

APP 7

C-056098

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# Appendix VII. SRSA, ARSA, and DESA Summary Regional Impact Tables

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This appendix contains summary tables from each of the water contracting EIS's.

Table A. Summary of Regional and Site-Specific Impacts - Sacramento River Service Area

Regional 2020 Baseline Conditions (No Action)	Impacts (Changes from 2020 Baseline Conditions)	Alternative 1	Alternative 2	Alternative 3	Alternative 4 A/B	Alternative 4 C/D	Alternative 5	Alternative 6	Alternative 7
<b>SOILS AND DRAINAGE</b>									
o Slightly increased soil salinity and boron levels	<u>Regional</u> o Changes in soil salinity and boron levels	N	N	N	N	N	N	N	N
	<u>Site Specific<sup>a</sup></u> o Poor drainage of 8,000 acres in Yolo- Zamora W.D.	S	S	S	S	N (No change)	N (No change)	S	N (No change)
<b>SURFACE WATER HYDROLOGY AND SEEPAGE</b>									
o -13% change from 1985 conditions.	<u>Regional</u> o Changes in Sacramento River instream flows (annual averages) below Keswick in critically dry years (% change from 2020 baseline conditions).	* (+10)	* (+7)	* (+6)	* (+6)	* (+13)	* (+11)	* (+8)	* (+3)
o +6% change from 1985 conditions.	o Changes in Claire Engle Reservoir storage in critically dry years (% change from 2020 baseline conditions).	* (+16%)	* (No change)	* (-1%)	* (+13%)	* (+9%)	* (-1%)	* (+2%)	* (-4%)
o +27% change from 1985 conditions.	o Changes in Shasta Reservoir storage in critically dry years (% change from 2020 baseline conditions).	* (-30%)	* (-15%)	* (-14%)	* (-27%)	* (-25%)	* (-25%)	* (-22%)	* (-3%)

S = Significant impact versus 2020 Baseline Conditions  
 N = No significant impact versus 2020 Baseline Conditions  
 B = Beneficial impact versus 2020 Baseline Conditions  
 \* = Significance of impact determined by other resource categories

<sup>a</sup> Addit' significant site-specific impacts not included in regional impacts

Table A. Continued

Regional 2020 Baseline Conditions (No Action)	Impacts (Changes from 2020 Baseline Conditions)	Alternative 1	Alternative 2	Alternative 3	Alternative 4 A/B	Alternative 4 C/D	Alternative 5	Alternative 6	Alternative 7
<b>SURFACE WATER QUALITY</b>									
o 75% of years (increase of 54% over 1985 baseline conditions).	<u>Regional</u> o Change in % of years when Sacramento River July mean monthly temperatures equal or exceed 60°F at Red Bluff (with temperature curtain).	*	*	*	*	*	*	*	*
		(+16%)	(No change)	(-27%)	(+13%)	(-25%)	(+2%)	(+2%)	(No change)
o Increase in constituent loading.	o Change in constituent concentrations.	*	*	*	*	*	*	*	*
<b>GROUNDWATER</b>									
o Net 2020 groundwater storage = 101,900 af (overdraft condition).	<u>Regional</u> o Changes in 2020 groundwater storage (af).	B	B	B	B	S	B	B	S
		(+157,200 to +164,800)	(+33,500)	(+164,800)	(+9,900)	(-16,000)	(+23,100)	(+56,600)	(-23,600)
o No substantial regional changes.	o Changes in groundwater quality.	N	N	N	N	N	N	N	N
	<u>Site Specific</u> o Refuge groundwater overdraft.	S	N	S	S	S	N	N	S
<b>FISHERIES</b>									
o Spawning conditions would be improved slightly for fall and late fall runs but winter and spring runs would be adversely affected versus 1985. No rearing conditions for all runs would be adversely affected versus 1985.	<u>Regional</u> o Impacts on Sacramento River chinook salmon spawning, rearing, and entrainment.	S	N	S	N	S	N	S	S
		(Spawning for spring run under Option A; spawning for winter and spring runs and rearing for all runs under Option B.)		(Spawning for spring run)		(Spawning for winter and spring run)		(Spawning for winter and spring run)	(Spawning for winter run)

S = Significant impact versus 2020 Baseline Conditions  
 N = No significant impact versus 2020 Baseline Conditions  
 B = Beneficial impact versus 2020 Baseline Conditions  
 \* = Significance of impact determined by other resource categories

<sup>a</sup> Additional significant site-specific impacts not included in regional impacts

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Table A. Continued

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Regional 2020 Baseline Conditions (No Action)	Impacts (Changes from 2020 Baseline Conditions)	Alternative 1	Alternative 2	Alternative 3	Alternative 4 A/B	Alternative 4 C/D	Alternative 5	Alternative 6	Alternative 7
<b>FISHERIES, Continued</b>									
o Trinity River fishery not affected.	o Impacts on Trinity River chinook salmon.	N	N	N	N	N	N	N	N
o Shasta and Clair Engle Reservoir fisheries not affected.	o Impacts on Shasta and Clair Engle Reservoirs.	N	N	N	N	S (Sunfish spawning success in both reservoirs)	N	S (Shasta Reservoir habitat)	N

**VEGETATION AND WILDLIFE**

o Reduction in extent and changes in composition and structure.	o Changes in Sacramento River riparian communities.	N (Option A) S (Option B)	N	S	N	S (Below Red Bluff Dam)	B	N	N
o -79 miles	o Potential impacts on tributary riparian communities beyond 2020 baseline conditions (miles potentially affected).	S (-84)	S (-72)	S (-84)	S (-72)	N (No change)	N (No change)	S (-72)	N (No change)
o -1,600 ac	o Potential impacts on wetland communities beyond 2020 baseline conditions (acres potentially affected).	S (-1,200)	S (-1,200)	S (-1,200)	S (-1,200)	N (No change)	N (No change)	S (-1,200)	N (No change)
o 47 species	o Potential impacts on special-status species beyond 2020 baseline conditions (number of species potentially affected).	S (10 Option A 11 Option B)	S (9)	S (10)	S (10)	N (No change)	S (2)	S (9)	S (2)
o -39,000 ac	o Potential impacts on terrestrial communities beyond 2020 baseline conditions (acres potentially affected).	S (-24,000)	S (-22,000)	S (-24,000)	S (-22,000)	N (No change)	N (No change)	S (-22,000)	N (No change)

S = Significant impact versus 2020 Baseline Conditions  
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 \* = Significance of impact determined by other resource categories

<sup>a</sup> Additional significant site-specific impacts not included in regional impacts

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C-056102

Table A. Continued

Regional 2020 Baseline Conditions (No Action)	Impacts (Changes from 2020 Baseline Conditions)	Alternative 1	Alternative 2	Alternative 3	Alternative 4 A/B	Alternative 4 C/D	Alternative 5	Alternative 6	Alternative 7
<b>VEGETATION AND WILDLIFE,</b> Continued									
o -19,000 ac	<u>Site Specific<sup>a</sup></u> o Changes in refuge wetland acres.	B (+20,500 - Option A, +23,000 - Option B)	N (No change)	B (+20,500)	B (+23,000)	B (+20,500)	B (+23,000)	B (+20,500)	B (+20,500)
<b>RECREATION</b>									
o Little change in reservoir elevation versus historical averages.	<u>Regional</u> o Changes in Shasta Reservoir recreation due to lower reservoir levels.	S	N	S	N	S	S	S	B
o Higher reservoir elevation versus historical averages.	o Changes in Clair Engle Reservoir recreation due to lower reservoir levels.	S (Option A) N (Option B)	N	N	N	S	S	B	B
o 73% increase in visitor-days relative to 1985 conditions.	o Changes in Sacramento River recreation (% change on visitor- days versus Alt. 1).	N (<10% decrease)	N (<10% decrease)	N (<10% decrease)	N (<10% decrease)	N (<10% decrease)	N (<10% decrease)	B (increase)	B (increase)
o 55% increase in visitor-days relative to 1985 conditions.	o Changes in Trinity Reservoir recreation (% change in visitor-days versus Alt. 1).	N (No change)	N (No change)	N (No change)	N (No change)	N (No change)	N (No change)	N (No change)	B (increase)
o Reduction in visitor-days relative to 1985 conditions.	o Changes in refuge recreation (% change in visitor-days versus Alt. 1).	B (+112% - Option A, +49% - Option B)	N (No change)	B (+12%)	B (+148%)	B (+112%)	B (+149%)	B (+112%)	B (+149%)

S = Significant impact versus 2020 Baseline Conditions

N = No significant impact versus 2020 Baseline Conditions

B = Beneficial impact versus 2020 Baseline Conditions

\* = Significance of impact determined by other resource categories

<sup>a</sup> Additional significant site-specific impacts not included in regional impacts

Table A. Continued

Regional 2020 Baseline Conditions (No Action)	Impacts (Changes from 2020 Baseline Conditions)	Alternative 1	Alternative 2	Alternative 3	Alternative 4 A/B	Alternative 4 C/D	Alternative 5	Alternative 6	Alternative 7
<b>AESTHETICS</b>									
o Potentially improved quality.	<u>Regional</u> o Changes in Sacramento River visual quality.	N	N	S	N	S	N	N	N
o Degraded quality.	o Changes in Shasta Reservoir visual quality.	N (Option A) S (Option B)	N	N	N	S	N	S	N
o Potentially improved quality.	o Changes in Clair Engle Reservoir visual quality.	N	N	N	N	N	N	N	N
<b>ECONOMICS</b>									
o Increase in irrigation and recreation earnings from 1985.	<u>Regional</u> o Changes in regional irrigation, and recreation earnings (\$1,000) from 2020 baseline conditions.	* (+20,953 Option A) (+18,803 Option B)	* (+21,078)	* (+20,828)	* (+16,638)	* (-14,413)	* (-11,911)	* (-17,238)	* (+5,659)
<b>ENERGY</b>									
o Increase in energy used for groundwater pumping from 1985 of 10,843 MWh.	<u>Regional</u> o Changes in energy used for groundwater pumping from 2020 baseline conditions (MWh).	B (-16,544 - Option A) (-16,038 - Option B)	B (-5,276)	B (-16,544)	B (-2,516)	N (+2,253)	B (-353)	B (-5,629)	* (2,760)
<b>LAND USE</b>									
o Land conversions of 165 acres to agriculture, 35,000 acres to urban, 21,300 acres to upland.	<u>Regional</u> o Potential irrigation on lands outside existing or proposed place of use (additional acres).	N (17,000)	N (12,760)	N (17,000)	N (12,760)	N (0)	N (0)	N (12,760)	N (0)

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 \* = Significance of impact determined by other resource categories

<sup>a</sup> Additional significant site-specific impacts not included in regional impacts

9-11A

C-056104

C-056104

Regional 2020 Baseline Conditions (No Action)	Impacts (Changes from 2020 Baseline Conditions)	Alternative 1	Alternative 2	Alternative 3	Alternative 4 A/B	Alternative 4 C/D	Alternative 5	Alternative 6	Alternative 7
<b>LAND USE, Continued</b>									
	o Potential irrigation in Class 6 or unclassified lands (additional acres).	N (9,540)	N (4,540)	N (9,540)	N (4,540)	N (0)	N (0)	N (4,540)	N (0)
	o Potential conversion of wetlands due to agricultural or urban development (additional acres).	S (1,200)	S (1,200)	S (1,200)	S (1,200)	N (0)	N (0)	S (1,200)	N (0)
<b>POPULATION, HOUSING, AND RELATED SOCIAL EFFECTS</b>									
o 75% increase from 1985.	o <u>Regional</u> Changes in population.	N	N	N	N	N	N	N	N
o 72% increase from 1985.	o Changes in housing.	N	N	N	N	N	N	N	N
<b>CULTURAL RESOURCES</b>									
o 64 cultural resource sites exposed within the maximum drawdown zone. (This is a 24% reduction from 1985 levels.)	o <u>Regional</u> Changes in the number of cultural resources exposed by changes in reservoir level fluctuations at Shasta Reservoir.	S (+20)	S (+15)	S (+15)	S (+20)	S (+20)	S (+17)	S (+20)	S (+8)
	o <u>Site Specific<sup>a</sup></u> Potential impacts to refuge cultural resources.	S	N	S	S	S	S	S	S

S = Significant impact versus 2020 Baseline Conditions  
 N = No significant impact versus 2020 Baseline Conditions  
 B = Beneficial impact versus 2020 Baseline Conditions  
 \* = Significance of impact determined by other resource categories

<sup>a</sup> Additional significant site-specific impacts not included in regional impacts

Table B. Summary of Regional and Site-Specific Impacts - American River Service Area

Regional 2020 Baseline Conditions (No Action)	Impacts (Changes from 2020 Baseline Conditions)	Alternative 1	Alternative 2	Alternative 3	Alternative 4 A/B	Alternative 4 C/D	Alternative 5	Alternative 6	Alternative 7
<b>SOILS AND DRAINAGE</b>									
o Slightly increased soil salinity levels.	<u>Regional</u> o Changes in soil salinity levels.	B	N	B	N	N	N	N	N
<b>SURFACE WATER HYDROLOGY AND SEEPAGE</b>									
o -34% change from 1985 conditions.	<u>Regional</u> o Changes in American River instream flows (annual averages) below Nimbus in critically dry years (% change from 2020 baseline conditions).	* (-12%)	* (-10%)	* (-15%)	* (+4%)	* (+5%)	* (+10%)	* (+3%)	* (+14%)
o +23% change from 1985 conditions.	o Changes in Folsom Reservoir storage in critically dry years (% change from 2020 baseline conditions).	* (-57%)	* (-22%)	* (-23%)	* (-23%)	* (-35%)	* (-43%)	* (-41%)	* (-42%)
<b>SURFACE WATER QUALITY</b>									
o 5% of years (increase of 2% over 1985 baseline conditions).	<u>Regional</u> o Change in % of years when American River November mean monthly water at Nimubs temperatures equal or exceed 60°F.	* (-5%)	* (No change)	* (No change)	* (-19%)	* (-19%)	* (No change)	* (No change)	* (No change)
o Increase in constituent loading.	o Changes in constituent concentrations.	* (Increase)	* (Increase)	* (Increase)	* (Increase)	* (Decrease)	* (Decrease)	* (Increase)	* (Decrease)

S = Significant impact versus 2020 Baseline Conditions  
 N = No significant impact versus 2020 Baseline Conditions  
 B = Beneficial impact versus 2020 Baseline Conditions  
 \* = Significance of impact determined by other resource categories

<sup>a</sup> Additional significant site-specific impacts not included in regional impacts

8-11/V

C-056106

C-056106

Table B. Continued

Regional 2020 Baseline Conditions (No Action)	Impacts (Changes from 2020 Baseline Conditions)	Alternative 1	Alternative 2	Alternative 3	Alternative 4 A/B	Alternative 4 C/D	Alternative 5	Alternative 6	Alternative 7
<b>GROUNDWATER</b>									
o Net 2020 groundwater storage = -505,750 af (overdraft condition).	<u>Regional</u> o Changes in 2020 groundwater storage (af).	B (+470,450)	B (+232,350)	B (+470,450)	B (+250,650)	N (No change)	N (No change)	B (+249,450)	N (No change)
o Water quality diminished due to saltwater intrusion, especially in Stockton area.	o Changes in groundwater quality.	B	B	B	B	N	N	B	N
<b>FISHERIES</b>									
o Chinook salmon spawning and rearing conditions would be degraded versus 1985 conditions.	<u>Regional</u> o Impacts on American River chinook salmon spawning and rearing conditions.	N (Option A) B (Option B)	N	B	N	B	N	N	N
o American shad would benefit versus 1985 conditions.	o Impacts on American River shad fishery.	N (Option A) S (Option B) (Spawning)	N	N	N	N	N	N	N
o No effect on Folsom Reservoir fisheries versus 1985 conditions.	o Impacts on Folsom Reservoir fishery (sunfish spawning success).	S (Options A & B)	S	S	S	S	S	S	S
<b>VEGETATION AND WILDLIFE</b>									
o Reduction in extent and changes in composition and structure.	<u>Regional</u> o Changes in American River riparian communities.	S	S	S	S	N	B	N	B
o Major reduction	o Potential impact on tributary riparian communities beyond 2020 baseline conditions.	S	S	S	S	N (No change)	N (No change)	S	N (No change)

S = Significant impact versus 2020 Baseline Conditions  
 N = No significant impact versus 2020 Baseline Conditions  
 B = Beneficial impact versus 2020 Baseline Conditions  
 \* = Significance of impact determined by other resource categories

<sup>a</sup> Additional significant site-specific impacts not included in regional impacts

Table B. Continued

Regional 2020 Baseline Conditions (No Action)	Impacts (Changes from 2020 Baseline Conditions)	Alternative 1	Alternative 2	Alternative 3	Alternative 4 A/B	Alternative 4 C/D	Alternative 5	Alternative 6	Alternative 7
<b>VEGETATION AND WILDLIFE, Continued</b>									
o Major reduction	o Potential impacts on wetland communities beyond 2020 baseline conditions.	S	S	S	S	N (No change)	N (No change)	S	N (No change)
o Major reduction	o Potential impacts on terrestrial communities beyond 2020 baseline conditions.	S	S	S	S	N (No change)	N (No change)	S	N (No change)
o 34 species	o Potential land conversion impacts on special-status species beyond 2020 baseline conditions.	S	S	S	S	S	S	S	S
o 3 species	o Potential flow modification impacts on special-status species beyond 2020 baseline conditions.	S	S	S	S	N	N	N	N
<b>RECREATION</b>									
o 3 of 7 high-use months with flow less than 1,500 cfs.	o Changes in lower American River recreation use (change in number of months between April and October with average flows less than 1,500 cfs and 1,200 cfs respectively).	<u>Option A</u> S (+4 at 1,500 cfs)	S (+3 at 1,500 cfs)	S (+3 at 1,500 cfs)	S (+3 at 1,500 cfs)	B (-1 at 1,500 cfs)	N (0 at 1,500 cfs)	N (+1 at 1,500 cfs)	N (-2 at 1,500 cfs, +1 at 1,200 cfs)
		<u>Option B</u> S (+3 at 1,500 cfs, +3 at 1,200 cfs)							

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 B = Beneficial impact versus 2020 Baseline Conditions  
 \* = Significance of impact determined by other resource categories

<sup>a</sup> Add significant site-specific impacts not included in regional impacts

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Table B. Continued

Regional 2020 Baseline Conditions (No Action)	Impacts (Changes from 2020 Baseline Conditions)	Alternative 1	Alternative 2	Alternative 3	Alternative 4 A/B	Alternative 4 C/D	Alternative 5	Alternative 6	Alternative 7
<b>RECREATION, Continued</b>									
o 79% increase in visitor-days relative to 1985 conditions.	o Changes in Folsom Reservoir recreation (% change in visitor-days versus Alt. 1).	(-5%, Option A) (-21%, Option B)	N (4%)	N (-5%)	N (-3%)	N (-8%)	S (-10%)	S (-10%)	N (-8%)
<b>AESTHETICS</b>									
o Major degradation of visual quality.	o Changes in <u>Regional</u> lower American River visual quality.	S (Option A) N (Option B)	N	N	N	N	N	N	N
o Very minor change in visual quality.	o Changes in Folsom Reservoir visual quality.	S	S	S	S	S	S	S	S
<b>ECONOMICS</b>									
o Increase in irrigation and recreation earnings from 1985.	o Changes in <u>Regional</u> irrigation and recreation earnings (\$1,000) from 2020 baseline conditions.	* (-2,068 - Option A) (-6,983 - Option B)	* (-1,891)	* (-2,245)	* (-1,478)	* (-2,300)	* (-3,030)	* (-3,648)	* (-2,261)
<b>ENERGY</b>									
o Increase in energy used for groundwater pumping from 1985 of 150,214 MWh.	o Changes in <u>Regional</u> energy used for groundwater pumping from 2020 baseline conditions (MWh).	B (-268,549)	B (-107,171)	B (-268,549)	B (-107,171)	N (No change)	N (No change)	B (-110,843)	N (No change)

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<sup>a</sup> Additional significant site-specific impacts not included in regional impacts

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C-056109

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Table B. Continued

Regional 2020 Baseline Conditions (No Action)	Impacts (Changes from 2020 Baseline Conditions)	Alternative 1	Alternative 2	Alternative 3	Alternative 4 A/B	Alternative 4 C/D	Alternative 5	Alternative 6	Alternative 7
<b>LAND USE</b>									
o No irrigation or development outside existing or proposed place of use.	<u>Regional</u> o Potential urban development on lands outside existing place of use (additional acres).	N (30,340)	N (30,340)	N (30,340)	N (30,340)	N (No change)	N (No change)	N (30,340)	N (No change)
o No irrigation on Class 6 or unclassified lands.	o Potential irrigation on Class 6 or unclassified lands (additional acres).	N (No change)	N (No change)	N (No change)	N (No change)	N (No change)	N (No change)	N (No change)	N (No change)
	o Potential conversion of wetlands due to urban development.	S	S	S	S	N (No change)	N (No change)	S	N (No change)
	<u>Site Specific<sup>a</sup></u> o Inconsistency with local plans.	S Development in Sunrise East area	S Development in Sunrise East area	S Development in Sunrise East area	S Development in Sunrise area	N (No change)	N (No change)	S Development in Sunrise area	N (No change)
<b>POPULATION, HOUSING, AND RELATED SOCIAL EFFECTS</b>									
o 65% increase from 1985.	<u>Regional</u> o Changes in population.	N	N	N	N	N	N	N	N
o 62% increase from 1985.	o Changes in housing	N	N	N	N	N	N	N	N
<b>CULTURAL RESOURCES</b>									
o 57 cultural resource sites exposed within the maximum drawdown zone. (27% reduction from 1985 levels.)	<u>Regional</u> o Changes in the number of cultural resources exposed by changes in reservoir level fluctuations at Folsom Reservoir.	S (+21)	S (+21)	S (+21)	S (+20)	S (+21)	S (+21)	S (+21)	S (+21)

S = Significant impact versus 2020 Baseline Conditions  
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<sup>a</sup> Additional significant site-specific impacts not included in regional impacts

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Table C. Summary of Impacts

Regional 2020 Baseline Conditions	SURFACE WATER HYDROLOGY, DRAINAGE, AND WATER QUALITY																							
	Baseline Conditions (Changes From 2020)	Alternative 1	Option A	Option B	2	3	4A	4B	4C	4D	5	6	7											
Regional SOILS	Increased soil salinity levels	Changes in soil salinity	Increased subsidence	Changes in subsidence	Regional																			
					B	B	B	B	B	B	B	B	B	B	B	N								
Regional 2020 Baseline Conditions	Slightly reduced flows to surface waters via return flows/drainage (-34,580 af/yr)	Changes in flow to surface waters via return flows/drainage (33,220)	Slightly increased mass loadings to surface waters of total dissolved solids (TDS) (228 million pounds/yr)	Changes in TDS to surface waters via return flows/drainage (-133)	Slightly increased mass changes in boron to surface waters via return flows/drainage (-0.2)	Slightly increased mass loadings to surface waters of boron (378 million pounds/yr)	Changes in selenium to surface waters via return flows/drainage (-0.01)	Slightly increased mass loadings to surface waters of selenium (0.02 million pounds/yr)	Slightly reduced drainage flows (1,500 af/yr)	Changes in total drainage flows (in af/yr)	B	B	B	B	B	B	B	B	N	N				
											(67,300)	(0)	(34,190)	(67,300)	(33,090)	(34,190)	(66,200)	(33,320)	(66,200)	(33,220)	(66,200)	(33,220)	(66,200)	
											(-111)	(-122)	(-236)	(-90)	(-277)	(-282)	(70)	(-139)	(70)	(-139)	(-133)	(-139)	(70)	
											B	B	B	B	B	B	B	B	B	B	B	B	B	
											(-0.2)	(-0.2)	(-0.4)	(-0.1)	(-0.3)	(-0.4)	(0.1)	(-0.2)	(-0.2)	(-0.2)	(-0.2)	(-0.2)	(-0.1)	
											B	B	B	B	B	B	B	B	B	B	B	B	B	
											(-0.01)	(-0.01)	(-0.02)	(-0.01)	(-0.02)	(-0.02)	(0)	(-0.01)	(-0.02)	(-0.02)	(-0.02)	(-0.01)	(-0.01)	(0)
											N	N	N	N	N	N	N	N	N	N	N	N	N	N
											(1,500)	(0)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(0)

C-056111

Table C. Summary of Impacts

Regional 2020 Baseline Conditions	Impacts (Changes From 2020 Baseline Conditions)	Alternative 1		Alternative 2	Alternative 3	Alternative 4A	Alternative 4B	Alternative 4C	Alternative 4D	Alternative 5	Alternative 6	Alternative 7
		Option A	Option B	2	3	4A	4B	4C	4D	5	6	7
GROUNDWATER HYDROLOGY AND WATER QUALITY												
Regional												
Slightly reduced flows to groundwater via return flows/drainage (-349,437 af/yr)	Changes in flow to groundwater via return flows/drainage (in af/yr)	B (471,120)	B (488,370)	B (270,000)	B (498,690)	B (782,320)	B (787,440)	B (1,393,400)	B (1,389,990)	B (77,440)	B (752,560)	B (77,440)
Slightly reduced mass loadings to surface waters of total dissolved solids (TDS) (570 million pounds/yr)	Changes in TDS to surface waters via return flows/drainage (in million pounds/yr)	B (508)	B (582)	B (220)	B (518)	B (834)	B (900)	B (1,328)	B (1,426)	B (232)	B (768)	B (232)
Slightly reduced mass loadings to surface waters of boron (140 million pounds/yr)	Changes in boron to surface waters via return flows/drainage (in million pounds/yr)	B (0.4)	B (0.4)	B (0.1)	B (0.3)	B (0.6)	B (0.8)	B (0.9)	B (1.1)	B (0.2)	B (0.5)	B (0.2)
ENERGY												
Regional												
Increased energy use due to increased pumping depth	Changes in energy use (in megawatts)	B (-100,580)	B (-78,970)	B (-51,560)	B (-61,370)	B (-140,910)	B (-162,990)	B (-315,170)	B (-254,800)	N (9,110)	B (-114,930)	N (9,110)
FISHERIES												
Regional												
Chinook salmon migration routes will be degraded	Impacts to Chinook salmon migration routes	B	B	B	B	B	B	B	B	B	B	B
White bass migration routes are not present	Provide potential white bass migration route	N	N	N	N	N	S	S	S	N	S	N

Table C. Summary of Impacts

Regional 2020 Baseline Conditions	Impacts (Changes From 2020 Baseline Conditions)	Alternative 1 Option A	Alternative 1 Option B	Alternative 2	Alternative 3	Alternative 4A	Alternative 4B	Alternative 4C	Alternative 4D	Alternative 5	Alternative 6	Alternative 7
<b>FISHERIES</b>												
Regional												
Introduced warm water species will increase	Impacts on introduced warm water species	S	S	S	S	S	S	S	S	N	S	N
Native warm-water species will decrease	Impacts on native warm-water species	B	B	B	B	B	B	B	B	N	B	N
<b>VEGETATION &amp; WILDLIFE</b>												
Regional												
Disturb vegetation along construction areas	Impacts to vegetation	N	N	N	N	N	N	N	N	N	N	N
Disturb wildlife along construction areas	Impacts to wildlife	N	N	N	N	N	N	N	N	N	N	N
Changes to refuge habitat	Increased wetland habitat species (in acres)	B (2,880)	B (22,038)	N (0)	B (2,880)	B (22,038)	B (22,038)	B (2,880)	B (2,880)	B (22,038)	B (2,880)	B (22,038)
<b>RECREATION</b>												
Regional												
37 percent reduction in refuge visitor use-days	Change in visitor-use days at refuges (percent change in visitor days versus 2020 conditions)	B (59)	B (119)	N (0)	B (59)	B (119)	B (119)	B (59)	B (59)	B (119)	B (59)	B (119)
<b>AESTHETICS</b>												
Regional												
Degradation of refuge visual quality	Changes in refuge visual quality	B	B	N	B	B	B	B	B	B	B	B

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Table C. Summary of Impacts

Regional 2020 Baseline Conditions	Impacts (Changes From 2020 Baseline Conditions)	Alternative 1		Alternative 2	Alternative 3	Alternative 4A	Alternative 4B	Alternative 4C	Alternative 4D	Alternative 5	Alternative 6	Alternative 7
		Option A	Option B									
<b>ECONOMICS</b>												
Regional												
Changes to final demand	Impacts to final demand (in dollars)	S (-1648)	S (-577)	S (-1988)	S (-1307)	S (-577)	S (-577)	B (681)	B (681)	B (1411)	S (-1307)	B (1411)
Changes to earnings	Impacts to earnings (in dollars)	S (-1113)	S (-498)	S (-1309)	S (-916)	S (-498)	S (-498)	B (392)	B (392)	B (811)	S (-916)	B (-811)
Changes to employment	Impacts to employment (in jobs)	S (-65)	S (-20)	S (-80)	S (-51)	S (-20)	S (-20)	B (29)	B (29)	B (60)	S (-51)	B (60)
<b>LAND USE</b>												
Regional												
No irrigation or development outside existing or proposed place of use	Irrigation or urban development on lands out- side existing place of use (additional acres)	S (15,802)	S (32,202)	S (15,480)	S (34,200)	S (32,480)	S (16,480)	S (17,480)	S (34,480)	N (0)	S (15,802)	N (0)
No irrigation Class 6 or unclassified lands	Irrigation on Class 6 or unclassified lands	N	S	N	N	S	S	S	S	N	S	N
Conversion of wetlands to uplands (2,880 acres permanent marsh to uplands)	Potential conversion of wetlands (additional acres conversion of uplands to wetlands)	B (2,880)	B (22,038)	N (0)	B (2,880)	B (22,038)	B (22,038)	B (2,880)	B (2,880)	B (22,038)	B (2,880)	B (22,038)
Site Specific												
Several communities will not develop in accord- ance with local plans	Consistency with local plans and policies	N	B	N	B	B	N	N	B	N	B	N

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Table C. Summary of Impacts

Regional 2020 Baseline Conditions	Impacts (Changes From 2020 Baseline Conditions)	Alternative 1		Alternative								
		Option A	Option B	2	3	4A	4B	4C	4D	5	6	7
POPULATION, HOUSING, AND SECONDARY IMPACTS												
Regional												
Population growth and urban development will occur for all M & I	Increased population growth and housing in accordance with local plans	N	B	N	B	B	N	N	B	N	B	N
	Changes in traffic and air quality	N	N	N	N	N	N	N	N	N	N	N
CULTURAL RESOURCES												
Site Specific												
No changes would occur from 1985 conditions	Potential impacts could occur along new convey- ance corridors	S	S	S	S	S	S	S	S	N	S	N
<p>S = Significant Impact Versus 2020 Baseline Conditions</p> <p>N = Non-Significant Impact Versus 2020 Baseline Conditions</p> <p>B = Beneficial Impact Versus 2020 Baseline Conditions</p> <p>(a) Additional significant site-specific impacts not included in regional impacts.</p>												

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