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May 3, 2017

VIA CALIFORNIA WATERFIX SERVICE LIST

Ms. Amy L. Aufdemberge Assistant Regional Solicitor Office of the Regional Solicitor U.S. Department of the Interior 2800 Cottage Way Sacramento, California 95825 Mr. Tripp Mizell Senior Attorney Office of the Chief Counsel California Department of Water Resources 1416 Ninth Street, Room 1118-D Sacramento, California 95814

Re: California WaterFix – Biological Assessment Modeling Results

Dear Ms. Aufdemberge and Mr. Mizell:

In your April 19, 2017 letter to the State Water Resources Control Board, you stated that the petitioners were uploading to this hearing's ftp site certain modeling files. They included the files for the July 2016 California WaterFix biological assessment's modeling, labeled as exhibit DWR-901. Via that letter, the petitioners Resources declined to authenticate certain modeling results as requested by the Sacramento Valley Water Users (SVWU) group. Your letter stated:

SVG [actually, SWVU] also included in its April 11 letter an interrogatory seeking confirmation of its Attachment, entitled "Reclamation/DWR California WaterFix Biological Assessment Modeling." As we understand it, interrogatories are not allowed in hearings before the State Water Board, and thus Petitioners will not be responding to this question. If SVG continues to have questions regarding its Attachment, those questions should be brought forth in cross-examination of the modeling witnesses.

Consistent with your letter, and to expedite upcoming cross-examination related to modeling results, please find attached exhibits deriving from petitioners' biological assessment modeling. They depict modeling results from exhibit DWR-901.

Kind regards,

Ryan S. Bezerra

Biological Assessment – No Action v. Biological Assessment – Proposed Action Q0 (Current Climate) End-of-Month Folsom Reservoir Storage 1931-1932

Water Year		End-of-Month F BA-No Action Alternative	olsom Storage BA-Proposed Action	Difference	1,000				End-	of-N	onth	n Fols	om	Reser	voir S	tora	ge for	Wat	er Ye	ears	1931 	thro	ough	193	2			
Туре	Month	(TAF)	(TAF)	(TAF)	900																			/	1	1		
	October 1930	348	327	-20																			/	·				
ear	November 1930	333	318	-16	800	8																	/		1			
- Critical Year	December 1930	288	279	-9																			/					
itica	January 1931	253	249	-3	700																	/						
5	February 1931	234	235	1	,																	/						1
	March 1931	284	284	1	600																	/						
Water Year 1931	April 1931	312	313	1																	/						1	>
ear	May 1931	335	335	1	Storage (TAF)																1							
Y	June 1931	340	341	0	90 500															/	/							
ate	July 1931	325	326	0	Stol															/ /								
3	August 1931	309	300	-9	400														/	1								
	September 1931	294	229	-65		1	-					-	-		_				/	/								
	October 1931	277	159	-119	300	1					/						-		/									
=	November 1931	273	146	-127						/						1			/									
- Dry Year	December 1931	370	246	-124	200												1	/										
h.	January 1932	469	342	-126													-	~										
	February 1932	567	567	0	100		-	-	—	— +	-+							—	-				_				-	-
932	March 1932	664	664	0																								
ar 1	April 1932	792	792	0	C		0	~	-	-		-	-			-		-	-	~	N	N	N	N	~	~	N	~
Ye	May 1932	967	967	0		1930	1930	1930	193.	193	193	193	193	193	193	1931	193	1931	193	193	193	193	193.	193	193,	193	1932	193
W ater Year 1932	June 1932	967	922	-45			ber		Yner	γıει	March 1931	April 1931	May 1931	June 1931	August 1931	ber	ber	ber	ber	Jany	yner	March 1932	April 1932	May 1932	June 1932	July 1932	August	ber
Ma	July 1932	912	734	-178		October	November	December	January 1931	February 1931	N	4	2	-	Aug	September	October 1931	November	December 1931	January 1932	February 1932	Ma	4	~	5		Aug	September 1932
	August 1932	785	592	-193		Ŭ	No	De		ű						Sep	~	No	De		ш.							Sep
	September 1932	672	559	-113		BA-No	Actio	n Alterr	native			BA-Pr	opos	ed Actio	n		– Mini	mum S	Storag	e (90 1	TAF)	-		Maxin	num S	torage	ge (967	TAF)

EXHIBIT BKS-103

Biological Assessment – No Action v. Biological Assessment – Proposed Action Q0 (Current Climate) End-of-Month Folsom Reservoir Storage 1933-1934

Water		End-of-Month F BA-No Action	olsom Storage BA-Proposed	-				E	nd-o	of-M	onth	n Fols	om	Rese	rvoi	r Sto	rage	for W	ater	lears	1933	8 thro	bugh	1934	4			
Year		Alternative	Action	Difference	1,000																							-
Туре	Month	(TAF)	(TAF)	(TAF)	900																							
	October 1932	530	397	-133	900																							
ear	November 1932	417	291	-126	800																							
Critical Year	December 1932	379	253	-126	800																							
itica	January 1933	325	201	-123	700																							
- Ci	February 1933	286	218	-69	700																							
	March 1933	304	301	-3	600																	F	7					
Water Year 1933	April 1933	364	343	-21	600 EF																/	/	1					
ear	May 1933	447	408	-39	age (TAF)																//			1				
۳Y	June 1933	455	364	-92	90 500															/	/			11				
ate	July 1933	278	328	50	Stor		1							7						/ /	/			11				
\$	August 1933	303	307	4	400	/						11		1					/	/				/				
	September 1933	320	300	-20							1			1	-		~		/	/				\	L			
	October 1933	300	239	-61	300		1			-	1				1	~	~		/									
ear	November 1933	303	212	-92				1		/									/									
٩X	December 1933	382	300	-82	200				-																			
Critical Year	January 1934	477	400	-76																						1		
5	February 1934	565	490	-75	100		—	—							-	•	—			—				-		-	7	-
	March 1934	655	619	-36																								
19	April 1934	634	583	-51	0	2	2	N	m	m	m	m	m	m	m	m	m	m	n m	4	4	4	4	4	4	4	4	4
ear	May 1934	521	454	-67		193	193	1932	193	193	193	193	193	193	193	193	193	193	193	193	193	193	193	193	1934	193	1934	193
erY	June 1934	331	216	-115		ber		ber	January 1933	Vier	March 1933	April 1933	May 1933	June 1933	July 1933	August 1933	ber	ber.	ber	January 1934	Viet	March 1934	April 1934	May 1934	June	July 1934	August	ber
Water Year 1934	July 1934	294	178	-116		October 1932	November	December	Janu	February 1933	Σ	đ	-	-		Aug	September 1933	October 193	December 1933	Janu	February	ž	A	2	-		Aug	September 1934
5	August 1934	254	90	-164		-	No	De		ш							Sep		De De		ш							Sep
	September 1934	194	90	-104	— В	A-No A	Action A	Alterna	tive	-		BA-Pr	opos	ed Acti	on	_	N	linimu	n Stora	ge (90	TAF)	-		Maxim	num St	torage	e (967 T/	4F)
																										2		

Biological Assessment – No Action v. Biological Assessment – Proposed Action Q0 (Current Climate) End-of-Month Folsom Reservoir Storage 1961-1962

Water		End-of-Month F BA-No Action	olsom Storage BA-Proposed	-	1,000			E	nd-o	of-M	onth F	olso	m Re	servo	oir Sto	orage	for	Wate	er Ye	ars	1961	thro	bugh	196	2			
Year		Alternative	Action	Difference	1,000																							-
Туре	Month	(TAF)	(TAF)	(TAF)	900																							
	October 1960	425	427	2	500																			/				
=	November 1960	413	414	1	800																		/					
Yes	December 1960	401	402	1	000																		/					
Dry Year	January 1961	342	342	0	700																	/						
1	February 1961	351	351	0	,00																	/				1		
- 1961 -	March 1961	410	410	0	600																/							
ar 1	April 1961	480	479	-1	AF)																1						1	
ater Year	May 1961	543	541	-1	Storage (TAF)							1	-															-
tter	June 1961	519	517	-2	arage 1						/																	
Ma	July 1961	300	220	-80	ಕೆ 400	-					/			N														
	August 1961	256	188	-68	400					/																		
	September 1961	253	200	-54	300				-					//														
	October 1961	240	190	-50	300													-	-									
	November 1961	249	215	-34	200									L				/										
120 83	December 1961	283	249	-34	200										~													
- 2-	January 1962	287	252	-35	100																							
Water Year 1962 - Below Normal Year	February 1962	567	567	0	100		-					+		+ -		—	-		- 1	- 1								-
ear	March 1962	664	664	0	0																							
N N	April 1962	792	792	0	0	00	00	00	5	01	51 51	5	5	51	5	5	5	5	51	5	22	52	22	22	5	22	22	53
ate	May 1962	916	917	0		October 1960	r 19	r 19	/ 1961	February 1961	March 1961 April 1961	May 1961	June 1961	July 1961	t 1961	r 19	October 1961	r 19	r 1961	January 1962	February 1962	March 1962	April 1962	May 1962	June 1962	y 196	August 1962	r 19
W	June 1962	916	917	1		obe	nbe	nbe	January	'uan	Apri	E S	June	Int	August	nbe	obe	nbe	nbe	uan	'uan	larch	Apri	Ra	June	лul	snør	nbe
	July 1962	666	679	13		oct	November 1960	December 1960	Jan	Febr	Σ				AL	September 1961	Oct	November 1961	December	Jan	Febr	≥					AL	September 1962
	August 1962	598	580	-17																								•.
	September 1962	535	543	8	E	BA-No A	ction A	lternat	tive	_	—— BA	-Prop	osed A	ction		N	linim	um Sto	orage	(90 TA	4F)			Maxim	ium St	orage	(967 TA	۹F)

Biological Assessment – No Action v. Biological Assessment – Proposed Action Q0 (Current Climate) End-of-Month Folsom Reservoir Storage 1981-1982

0.000			olsom Storage					1	End-	of-N	lonth	Folse	om Re	eservo	oir St	orag	e for	Wate	er Ye	ars :	1981	thro	bugh	198	2		
Water		BA-No Action	BA-Proposed	20020	1,00	0		1 1	1				-												0.0		
Year		Alternative	Action	Difference																				-7-		5	
Туре	Month	(TAF)	(TAF)	(TAF)	90	0																		/		1	
	October 1980	546	524	-21																			/				1
ar a	November 1980	457	481	24	80	0																	/				1
Water Year 1981 - Dry Year	December 1980	432	456	24		0.0																	/				
Dry	January 1981	424	448	24	70	0							1														
Ξ.	February 1981	421	445	24							/	P	1									/					
86	March 1981	570	594	24	60	0					//		1									/					
ar 1	April 1981	662	685	23	AF)						//											/					
Ye	May 1981	690	712	22	Storage (TAF)									$\left \right $				\wedge									
fter	June 1981	629	574	-55	rag.	0	6	-						$\langle \rangle$						~	/						
Ma	July 1981	427	320	-108	ਲੈਂ ₄₀					\equiv				15			//		~		\checkmark						
	August 1981	394	296	-98	40	0											-/										
	September 1981	392	300	-93		_								L													
	October 1981	376	306	-70	30	0																					
Ħ	November 1981	546	546	0		_																					
Ye	December 1981	433	433	0	20	0																					
- Wet Year	January 1982	459	459	0		~																					
	February 1982	402	402	0	10	°		-	-						+		—	— ·	—							. —	-
82	March 1982	590	590	0																							
Water Year 1982	April 1982	792	792	0		0 - 9	0	8	뵤	IJ.	E.		1 5		E.	Ħ	-	H	Ħ	ß	N	N	N	2	R	2	0
ŕea	May 1982	967	967	0		October 1980	November 1980	December 1980	January 1981	February 1981	March 1981	April 1981	June 1981	July 1981	August 1981	September 1981	October 1981	November 1981	December 1981	January 1982	February 1982	March 1982	April 1982	May 1982	June 1982	July 1982	
er	June 1982	967	967	0		ber	ber	ber	han	han	arch	April	viay une	ylut	gust	her	ber	her	ber	Jany	han	arch	April	May	une	ylul	8
Vat	July 1982	942	942	0		Otto	ven	cen	Janı	ebri	Σ	- ·			Au	oten	Octic	ven	cen	Janı	ebri	Σ	4	_	-		4
2	August 1982	792	792	0			ž	Ď								Set		ž	ŏ		L.						
	September 1982	752	731	-21	E	3A-No A	Action A	lternati	ive		BA-F	ropose	d Actio	on -		Minim	num St	orage	(90 TA	۹F)		- – Ma	aximu	m Stor	rage (9	67 TA	F)

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Biological Assessment – No Action v. Biological Assessment – Proposed Action Q0 (Current Climate) End-of-Month Folsom Reservoir Storage 2001-2002

Water Year		End-of-Month F BA-No Action Alternative	BA-Proposed Action	Difference	1,000			E	ind-c	of-M	ontl	n Fols	som	Rese	ervoi	r Sto	rage	for V	/ate	r Yea	ars 2	.001	thro	ugh	2002	! /			•-
Туре	Month	(TAF)	(TAF)	(TAF)	900																				A				
	October 2000	504	469	-35																					$\langle \rangle$	7			
1	November 2000	432	451	19	800																			/		11			
Dry Year	December 2000	419	439	20																				/		11			
Dry	January 2001	383	404	21	700																		/	-		1	1		
-	February 2001	396	418	22								1	2										/				$\langle \rangle$		
8	March 2001	507	529	22	_ 600							11	1									/	/				1		
Water Year 2001 -	April 2001	612	634	22	Storage (TAF)						1	/		$ \rangle$						P	-	-							
Ye	May 2001	668	690	22	2 500						//								1	/									-
ater	June 2001	581	440	-141	ora	1		_		1	/			1	~														
M	July 2001	468	385	-83	ಸ 400				-	1				-		~	\frown	/	1										
	August 2001	420	338	-82												-		/											
	September 2001	429	347	-82	300																								
	October 2001	392	334	-58																									
le la	November 2001	441	383	-58	200																								
Ye	December 2001	567	543	-24																									
Dry Year	January 2002	567	567	0	100		_		_	_															_			_	
- 2	February 2002	563	563	0																									
Water Year 2002 -	March 2002	655	655	0	0			2.450											1						0.000				
ar 2	April 2002	792	792	0		000	000	000	001	001	001	001	001	001	001	001	001	001	2001	001	002	002	002	002	002	002	002	002	002
Ye	May 2002	909	909	0		October 2000	November 2000	December 2000	January 2001	February 2001	March 2001	April 2001	May 2001	June 2001	July 2001	August 2001	September 2001	October 2001	November 2001	December 2001	January 2002	February 2002	March 2002	April 2002	May 2002	June 2002	July 2002	August 2002	September 2002
ater	June 2002	867	778	-89		ctok	emt	emk	anus	brug	Mar	AF	Σ	η	-	Aug	emk	ctok	emt	emp	anus	prug	Mar	AF	Σ	Ц	-	Aug	emt
M	July 2002	628	592	-36		0	Nov	Dec	_	Fe						85	Sept	0	Nov	Dec	-	Fe							Sept
	August 2002	545	545	0																									
	September 2002	511	511	0	— В	A-No A	ction /	Alterna	ative			BA-P	ropos	sed Ac	tion		1	/linim	um St	orage	(90 T/	AF)	-		Maxim	ium St	torage	(967 T	AF)

Biological Assessment – No Action v. Biological Assessment – Proposed Action Q5 (Central Tendency Climate) End-of-Month Folsom Reservoir Storage 1923-1924

Month October 1922 November 1922 December 1922 January 1923 February 1923 March 1923 April 1923	Alternative (TAF) 445 396 567 567 564 643 792	Action (TAF) 438 435 567 567 567 567 646	Difference (TAF) -7 38 0 0 0 3 3 3	901 801 701	D						/															-
October 1922 November 1922 December 1922 January 1923 February 1923 March 1923 April 1923	445 396 567 567 564 643	438 435 567 567 567 646	-7 38 0 0 3	80	D																					
November 1922 December 1922 January 1923 February 1923 March 1923 April 1923	396 567 567 564 643	435 567 567 567 646	38 0 0 3								/															
December 1922 January 1923 February 1923 March 1923 April 1923	567 567 564 643	567 567 567 646	0 0 3								/		1													
January 1923 February 1923 March 1923 April 1923	567 564 643	567 567 646	03	70	D																					
February 1923 March 1923 April 1923	564 643	567 646	3	70	D						/		\													
March 1923 April 1923	643	646								/			1													
April 1923			3							/				11	_											
	792		~	60						/				1	1											
	152	792	0	AF)			-		-																	
May 1923	967	967	0	E so			/							1												
June 1923	960	960	0	Be 50			/																			
July 1923	733	733	0	sto		~	1												~		-	~				
August 1923	667	538	-128	40		~										1							/			
September 1923	629	501	-128	100																		_			~	
October 1923	538	389	-149	30	0														-	-	-					-
November 1923	482	335	-147																							
December 1923	426	280	-147	20	D																					
January 1924	361	214	-147																							
February 1924	418	271	-146	10					-	- +	- +	- +				-							_		-	_
March 1924	405	276	-129																							
April 1924	432	302	-130			N N	~	~	m	m	~	m	~ ~		~	m	m	~	+ 4	5	4	4			4	
May 1924	438	314	-124		0	1923	192	1925		192	192	192.	192	192	1925	192	192	192	192	192,	192,	192,	192	1924	192,	192
June 1924	381	303	-78			ber	ber	μary	μany	Irch	pril	Aay	ulv ulv	na	ber	ber	ber	ber	ary	Irch	pril	Aay	aune	Iuly	inst	September 1924
July 1924	339	298	-41			vem	cem	Janu	ebru	Ma	4	2		Aug	tem	Octo	vem	cem	lanu ebru	Ma	A	2	٦٢		Aug	tem
August 1924	306	294	-12			N N	De		ű						Sep	~	No	De	Ľ							Sep
September 1924	273	264	-9		BA-N	No Actio	n Altei	rnative	2	_	BA-Pr	opos	ed Actio	ı		- Minir	mum St	orage	(90 TAF)	-		Maxin	num S	Storage	e (967 ·	ſAF)
	May 1923 June 1923 July 1923 August 1923 otober 1923 ovember 1923 ecember 1923 January 1924 February 1924 March 1924 April 1924 June 1924 June 1924 August 1924	May 1923 967 June 1923 960 July 1923 733 August 1923 667 optember 1923 629 October 1923 538 ovember 1923 482 ecember 1923 426 January 1924 361 February 1924 418 March 1924 405 April 1924 432 June 1924 381 July 1924 339 August 1924 306	May 1923 967 967 June 1923 960 960 July 1923 733 733 August 1923 667 538 optember 1923 629 501 October 1923 538 389 ovember 1923 482 335 ecember 1923 426 280 January 1924 361 214 February 1924 418 271 March 1924 405 276 April 1924 432 302 May 1924 381 303 July 1924 339 298 August 1924 306 294	May 1923 967 967 0 June 1923 960 960 0 July 1923 733 733 0 August 1923 667 538 -128 optember 1923 629 501 -128 October 1923 538 389 -149 ovember 1923 482 335 -147 ecember 1923 426 280 -147 January 1924 361 214 -147 February 1924 418 271 -146 March 1924 405 276 -129 April 1924 432 302 -130 May 1924 381 303 -78 July 1924 339 298 -41 August 1924 306 294 -12	April 1923 792 792 0 May 1923 967 967 0 June 1923 960 960 0 July 1923 733 733 0 August 1923 667 538 -128 ptember 1923 629 501 -128 October 1923 538 389 -149 overmber 1923 426 280 -147 January 1924 361 214 -147 February 1924 418 271 -146 March 1924 405 276 -129 April 1924 432 302 -130 May 1924 381 303 -78 July 1924 339 298 -41 August 1924 306 294 -12	April 1923 792 792 0 May 1923 967 967 0 June 1923 960 960 0 July 1923 733 733 0 August 1923 667 538 -128 ptember 1923 629 501 -128 October 1923 538 389 -149 ovember 1923 426 280 -147 January 1924 361 214 -147 January 1924 361 214 -147 February 1924 418 271 -146 March 1924 432 302 -130 May 1924 381 303 -78 July 1924 339 298 -41 August 1924 306 294 -12	April 1923 792 792 0 May 1923 967 967 0 June 1923 960 960 0 July 1923 733 733 0 August 1923 667 538 -128 ptember 1923 629 501 -128 October 1923 538 389 -149 overmber 1923 426 280 -147 January 1924 361 214 -147 February 1924 418 271 -146 March 1924 405 276 -129 April 1924 432 302 -130 May 1924 381 303 -78 July 1924 339 298 -411 August 1924 306 294 -12	April 1923 792 792 0 May 1923 967 967 0 June 1923 960 960 0 July 1923 733 733 0 August 1923 667 538 -128 optember 1923 629 501 -128 October 1923 538 389 -149 overmber 1923 426 280 -147 January 1924 361 214 -147 February 1924 418 271 -146 March 1924 405 276 -129 April 1924 432 302 -130 May 1924 381 303 -78 July 1924 339 298 -411 August 1924 306 294 -12	April 1923 792 0 May 1923 967 967 0 June 1923 960 960 0 July 1923 733 733 0 August 1923 667 538 -128 optember 1923 629 501 -128 October 1923 538 389 -149 overmber 1923 482 335 -147 ecember 1923 426 280 -147 January 1924 361 214 -147 February 1924 418 271 -146 March 1924 405 276 -129 April 1924 432 302 -130 May 1924 381 303 -78 July 1924 339 298 -411 August 1924 306 294 -12	April 1923 792 792 0 May 1923 967 967 0 June 1923 960 960 0 July 1923 733 733 0 August 1923 667 538 -128 optember 1923 629 501 -128 October 1923 538 389 -149 overmber 1923 482 335 -147 ecember 1923 426 280 -147 January 1924 361 214 -147 February 1924 418 271 -146 March 1924 405 276 -129 April 1924 432 302 -130 May 1924 381 303 -78 July 1924 339 298 -411 August 1924 306 294 -12	April 1923 792 792 0 May 1923 967 967 0 June 1923 960 960 0 July 1923 733 733 0 August 1923 667 538 -128 optember 1923 629 501 -128 October 1923 538 389 -149 overmber 1923 482 335 -147 ecember 1923 426 280 -147 January 1924 361 214 -147 January 1924 361 214 -147 January 1924 418 271 -146 March 1924 405 276 -129 April 1924 432 302 -130 May 1924 381 303 -78 July 1924 339 298 -41 August 1924 306 294 -12	April 1923 792 792 0 May 1923 967 967 0 June 1923 960 960 0 July 1923 733 733 0 August 1923 667 538 -128 optember 1923 629 501 -128 October 1923 538 389 -149 overmber 1923 482 335 -147 ecember 1923 426 280 -147 January 1924 361 214 -147 January 1924 418 271 -146 March 1924 405 276 -129 April 1924 438 314 -124 June 1924 381 303 -78 July 1924 339 298 -41 August 1924 306 294 -12	April 1923 792 0 May 1923 967 967 0 June 1923 960 960 0 July 1923 733 733 0 August 1923 667 538 -128 ptember 1923 629 501 -128 October 1923 538 389 -149 overmber 1923 482 335 -147 ecember 1923 426 280 -147 January 1924 361 214 -147 February 1924 418 271 -146 March 1924 432 302 -130 May 1924 438 314 -124 June 1924 381 303 -78 July 1924 339 298 -41 August 1924 306 294 -12	April 1923 792 0 May 1923 967 967 0 June 1923 960 960 0 July 1923 733 733 0 August 1923 667 538 -128 ptember 1923 629 501 -128 October 1923 538 389 -149 ovember 1923 482 335 -147 ecember 1923 426 280 -147 January 1924 361 214 -147 February 1924 418 271 -146 March 1924 405 276 -129 April 1924 438 314 -124 June 1924 381 303 -78 July 1924 339 298 -411 August 1924 306 294 -12	April 1923 792 0 May 1923 967 967 0 June 1923 960 960 0 July 1923 733 733 0 August 1923 667 538 -128 ptember 1923 667 538 -128 ovember 1923 667 538 -147 ovember 1923 482 335 -147 accember 1923 426 280 -147 January 1924 361 214 -147 February 1924 418 271 -146 March 1924 405 276 -129 April 1924 339 298 -41 August 1924 306 294 -12	April 1923 792 792 0 May 1923 967 967 0 June 1923 960 960 0 July 1923 733 733 0 August 1923 667 538 -128 optember 1923 629 501 -128 October 1923 538 389 -149 overmber 1923 482 335 -147 ecember 1923 426 280 -147 January 1924 361 214 -147 January 1924 418 271 -146 March 1924 432 302 -130 May 1924 438 314 -124 June 1924 339 298 -411 August 1924 306 294 -12	April 1923 792 792 0 May 1923 967 967 0 June 1923 960 960 0 July 1923 733 733 0 August 1923 667 538 -128 optember 1923 629 501 -128 October 1923 538 389 -147 ecember 1923 482 335 -147 ecember 1923 426 280 -147 January 1924 361 214 -147 February 1924 418 271 -146 March 1924 432 302 -130 May 1924 438 314 -124 June 1924 381 303 -78 July 1924 339 298 -411 August 1924 306 294 -12	April 1923 792 0 May 1923 967 967 0 June 1923 960 960 0 July 1923 733 733 0 August 1923 667 538 -128 optember 1923 629 501 -128 October 1923 538 389 -149 overmber 1923 482 335 -147 ecember 1923 426 280 -147 January 1924 361 214 -147 February 1924 418 271 -146 March 1924 432 302 -130 May 1924 438 314 -124 June 1924 381 303 -78 July 1924 339 298 -411 August 1924 306 294 -12	April 1923 792 792 0 May 1923 967 967 0 June 1923 960 960 0 July 1923 733 733 0 August 1923 667 538 -128 optember 1923 629 501 -128 October 1923 538 389 -149 owember 1923 482 335 -147 january 1924 361 214 -147 February 1924 418 271 -1466 March 1924 438 314 -124 June 1924 381 303 -78 July 1924 339 298 -411 August 1924 306 294 -12	April 1923 792 792 0 May 1923 967 967 0 June 1923 960 960 0 July 1923 733 733 0 August 1923 667 538 -128 ptember 1923 629 501 -128 October 1923 538 389 -149 owember 1923 482 335 -147 January 1924 361 214 -147 January 1924 361 214 -147 January 1924 361 214 -147 June 1924 438 314 -124 June 1924 381 303 -78 July 1924 339 298 -411 August 1924 306 294 -12	April 1923 792 792 0 May 1923 967 967 0 June 1923 960 960 0 July 1923 733 733 0 August 1923 667 538 -128 optember 1923 629 501 -128 October 1923 538 389 -147 ecember 1923 482 335 -147 ecember 1923 426 280 -147 January 1924 361 214 -147 February 1924 418 271 -146 March 1924 405 276 -129 June 1924 381 303 -78 July 1924 339 298 411 August 1924 306 294 -12	April 1923 792 792 0 May 1923 967 967 0 June 1923 960 960 0 July 1923 733 733 0 August 1923 667 538 -128 October 1923 629 501 -128 October 1923 482 335 -147 ecember 1923 426 280 -147 January 1924 361 214 -147 February 1924 361 214 -147 April 1924 438 314 -124 June 1924 381 303 -78 July 1924 339 298 -411 August 1924 306 294 -12	April 1923 792 0 May 1923 967 967 0 June 1923 960 960 0 July 1923 733 733 0 August 1923 667 538 -128 October 1923 629 501 -128 October 1923 538 389 -147 January 1924 361 214 -147 February 1924 482 335 -147 Gerember 1923 426 280 -147 January 1924 361 214 -147 July 1924 361 214 -147 February 1924 418 271 -146 March 1924 432 3002 -130 May 1924 438 314 -124 July 1924 339 298 -411 August 1924 306 294 -12	April 1923 792 792 0 May 1923 967 967 0 June 1923 960 960 0 July 1923 733 733 0 August 1923 667 538 -128 October 1923 629 501 -128 October 1923 638 389 -1449 overmber 1923 426 280 -147 January 1924 361 214 -147 February 1924 418 271 -1466 March 1924 432 302 -130 May 1924 438 314 -128 July 1924 339 298 -411 August 1924 306 294 -12	April 1923 792 792 0 May 1923 967 967 0 June 1923 960 960 0 July 1923 733 733 0 August 1923 667 538 -128 prember 1923 629 501 -128 October 1923 638 389 -149 overmber 1923 426 280 -147 January 1924 361 214 -147 February 1924 361 214 -147 April 1924 436 276 -129 April 1924 438 314 -124 July 1924 339 298 -411 August 1924 306 294 -12	April 1923 792 0 May 1923 967 967 0 June 1923 960 960 0 July 1923 733 733 0 August 1923 667 538 -128 October 1923 629 501 -128 October 1923 638 -144 august 1924 361 214 -147 ecember 1923 426 280 -147 January 1924 361 214 -147 April 1924 432 302 -130 March 1924 438 314 -124 July 1924 339 298 -411 August 1924 306 294 -12

EXHIBIT BKS-104

Biological Assessment – No Action v. Biological Assessment – Proposed Action Q5 (Central Tendency Climate) End-of-Month Folsom Reservoir Storage 1939-1940

Water		End-of-Month F BA-No Action	BA-Proposed		1,000			Er	nd-of	-Mc	onth F	olsor	n Res	servoi	r Sto	rage	or Wa	ter Y	ears	1939	thre	bugh	1940)			
Year		Alternative	Action	Difference																			~			•	•
Туре	Month	(TAF)	(TAF)	(TAF)	900																		$\langle \rangle$				
	October 1938	592	592	0																		1		()			
	November 1938	474	494	20	800																	/		11			
	December 1938	446	466	20																		/					
39 . rea	January 1939	395	415	20	700																	/		//			
19 19	February 1939	369	389	20	,	1															/				1		
W ater Year 1939 - Below Normal Year	March 1939	484	504	20	600																/						
N N	April 1939	570	598	28	E						1	5							F	1							
low	May 1939	548	570	23	È .						//																
W	June 1939	466	485	18	Storage (TAF)		6	~		1	/		1														
	July 1939	225	174	-51	sto			1		//			1						1								
	August 1939	191	145	-46	400					/			1						1								*
	September 1939	205	160	-45																							
	October 1939	215	170	-45	300									1													
	November 1939	220	191	-29										R													
120 83	December 1939	235	206	-29	200									E	~		-	_									
to -	January 1940	567	567	0											~												
Water Year 1940 - Above Normal Year	February 1940	557	557	0	100				_			+ .	+ -	+ $-$				-	—	<u>-</u> -	<u> </u>		+		_		-
ear	March 1940	626	626	0																							
Y Z	April 1940	792	792	0	0		~	~ (7				-	•	•	D (7		~	~	~	~	~	0		0	
ate	May 1940	967	967	0		1938	1938	1936	1939	193	1939	1939	1939	1939	1939	1939	1939	1939	194(1940	1940	194(194(194(1940	1940	1940
W	June 1940	873	800	-73		ber	ber	Der	And and	2 a z	March 1939 Anril 1939	May 1939	June 1939	July 1939	August	ber	per per	Der	Any	ary	March	April 1940	May 1940	June 1940	July	August	ber
	July 1940	597	580	-17		October 1938	November	December 1938	January	February 1939	A A	2	Ŧ	-	Aug	September	Occober 1939 November 1939	December	January 1940	February 1940	Ra	A	2	ī	-	Aug	September 1940
	August 1940	484	477	-7		0	No	De	i i	ĩ						Sep	Ŷ Ñ	Dei	-	Ъ.							Sep
	September 1940	396	401	6	E	A-No Ac	tion Al	ternati	ive		В	A-Prop	osed A	ction	-	M	inimum	Stora	ge (90	TAF)	-		Maxim	num St	orage	(967 TA	۹F)
																									2		

Biological Assessment – No Action v. Biological Assessment – Proposed Action Q5 (Central Tendency Climate) End-of-Month Folsom Reservoir Storage 1981-1982

Water Year		BA-No Action Alternative	olsom Storage BA-Proposed Action	Difference	1,0	00			End	l-of-l	Mon	th Fo	lson	n Res	servo	ir Sto	orage	e for	Wat	er Ye	ears	1981 	L thre	ough	198	2			
Туре	Month	(TAF)	(TAF)	(TAF)	90	00																			/				
	October 1980	538	496	-42																				1					
Te	November 1980	437	444	6	81	00																		/					
Water Year 1981 - Dry Year	December 1980	420	426	6																				/					
Dry	January 1981	423	429	6	7	00																							1
	February 1981	425	431	6																			/						1
86	March 1981	563	569	6	6	00																	/						1
ar 1	April 1981	641	646	5	َّ AF)						/		/										/						
Ye	May 1981	640	645	5	Storage (TAF)	00					/		1						\wedge				/						
ter	June 1981	542	349	-193	rag	00	1			1								/			~	/							
Ma	July 1981	411	169	-242	Sto	00		-							1					~		\checkmark							
	August 1981	377	168	-208	41	00								1															
	September 1981	370	184	-187										1				/											
	October 1981	358	208	-150	31	00								1															
ar	November 1981	546	546	0																									
et Year	December 1981	433	433	0	20	00									L		-												
Vet	January 1982	459	459	0																									
M -	February 1982	402	402	0	10	00 -			• —	-	—					- —	—	—	—	— ·								—	-
1982	March 1982	590	590	0																									
r 19	April 1982	792	792	0		0	0 0	Q.	1	1	1	1	1	딮	5	1	5	1	1	5	ß	22	C,	N	22	Q	N N	2	ß
Yea	May 1982	967	967	0			October 1980	1980	January 1981	198	March 1981	1981	May 1981	June 1981	July 1981	1981	198	October 1981	1981	198	January 1982	198	1982	April 1982	May 1982	June 1982	July 1982	1982	198
er	June 1982	967	967	0			ober	her	uary	uary	arch	April	May	Iune	July	August	hber	ober	her	ber	uary	uary	March	April	May	Iune	ylut	August	hber
Water Year	July 1982	905	905	0			October	December	Janı	February 1981	Σ					Au	September 1981	octo	November	December 1981	Janı	February 1982	Σ					Au	September 1982
-	August 1982	792	792	0			ž	Ď		<u>u</u>							Set		ž	ŏ		<u>u</u>							Set
	September 1982	667	631	-37		BA-	No Actio	n Alter	native			BA-	ropos	sed Ac	tion	-		Minim	um St	torage	(90 T	AF)			Maxim	num St	orage	(967 T	ſAF)

Biological Assessment – No Action v. Biological Assessment – Proposed Action Q5 (Central Tendency Climate) End-of-Month Folsom Reservoir Storage 1994-1995

			olsom Storage						End-	of-N	Ionth	n Fol	som	Rese	rvoir	Stora	ge for	Wat	er Ye	ears	1994	thro	ough	1995	5			
Water		BA-No Action Alternative	BA-Proposed Action	Difference	1,000																							
Year	11 and	(TAF)	(TAF)	Difference (TAF)																				/		7		-
Туре	Month		. ,		900																			/				
-	October 1993	537	535	-2																			/					
Yes	November 1993	459	488	29	800	9.1222.22																	/					1000001
- Critical Year	December 1993	448	476	28																			/					
iti	January 1994	384	411	27	700																	1						
0	February 1994	388	414	26																		/					N	
964	March 1994	437	463	26	600																	/						1
W ater Year 1994	April 1994	497	522	25	Storage (TAF)								~							~	_/							
Yea	May 1994	530	555	25	2 500						/	1	\sim	2							_							
er	June 1994	475	502	27	ora						//			1						/								
Vat	July 1994	338	248	-90	ನ 400				\sim	-)	/			N					//									
-	August 1994	291	221	-70										1					//									
	September 1994	255	205	-50	300									1	1			1	/									
	October 1994	233	200	-33														1										
ar	November 1994	274	241	-33	200	-											-	/										
W et Year	December 1994	407	373	-33																								
Ve	January 1995	546	546	0	100																							
	February 1995	530	530	0	100	-		-	-	_				• –	-			-							. —	_		
1995	March 1995	618	618	0	0																							
ar 1	April 1995	792	792	0	0	63	1993	33	94	94	94	94	94	94	94	1994 1994	94	94	94	32	95	95	95	95	56	95	95	Ю
Ye	May 1995	967	967	0		r 19	r 19	r 1993	y 19	y 19	h 19	il 19	y 19	e 19	July 1994	т 19 19	r 19	r 19	r 19	y 19	y 19	h 19	il 19	May 1995	June 1995	July 1995	t 19	r 19
ter	June 1995	967	967	0		October 1993	mbe	mbe	January 1994	February 199	March 1994	April 1994	May 1994	June 1994	in	August	October 199	mbe	mbe	January 1995	February 1995	March 1995	April 1995	Mai	nn	lut	August 1995	mbe
W ater Year	July 1995	942	930	-12		oct	November	December	Jar	Febi	2					August 1994 September 1994	oq	November 1994	December 1994	Jar	Febi	2					AI	September 1995
	August 1995	792	792	0			z	Δ								Se		z										Sc
	September 1995	633	611	-21	—— ВА	-No Ao	tion Al	ternati	ive	-	— BA-	Propo	sed Ac	tion	—	- Min	imum S	torage	(90 T/	AF)		- - Ma	ximur	n Stora	age (9	67 TAF	:)	

4

Biological Assessment – No Action v. Biological Assessment – Proposed Action Q5 (Central Tendency Climate) End-of-Month Folsom Reservoir Storage 2001-2002

Water Year		End-of-Month F BA-No Action Alternative	BA-Proposed Action	Difference	1,000			E 	End-o	of-M	ontł	n Fols	som	Rese	rvoir	Stora	age fo	r Wat	er Ye	ears 2	2001	thro	ugh	2002	! ·			· -
Туре	Month	(TAF)	(TAF)	(TAF)	900																							
	October 2000	413	390	-23																				1				
Le la	November 2000	395	393	-3	800																		/		\			
Year	December 2000	403	400	-3																			/		11			
Dry	January 2001	379	376	-3	700																	1			11			
÷	February 2001	402	399	-3																		/			11			
00	March 2001	518	514	-3	600							-	-								/	/			1	1		
W ater Year 2001 -	April 2001	602	598	-4	Storage (TAF)						/		1						Г	1	-					11		
Ye	May 2001	600	601	1	2 500						/								11							1	~	
atei	June 2001	506	376	-130	ora					/	/				< l			/	//								-	-
M	July 2001	420	318	-101	ನ 400	1	-	-							1				/									
	August 2001	370	271	-99					\sim					1		-		1										
	September 2001	375	280	-95	300	same												1										
	October 2001	358	263	-95												-												
	November 2001	412	310	-102	200																							
Year	December 2001	567	508	-59																								
Dry	January 2002	567	567	0	100	_			_															_			_	
2	February 2002	563	563	0																								
00	March 2002	655	655	0	0	2		20120														0.000						-
ar 2	April 2002	792	792	0		000	000	000	001	001	001	April 2001	May 2001	June 2001	July 2001	001	2001	001	001	002	002	002	April 2002	May 2002	June 2002	July 2002	002	002
Ye	May 2002	865	864	-1		er 2	Der 2	er 2	ary 2	ILY 2	ch 2	oril 2	ay 2	ne 2	uly 2	TX I	er 2	Der 2	er 2	ary 2	IV 2	ch 2	oril 2	ay 2	ne 2	uly 2	1st 1	Der 2
W ater Year 2002 -	June 2002	755	698	-57		October 2000	November 2000	December 2000	January 2001	February 2001	March 2001	AF	Σ	ηſ	Ξ.	August 2001	September 2001 October 2001	November 2001	December 2001	January 2002	February 2002	March 2002	AF	Σ	η	÷.	August 2002	September 2002
M	July 2002	587	527	-59		0	Nov	Dec	-	Fe						3	Sept	Nov	Dec	-	Fe						7	Sept
	August 2002	520	479	-41																								
	September 2002	481	441	-40		BA-No A	Action	Altern	native			BA-P	ropos	ed Act	ion		- Mi	imum	Storag	e (90 1	TAF)	-		Maxim	าum St	orage	(967 T	AF)

STATEMENT OF SERVICE

CALIFORNIA WATERFIX PETITION HEARING Department of Water Resources and U.S. Bureau of Reclamation (Petitioners)

I hereby certify that I have this day submitted to the State Water Resources Control Board and caused a true and correct copy of the following document(s):

California WaterFix Hearing - Biological Assessment Modeling Results

to be served **by Electronic Mail** (email) upon the parties listed in Table 1 of the Current Service List for the California WaterFix Petition hearing, dated March 30, 2017, posted by the State Water Resources Control Board at

http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix /service_list.shtml:

I certify that the foregoing is true and correct and that this document was executed on May 3, 2017.

Obon Signature: Terry M. Olson Name: Title: Legal Assistant Cities of Folsom, Roseville, Sacramento Suburban Water District, San Party/Affiliation: Juan Water District 1011 22nd Street Address: Sacramento, CA 95816