALMD	3,734,540	17,209,110	20,943,650			10.6%	\$48,503	\$48,50
SAC55	RD 501	996,776	1,752,672	2,749,448			1.4%	\$6,367	\$6,36
SAC57	RD 1601	390,869	1,456,066	1,846,935			0.9%	\$4,277	\$4,27
SAC58	RD 0341	888,239	3,603,456	4,491,695			2.3%	\$10,402	\$10,40
SAC59	RD 2068 RD 2098	93,779	291,250	385,029			0.2%	\$892	\$89
SAC60	RD 2060 RD 2068 RD 2104	9,454	16,969	26,424			0.0%	\$61	\$6
SAC61	RD 2060	50,668	149,864	200,532			0.1%	\$464	\$46
SAC62	RD 536	161,672	1,686,965	1,848,637			0.9%	\$4,281	\$4,28
SAC63	MA09SacCity ARFCD	966	55,551,683	55,552,650	66.6%	\$1,220,478	28.1%	\$128,654	\$1,349,13
I		19,990,965	177,730,225	197,721,190	100.0%	\$1,831,605	100.0%	\$457,901	\$2,289,506

Table B7: Yolo Bypass - Special Benefit Allocation to Impact Areas

Note: SAC14/SAC15 and SAC 17 are protected entirely by 8361 bypass facilities which are considered to provide general benefit, not special benefit.

Table B8: Sutter Bypass - SSJDD Assessment

Impact Areas	LMAs within each Impact Area	Sac River Special Benefit	Special Benefit from Bypass	Credit for Bypass O&M	Net Benefit	Potential SSJDD Assessment
SAC08/SAC09/SAC10	RD 108 RD 787 RD 2047 MA01 SWLD	\$729,816	\$231,707		\$961,523	\$961,523
SAC12/SAC13	RD 787 RD 730 KLRDD	\$80,105	\$0		\$80,105	\$80,105
SAC24	LD001S MA03 8361 Facilities	\$0	\$0	\$0	\$0	\$0
SAC25	LD001S		\$48,263		\$48,263	\$48,263
SAC27/SAC28	RD 784		\$9,031		\$9,031	\$9,031
SAC30	RD 1001	\$217,847	\$69,163	\$336,720	-\$49,710	\$0
SAC32/SAC33	RD 70 RD 1660 8361 Facilities	\$419,892	\$133,310	\$363,860 \$418,140 \$0	-\$228,799	\$0
SAC34/SAC11	RD 1500 8361 Facilities	\$562,921	\$178,720	\$949,900 \$0	-\$208,260	\$0
Total		\$2,010,580	\$670,193	\$2,068,620		\$1,098,921

Note: 8361 facilities provide General Benefit and do not provide a credit for Bypass O&M against the Special Benefit.

Table B9: Yolo Bypass - SSJDD Assessment

Impact Areas	LMAs within each Impact Area	Sac River Special Benefit	Special Benefit from Bypass	Credit for Bypass O&M	Net Benefit	Potential SSJDD Assessment
SAC14/SAC15	RD 730 KLRDD 8361 Facilities	\$0	\$0	\$0	\$0	\$0
SAC16	RD 2035	\$81,567	\$8,598	\$350,980	-\$260,815	\$0
SAC17	8361 Facilities	\$0	\$0	\$0	\$0	\$0
SAC35	RD 537 RD 1600 8361 Facilities	\$33,098	\$3,489	\$281,520 \$257,140 \$0	-\$502,073	\$0
SAC36	RD 1000	\$100,519	\$10,596		\$111,115	\$111,115
SAC38/SAC39	RD 900 8361 Facilities MA04	\$144,366	\$15,218	\$372,360 \$0 \$201,293	-\$414,070	\$0
SAC40	ARFCD	\$156,799	\$16,529		\$173,328	\$173,328
SAC41	RD 307	\$21,340	\$2,250		\$23,590	\$23,590
SAC42	RD 999	\$73,438	\$7,741	\$599,840	-\$518,660	\$0
SAC43	RD 999		\$112		\$112	\$112
SAC44	RD 744 MA09SacCity		\$14,373		\$14,373	\$14,373

Table B9: Yolo Bypass - SSJDD Assessment

Impact Areas	LMAs within each Impact Area	Sac River Special Benefit	Special Benefit from Bypass	Credit for Bypass O&M	Net Benefit	Potential SSJDD Assessment
SAC45	MA09	Denent	\$5,151		\$5,151	\$5,151
JAC4J	IVIA09		ŞJ,1J1		\$5,151	ŞJ,1J1
SAC46	RD 150		\$9,985		\$9,985	\$9 <i>,</i> 985
	RD 0369					
SAC47	RD 0551		\$87,901		\$87,901	\$87,901
	RD 0755					
SAC48	RD 0551		\$14,420		\$14,420	\$14,420
SAC49	RD 0349		\$7,015		\$7,015	\$7,015
CACEO			¢10.000		¢40.000	¢10 c02
SAC50	RD 0003		\$19,693		\$19,693	\$19,693
64.054	RD 0369		<u> </u>		<u> </u>	<u> </u>
SAC51	RD 0554		\$808		\$808	\$808
SAC52	RD 0554		\$7,990		\$7,990	\$7,990
SAC53	RD 0563		\$22,131		\$22,131	\$22,131
			· , -		· / -	1 / -
SAC54	RD 0556		\$48,503		\$48,503	\$48,503
0,0001	BALMD		<i>\</i>		<i>\</i>	<i>\</i>
SAC55	RD 501		\$6,367		\$6,367	\$6,367
3/(635	10 301		<i>Q</i> 0 ,507		<i>40,307</i>	<i>Q</i> 0 ,307
SAC57	RD 1601		\$4,277		\$4,277	\$4,277
SAC58	RD 0341		\$10,402		\$10,402	\$10,402

Table B9: Yolo Bypass - SSJDD Assessment

Impact Areas	LMAs within each Impact Area	Sac River Special Benefit	Special Benefit from Bypass	Credit for Bypass O&M	Net Benefit	Potential SSJDD Assessment
SAC59	RD 2068		\$892		\$892	\$892
37633	RD 2098		ÇÜ ÇÜ		ΨŪJZ	70 <i>3</i> 2
	RD 2060					
SAC60	RD 2068		\$61		\$61	\$61
	RD 2104					
SAC61	RD 2060		\$464		\$464	\$464
SAC62	RD 536		\$4,281		\$4,281	\$4,281
SAC63	MA09SacCity ARFCD	\$1,220,478	\$128,654		\$1,349,132	\$1,349,132
Total		\$1,831,605	\$457,901	\$2,063,133		\$1,921,991

Note: 8361 facilities provide General Benefit and do not provide a credit for Bypass O&M against the Special Benefit.

Impact Areas	LMAs within each Impact Area	Potential SSJDD Assessment	SFR - Average Assessment per Parcel	Average MFR Assessment per 1000 SF	Average COM/IND Assessment per 1000 SF	AG - Average Assessment per Acre
•			•	•	•	•
	RD 108					
	RD 787					
SAC08/SAC09/SAC10	RD 2047	\$961,522.5	\$145.26	\$55.25	\$82.93	\$3.4
	MA01					
	SWLD					
	RD 787					
SAC12/SAC13	RD 730	\$80,104.6	\$26.67	\$86.80	\$130.22	\$1.67
	KLRDD					
	LD001S					
SAC24	MA03					
	8361 Facilities					
SAC25	LD001S	\$48,263.4	\$1.21	\$0.38	\$1.33	\$0.06
SAC27/SAC28	RD 784	\$9,030.6	\$0.49	\$0.10	\$0.46	\$0.02
SAC30	RD 1001					
	RD 70					
SAC32/SAC33	RD 1660					
	8361 Facilities					
SAC34/SAC11	RD 1500					
	8361 Facilities					

Table B10: Average Assessment Rates by Land Use Type - Sutter Bypass

Impact /	Areas	LMAs within each Impact Area	Potential SSJDD Assessment	SFR - Average Assessment per Parcel	Average MFR Assessment per 1000 SF	Average COM/IND Assessment per 1000 SF	AG - Average Assessment per Acre
SAC14/S	SAC15 I	RD 730 KLRDD 3361 Facilities					
SAC1	16 1	RD 2035					
SAC	17 8	3361 Facilities					
SACE	35 I	RD 537 RD 1600 3361 Facilities					
SACE	36 1	RD 1000	\$111,115	\$2.28	\$0.79	\$1.61	\$0.01
SAC38/S	SAC39	RD 900 3361 Facilities VIA04					
SAC4	40 /	ARFCD	\$173,328	\$11.17	\$3.42	\$7.59	\$0.00
SAC4	41 I	RD 307	\$23,590	\$61.43	\$17.08	\$77.02	\$1.16
SAC4	1)	RD 765 RD 999					
SAC4	13 I	RD 999	\$112	\$0.27	\$0.09	\$0.23	\$0.04

Table B11: Average Assessment Rates by Land use Type - Yolo Bypass

Table B11: Average Assessment Rates by Land use Type - Yolo Bypass

Impact Areas	LMAs within each Impact Area	Potential SSJDD Assessment	SFR - Average Assessment per Parcel	Average MFR Assessment per 1000 SF	Average COM/IND Assessment per 1000 SF	AG - Average Assessment per Acre
SAC44	RD 744 MA09SacCity	\$14,373	\$0.56	\$0.17	\$2.95	\$0.29
SAC45	MA09	\$5,151	\$28.88	\$16.75	\$29.54	\$0.17
SAC46	RD 150	\$9,985	\$30.46	\$10.36	\$33.29	\$0.89
SAC47	RD 0369 RD 0551 RD 0755	\$87,901	\$70.36	\$21.09	\$62.67	\$1.06
SAC48	RD 0551	\$14,420	\$48.97	\$21.10	\$51.90	\$0.65
SAC49	RD 0349	\$7,015	\$25.01	\$10.13	\$32.21	\$1.15
SAC50	RD 0003	\$19,693	\$13.92	\$3.95	\$17.96	\$0.29
SAC51	RD 0369 RD 0554	\$808	\$11.46	\$6.34	\$7.54	\$0.33
SAC52	RD 0554	\$7,990	\$19.88	\$9.98	\$18.19	\$0.65
SAC53	RD 0563	\$22,131	\$53.84	\$17.85	\$64.68	\$0.76
SAC54	RD 0556 BALMD	\$48,503	\$22.45	\$10.43	\$26.60	\$0.72
SAC55	RD 501	\$6,367	\$10.62	\$6.23	\$16.20	\$0.22

Impact Areas	LMAs within each Impact Area	Potential SSJDD Assessment	SFR - Average Assessment per Parcel	Average MFR Assessment per 1000 SF	Average COM/IND Assessment per 1000 SF	AG - Average Assessment per Acre
SAC57	RD 1601	\$4,277	\$41.74	\$0.00	\$62.73	\$0.42
SAC58	RD 0341	\$10,402	\$42.07	\$24.46	\$80.64	\$0.28
SAC59	RD 2068 RD 2098	\$892	\$5.91	\$4.48	\$9.43	\$0.03
SAC60	RD 2060 RD 2068 RD 2104	\$61	\$0.33	\$0.41	\$0.70	\$0.00
SAC61	RD 2060	\$464	\$3.14	\$0.00	\$3.76	\$0.03
SAC62	RD 536	\$4,281	\$8.12	\$3.82	\$11.45	\$0.09
SAC63	MA09SacCity ARFCD	\$1,349,132	\$8.47	\$3.11	\$6.23	\$0.05

Table B11: Average Assessment Rates by Land use Type - Yolo Bypass

Table B12: Reallocation of SSJDD Assessment - Sutter Bypass

Impact Areas	LMAs within each Impact Area	Levee Miles	Percent Total Budget	Potential SSJDD Assessment	Reallocation of SSJDD Assessment
	RD 108				
	RD 787				
SAC08/SAC09/SAC10	RD 2047			\$961,523	
	MA01				
	SWLD				
	RD 787				
SAC12/SAC13	RD 730			\$80,105	
	KLRDD				
	LD001S				
SAC24	MA03				
	8361 Facilities				
SAC25	LD001S			\$48,263	
SAC27/SAC28	RD 784			\$9,031	
SAC30	RD 1001	7.32	16.28%	\$0	\$178,877
	RD 70	7.91	17.59%		\$193,295
SAC32/SAC33	RD 1660	9.09	20.21%	\$0	\$222,130
	8361 Facilities				
SAC34/SAC11	RD 1500	20.65	45.92%	\$0	\$504,619
	8361 Facilities				
		44.97		\$1,098,921	\$1,098,921

Table B13: Reallocation of SSJDD Assessment - Yolo Bypass

Impact Areas	LMAs within each Impact Area	Levee Miles	Percent Total Budget	Potential SSJDD Assessment	Reallocation of SSJDD Assessment
SAC14/SAC15	RD 730 KLRDD 8361 Facilities			\$0	
SAC16	RD 2035	7.63	13.49%	\$0	\$259,184
SAC17	8361 Facilities			\$0	
SAC35	RD 537 RD 1600 8361 Facilities	6.12 5.59	10.82% 9.88%	\$0	\$207,891 \$189,887
SAC36	RD 1000			\$111,115	
SAC38/SAC39	RD 900 8361 Facilities MA04	6.42 3.47	11.35% 6.13%	\$0	\$218,082 \$117,892
SAC40	ARFCD			\$173,328	
SAC41	RD 307			\$23,590	
SAC42	RD 765 RD 999	13.04	23.05%	\$0	\$442,957
SAC43	RD 999			\$112	

Table B13: Reallocation of SSJDD Assessment - Yolo Bypass

	LMAs within each		Percent Total	Potential SSJDD	Reallocation of
Impact Areas	Impact Area	Levee Miles	Budget	Assessment	SSJDD Assessment
SAC44	RD 744 MA09SacCity			\$14,373	
SAC45	MA09			\$5,151	
SAC46	RD 150			\$9,985	
SAC47	RD 0369 RD 0551 RD 0755			\$87,901	
SAC48	RD 0551			\$14,420	
SAC49	RD 0349			\$7,015	
SAC50	RD 0003			\$19,693	
SAC51	RD 0369 RD 0554			\$808	
SAC52	RD 0554			\$7,990	
SAC53	RD 0563			\$22,131	
SAC54	RD 0556 BALMD			\$48,503	
SAC55	RD 501			\$6,367	

Table B13: Reallocation of SSJDD Assessment - Yolo Bypass

	LMAs within each		Percent Total	Potential SSJDD	Reallocation of
Impact Areas	Impact Area	Levee Miles	Budget	Assessment	SSJDD Assessment
SAC57	RD 1601			\$4,277	
SAC58	RD 0341			\$10,402	
SAC59	RD 2068	5.44	9.61%	\$892	\$184,792
3AC39	RD 2098	3.60	6.36%		\$122,289
	RD 2060				
SAC60	RD 2068			\$61	
	RD 2104				
SAC61	RD 2060	0.64	1.13%	\$464	\$21,740
SAC62	RD 536	4.63	8.18%	\$4,281	\$157,277
SAC63	MA09SacCity			\$1,349,132	
5AC05	ARFCD			Ş1,545,152	
		56.58		\$1,921,991	\$1,921,991