STIPULATION OF SETTLEMENT

NRDC v. RODGERS

DRAFT LEGISLATION

.

EXHIBIT A

Title __: SAN JOAQUIN RIVER RESTORATION SETTLEMENT ACT

Section 101. Short Title.

This Title may be cited as the "San Joaquin River Restoration Settlement Act."

Section 102. Purposes.

The purpose of this title is to authorize implementation of the Stipulation of Settlement dated [insert date] (the "Settlement") in the litigation entitled NATURAL RESOURCES DEFENSE COUNCIL, et al. v. KIRK RODGERS, et al., United States District Court, Eastern District of California, No. CIV. S-88-1658-LKK/GGH.

Section 103. Definitions.

As used in this Title, the terms "Friant Division long-term contractors," "Interim Flows," "Restoration Flows," "Recovered Water Account," "Restoration Goal," and "Water Management Goal" shall have the meaning as defined in the Settlement referenced in Section 102 of this Title.

Section 104. Implementation of Settlement.

- (a) The Secretary of the Interior ("Secretary") is hereby authorized and directed to implement the terms and conditions of the Settlement in cooperation with the State of California, including but not limited to the following measures as these measures are prescribed in the Settlement:
 - Design and construct channel and structural improvements as described in Paragraph 11 of the Settlement; *provided, however*, that the Secretary shall not make or fund any such improvements to facilities or property of the State of California without the approval of the State of California and the State's agreement in one or more Memoranda of Understanding to participate where appropriate;
 - (ii) Modify Friant Dam operations so as to provide Restoration Flows and Interim Flows;
 - (iii) Acquire water, water rights, or options to acquire water as described in Paragraph 13 of the Settlement;
 - (iv) Implement the terms and conditions of the Settlement related to recirculation, recapture, reuse, exchange or transfer of water

released for Restoration Flows or Interim Flows, for the purpose of accomplishing the Water Management Goal of the Settlement; and

- (v) Develop and implement the Recovered Water Account as specified in the Settlement, including the pricing and payment crediting provisions described in Paragraph 16(b)(3) of the Settlement, provided that all other provisions of Reclamation Law shall remain applicable.
- (b) In order to facilitate or expedite implementation of the Settlement, the Secretary is authorized and directed to enter into appropriate agreements, including cost sharing agreements, with the State of California. The Secretary is further authorized to enter into contracts, memoranda of understanding, financial assistance agreements, cost sharing agreements and other appropriate agreements with state, tribal, and local governmental agencies, and with private parties, including, but not limited to, agreements related to construction, and operation and maintenance of facilities, all of which shall be on terms and conditions that the Secretary deems necessary to achieve the purposes of the Settlement.
- (c) The Secretary is further authorized to accept and expend non-federal funds in order to facilitate implementation of the Settlement.
- (d) The Secretary is further authorized to conduct any design or engineering studies that are necessary to implement the Settlement.

Section 105. Acquisition and Disposal of Property; Title to Facilities

- (a) Unless acquired pursuant to Section 105(b) of this Title, title to any facility or facilities, stream channel, levees, or other real property modified or improved in the course of implementing the Settlement authorized by this Title, and title to any modifications or improvements of such facility or facilities, stream channel, levees, or other real property shall remain in the owner of the property and shall not be transferred to the United States on account of such modifications or improvements.
- (b) The Secretary is authorized to acquire through purchase from willing sellers any property, interests in property, or options to acquire real property needed to implement the Settlement authorized by this Title. The Secretary is authorized, but not required, to exercise all of the authorities provided in Section 2 of the Act of August 26, 1937, Ch. 832, 50 Stat. 844, to carry out the measures authorized in Sections 104 and 105 of this Title.

(c) Upon the Secretary's determination that retention of title to property or interests in property acquired pursuant to this Title is no longer needed to be held by the United States for the furtherance of the Settlement, the Secretary is authorized to dispose of such property or interest in property on such terms and conditions as the Secretary deems appropriate and in the best interest of the United States, including but not limited to, possible transfer of such property to the State of California. Proceeds from the disposal by sale of any such property or interests in property shall be deposited in the fund established by Section 109(c) of this Title.

Section 106. Compliance with Applicable Law.

- (a) In undertaking the measures authorized by Section 104 of this Title, the Secretary shall comply with all applicable federal and state laws, rules and regulations, including the National Environmental Policy Act and the Endangered Species Act, as necessary. The Secretaries of the Interior and Commerce are authorized and directed to initiate and expeditiously complete applicable environmental reviews and consultations as may be necessary to effectuate the purposes of the Settlement. Nothing in this Title shall modify any existing obligation of the United States under federal reclamation law to operate the Central Valley Project in conformity with State law.
- (b) In undertaking the measures authorized by Section 104 of this Title, and for which environmental review is required, the Secretary may provide funds made available under this Title to affected Federal agencies, State agencies, and Indian tribes if the Secretary determines that such funds are necessary to allow the Federal agencies, State agencies, or Indian tribes to effectively participate in the environmental review process. For purposes of this section, environmental review is defined to include any consultation and planning necessary to comply with paragraph (a) of this section. Such funds may be provided only to support activities that directly contribute to the implementation of the terms and conditions of the Settlement.
- (c) The United States' share of the costs of implementing this Title shall be non-reimbursable under Reclamation law, provided that nothing in this subsection shall limit or be construed to limit the use of the funds assessed and collected pursuant to Sections 3406(c)(1) and 3407(d)(2) of Title XXXIV of Pub. L. No. 102-575, for implementation of the Settlement, nor shall it be construed to limit or modify existing or future Central Valley Project Ratesetting Policies.

Section 107. Compliance with Central Valley Project Improvement Act.

Congress hereby finds and declares that the Settlement satisfies and discharges all of the obligations of the Secretary contained in Section 3406(c) (1) of Title XXXIV of Public Law 102-575; *provided, however*, that the Secretary shall continue to assess and collect the charges provided in Section 3406(c)(1) as provided in the Settlement and Section 109(d) of this Title.

Section 108. No Private Right of Action.

Nothing in this Title shall confer upon any person or entity not a party to the Settlement a private right of action or claim for relief to interpret or enforce the provisions of this Title or the Settlement.

Section 109. Appropriations; Settlement Fund.

- (a) The costs of implementing the provisions of Section 104(a)(i) of this Title shall be shared by the State of California pursuant to the terms of a Memorandum of Understanding executed by the State of California and the Parties to the Settlement on [date]. In addition, the Secretary shall enter into one or more agreements to fund or implement improvements on a project-by-project basis with the State of California, which agreements shall provide for recognition of either monetary or in-kind contributions toward the State of California's share of the cost of implementing the provisions of Section 104(a)(i).
- (b) In addition to the funds provided in Sections (c)(1), (c)(3), and (c)(5) below, there are also authorized to be appropriated not to exceed \$ 250 million (October 2006 price levels) to implement this Title and the Settlement, to be available until expended. The Secretary is authorized to use monies from the Fund created under Section 3407 of Title XXXIV of Public Law 102-575 for purposes of this Title.
- (c) There is hereby established within the Treasury of the United States the "San Joaquin River Restoration Fund," into which shall be deposited, and which shall be used solely for the purpose of implementing the Settlement:
 - (1) Subject to Section 109(d) below, at the beginning of the fiscal year following enactment of this Title, all payments received pursuant to Section 3406(c)(1) of Title XXXIV of Public Law 102-575, which shall be available for expenditure without further appropriation;
 - (2) Subject to Section 109(d) below, the capital component (not otherwise needed to cover operation and maintenance costs) of

payments made by Friant Division long-term contractors pursuant to long-term water service contracts for 9 years beginning the first fiscal year following enactment of this Title. The capital repayment obligation of such contractors under such contracts shall be reduced by the amount paid pursuant to this Section 109(c)(2).

- (3) Proceeds from a bond issue, federally guaranteed loan or other appropriate financing instrument, to be issued or entered into by an appropriate public agency or subdivision of the State of California, which funds shall be available for expenditure without further appropriation.
- (4) Proceeds from the sale of water pursuant to the Settlement, or from the sale of property or interests in property as provided in Section 105 of this Title, which funds shall be available for expenditure without further appropriation.
- (5) Any non-federal funds, including but not limited to State costsharing funds, contributed to the United States for implementation of the Settlement, which the Secretary may expend without further appropriation for the purposes for which contributed.
- The Secretary is authorized to enter into agreements with appropriate (d) agencies or subdivisions of the State of California in order to facilitate a bond issue, federally guaranteed loan or other appropriate financing instrument, for the purpose of implementing this Settlement. If the Secretary and an appropriate agency or subdivision enter into such an agreement, and if such agency or subdivision issues one or more revenue bonds, procures a federally secured loan, or other appropriate financing to fund implementation of the Settlement, and if such agency deposits the proceeds received from such bonds, loans or financing into the Fund pursuant to Section 109(c)(3), monies specified in Sections 109(c)(1) and (2) shall be provided by the Friant Division long-term contractors directly to such public agency or subdivision to repay the bond, loan or financing rather than into the Fund. After the satisfaction of any such bond, loan or financing, the payments specified in Sections 109(c)(1) and (2) shall be paid directly into the Fund authorized by this Section 109.
- (e) Payments made by long-term contractors who receive water from the Friant Division and Hidden and Buchanan Units of the Central Valley Project pursuant to §§ 3406(c)(1) and 3407(d)(2)(a) of Title XXXIV of Pub. L. No. 102-575 and payments made pursuant to Paragraph 16(b)(3) of the Settlement and Section 109(c)(2) of this Title shall be the limitation of such entities' direct financial contribution to the Settlement, subject to the terms and conditions of Paragraph 21 of the Settlement.

(f) Nothing in this Act shall be construed to require a federal official to expend federal funds not appropriated by Congress, or to seek the appropriation of additional funds by Congress, for the implementation of the Settlement.

STIPULATION OF SETTLEMENT NRDC v. RODGERS

EXHIBIT B

[Restoration Hydrographs]

This Exhibit B sets forth the hydrographs which constitute the "Base Flows" referenced in paragraph 13 of the Stipulation of Settlement. For purposes of implementing the hydrographs, the following provisions shall apply:

1. Buffer Flows.

Paragraph 13 of the Stipulation of Settlement provides for the Base Flows to be augmented by Buffer Flows of up to 10% of the applicable hydrograph included in this Exhibit B. Except as provided in Paragraph 4 of this Exhibit B, such Buffer Flows are intended to augment the daily flows specified in the applicable hydrograph. For purposes of this Exhibit, Base Flows and Buffer Flows shall collectively be referred to as Restoration Flows.

2. Water Year Types.

The Base Flows are presented in Tables 1A-1F as a set of six hydrographs that vary in shape and volume according to wetness in the basin. The six year types are described as "Critical Low", "Critical High", "Dry", "Normal-Dry", "Normal-Wet", and "Wet." The total annual unimpaired runoff at Friant for the water year (October through September) is the index by which the water year type is determined. In order of descending wetness, the wettest 20 percent of the years are classified as Wet, the next 30 percent of the years are classified as Normal-Wet, the next 30 percent of the years are classified as Normal-Dry, the next 15 percent of the years are classified as Dry, and the remaining 5 percent of the years are classified as Critical (represented by the "Critical High" hydrograph). A subset of the Critical years, those with less than 400 TAF of unimpaired runoff, are identified for use of the "Critical Low" hydrograph. The hydrographs, Tables 1A-1F, depict an annual quantity of water based upon the flow schedules identified. Components of the hydrograph are plotted for each water-year type, with various types of flows (Fall Base and Spring Run Incubation Flow; Fall Run attraction Flow; Fall-Run Spawning and Incubation Flow; Winter Base Flows; Spring Rise and Pulse Flows; Summer Base Flows; Spring-Run Spawning Flows) in specified amounts throughout the year, some of which vary in amount and duration depending upon year type classification. To avoid a moving distribution of year-type assignment, water years 1922-2004 will be used to establish year types.

3. Continuous Line Hydrographs.

The Parties agree to transform the stair step hydrographs to more continuous hydrographs prior to December 31, 2008 to ensure completion before the initiation of Restoration Flows, provided that the Parties shall mutually-agree that transforming the hydrographs will not materially impact the Restoration or Water Management Goal.

4. Flexibility in Timing of Releases.

(a) In order to achieve the Restoration Goal and to avoid material adverse impacts on existing fisheries downstream of Friant Dam, the Parties agree to the following provisions to provide certain flexibility in administration of the hydrographs and Buffer Flows.

(b) The distribution of Base Flow releases depicted in each hydrograph is intended to allow flexibility in any given year for the Restoration Administrator, in consultation with the

Technical Advisory Committee, to recommend to the Secretary appropriate ramping rates and precise flow amounts on specific dates as provided for in this subparagraph and consistent with the flow measurement and monitoring provisions of the Settlement. Base Flow releases allocated during the period from March 1 through May 1 (the "Spring Period") in any year may be shifted up to four weeks earlier and later than what is depicted in the hydrograph for that year, and managed flexibly within that range (i.e. February 1 through May 28), so long as the total volume of Base Flows allocated for the Spring Period is not changed. The Base Flows depicted in each hydrograph from October 1 through November 30 (the "Fall Period") likewise are intended to allow flexibility in any given year for the Restoration Administrator, in consultation with the Technical Advisory Committee, to recommend to the Secretary precise flow amounts on specific dates, and may be shifted up to four weeks earlier or later so long as the total volume of Base Flows allocated during that Period of the year is not changed.

(c) The process for determining and implementing Buffer Flows is set out in Paragraphs 13 and 18 of the Settlement, as implemented by this Exhibit B. The Restoration Administrator, in consultation with the Technical Advisory Committee, may recommend to the Secretary that the daily releases provided for in the hydrographs, or as modified pursuant to Paragraph 4(b) above, be augmented by application of the Buffer Flows up to 10% of the daily flows. From October 1 through December 31, the Buffer Flows shall be defined as 10% of the total volume of Base Flows during that period, and may be managed flexibly as a block of water during the Fall Period and four weeks earlier or later, as provided in Paragraph 4(b) above. Up to 50% of the Buffer Flows available from May 1 to September 30 not to exceed 5,000 acre feet may be moved to augment flows during the Spring or the Fall Periods.

(d) The Restoration Administrator may recommend additional changes in specific release schedules within an applicable hydrograph (beyond those described in subparagraphs (b) and (c) above) to the extent consistent with achieving the Restoration Goal without changing the total amount of water otherwise required to be released pursuant to the applicable hydrograph or materially increasing the water delivery reductions to any Friant Division long-term contractors.

5. Flushing Flows.

In Normal-Wet and Wet years, the stair-step hydrographs, Exhibits 1A-1F, include a block of water averaging 4,000 cfs from April 16-30 to perform several functions, including but not limited to geomorphic functions such as flushing spawning gravels ("The Flushing Flows"). Therefore, unless the Secretary, in consultation with the Restoration Administrator, determines that Flushing Flows are not needed, hydrographs in Normal-Wet and Wet years will also include Flushing Flows during that period. Working within the constraints of the flood control system, the Restoration Flow releases from Friant Dam to provide these Flushing Flows shall include a peak release as close to 8,000 cfs as possible for several hours and then recede at an appropriate rate. The precise timing and magnitude of the Flushing Flows shall be based on monitoring of meteorological conditions, channel conveyance capacity, salmonid distribution, and other physical/ecological factors with the primary goal to mobilize spawning gravels, maintain their looseness and flush fine sediments, so long as the total volume of Restoration Flows allocated for Flushing Flows for that year is not changed. Nothing in this Paragraph 5 is intended to limit the flexibility to move or modify the Flushing Flows as provided in Paragraph 4 above, so long as the total volume of Base Flows allocated during the Spring Period is not changed.

6. Riparian Recruitment Flows.

In Wet Years, in coordination with the peak Flushing Flow releases, Restoration Flows should be gradually ramped down over a 60-90 day period to promote the establishment of riparian vegetation at appropriate elevations in the channel. The precise timing and magnitude of the riparian recruitment release shall be based on monitoring of meteorological conditions, channel conveyance capacity, salmonid distribution and other physical/ecological factors with the primary goal to establish native riparian vegetation working within the constraints of the flood control system, so long as the total volume of Restoration Flows allocated for Riparian Recruitment for that year is not exceeded.

	Gain and Loss Assumptions	6	Gain an	Gain and Loss Assumptions	mptions		Flow at Ups	Flow at Upstream End of Reach	of Reach	
					Salt and					
		Friant	Riparian 	Reach 2	Mud Slough		00000 20000	Doorh A	Daach 5	Confluence
Hydrograph Component		Release	Releases	losses	Accretions		Leach			
Fall Base and Spring Run Incubation Flow Oct. 1 - October 31	Oct. 1 - October 31	160	160	80	300			0	0	300
Fall Run Attraction Flow	Nov 1- 6 Pulse	130	130	100	300			0	0	300
Incrihation Flow	Nov 7 - Dec 31	120	120	80	400			0	0	400
	lan 1. Eeh 28	100	100	80	500			0	0	500
	March 1-15	130	130	06	500			0	D	500
	March 15.31	130	130	150	475			0	0	475
Spring Rise and Pulse Flows	Anril 1.15	150	150	80	400			0	0	400
	April 16 - 30	150	150	80	400	1		0	0	400
	Mout - fune 20	190	190	80	400			0	0	400
Summer Base Flows		230	230	80	275	5	0	0	0	275
Spring-Run Snawning Flows	Sent 1 - Sent 30	210	210	80	275			0	0	275

	Total Annual (acre ft.)	116,662	116,662	60,568	276.012	3,614	0	0	0	275,468
	1 - 1	116,662								
	Restoration Release (af)	0								
1. Riparian releases - Riparian releases for current conditions average from 117- to 126 TAF/YR. derived from CALSIM and WSS estimates; adjusted monthly estimates to add to approx 117 TAF	r current conditions average t adjusted monthly estimates	from 117- to to add to ap	126 TAF/YF	R. Assumed a F and to be	approx 117 T/ more consistent	Assumed approx 117 TAF/YR to be consistent with Steiner declaration which is and to be more consistent with data from last 5 years; rounded to nearest 10 cfs to the more consistent with data from last 5 years; rounded to nearest 10 cfs to the more consistent with data from last 5 years; rounded to nearest 10 cfs to the more consistent with data from last 5 years; rounded to nearest 10 cfs to the more consistent with data from last 5 years; rounded to nearest 10 cfs to the more consistent with data from last 5 years; rounded to nearest 10 cfs to the more consistent with data from last 5 years; rounded to nearest 10 cfs to the more consistent with data from last 5 years; rounded to nearest 10 cfs to the more consistent with data from last 5 years; rounded to nearest 10 cfs to the more consistent with data from last 5 years; rounded to nearest 10 cfs to the more consistent with data from last 5 years; rounded to nearest 10 cfs to the more consistent with data from last 5 years; rounded to nearest 10 cfs to the more consistent with data from last 5 weaks; rounded to nearest 10 cfs to the more consistent with data from last 5 weaks; rounded to nearest 10 cfs to the more consistent with data from last 5 weaks; rounded to nearest 10 cfs to the more consistent with data from last 5 weaks; rounded to the more consistent with data from last 5 weaks; rounded to the more consistent with data from last 5 weaks; rounded to the more consistent with data from last 5 weaks; rounded to the more consistent with data from last 5 weaks; rounded to the more consistent with data from last 5 weaks; rounded to the more consistent with data from last 5 weaks; rounded to the more consistent with data from last 5 weaks; rounded to the more consistent with data from last 5 weaks; rounded to the more consistent with data from last 5 weaks; rounded to the more consistent with data from last 5 weaks; rounded to the weaks; rounded to t	ensistent with om last 5 ye	Steiner dec ans; roundec	claration wi d to neares	nich is t 10 cfs . 5 cfs in Mav
The Nov/Dec period 120 cts estimate is an average of the assumed 130 cts average in Nov and 110 cts in June. Friant base releases in recent years (2001 - 2005 have actually average of approximately 124,000 acre feet in order to meet 5 cfs, at every diversion point during and 200 cfs in June. Friant base releases in recent years (2001 - 2005 have actually average of approximately 124,000 acre feet in order to meet 5 cfs, at every diversion point during	i average of the assumed 150 cts average in two and 110 cts in test, are may build by the development of the assumed 150 cts, at every diversion point during in recent years (2001 - 2005 have actually average of approximately 124,000 acre feel in order to meet 5 cts, at every diversion point during	u cris averag have actual	lly average of	f approximate	et, life May/3 aly 124,000 ac	are feet in order	r to meet 5 c	fs. at every	diversion p	oint during
all seasons. 2 Doorch 31 occase Determined by flow at huad of Rea	t busid of Reach 2. Assumed relatively constant, steady state conditions. Flows less than 300 cfs at the head of the reach lose 80 cfs.	ł relatively c	onstant. stea	dv-state cond	ditions. Flows	i less than 300	cfs at the he	sed of the re	ach lose 8	0 cfs.
consistent with 1995-2000 data including the 1999 pilot	project.	between 30	0 and 400 cfs	s lose 90 cfs.	Flows above	Flows between 300 and 400 cfs lose 90 cfs. Flows above 400 and below 800 cfs lose 100 cfs.	v 800 cfs los	e 100 cfs. l	Used flow I	Used flow lose curve at
Figure 2-4 of the Background Report for flows above 1,000 cfs.		arve was ba	sed upon nor	n-steady-stati	e flow conditic	That curve was based upon non-steady-state flow conditions, and thus likely overestimate steady-state conditions.	kely overesti	imate stead	y-state con	ditions.
Assumed no losses in Reach 2B below the Bifurcation.	a Bifurcation.	1° + -: q 1	-1- 0 45 <i>of</i> th	a Doctorian	4 Donord - Adv	internet anoratio	be occur in	reach 4R an	vd 5 hut sm	all (up to 50
Salt and Mud Slough Accretions - From Sum of Mud efs) relative to total Mud and Salt Slough inflow.			111 YO CI -7 AIO		n index o					
4. Reach 2 flow- Flow at head of Reach 2 is equal to Friant release minus riparian release plus Gravelly Ford base flow is usually higher in winter	2 is equal to Friant release mi	inus riparian	release plus	Gravelly For	d base flow o	f 5 cfs. The Gi	ravelly Ford	base flow is	i usually hiç	gher in winter
because of local tributary inflow, return flow and requirement to meet 5 cfs flow at every diversion point. Summer base flow is often higher than 5 cfs because of irrigation return flow	w and requirement to meet 5	cfs flow at e	every diversio	in point. Sur	nmer base flov	w is often hight	er than 5 cfs	because of	irrigation r	eturn flow
and requirement to meet 5 cfs flow at every diversion point.	y diversion point.									- - -
5. Reach 3 flow - Equal to Reach 2 flow minus Reach 2 losses. Reach 3 flow ignores contributions from Delta Mendota Canal added at Mendota Pool which is subsequently diverted at	inus Fieach 2 losses. Reach	3 flow ignore	es contributio	ons from Delta	a Mendota Ca	mal added at N	fendota Poo	Which is subset	uuanbasqr	/ diverted at

the bottom of Reach 3 at Sack Dam into the Arroyo Canal and therefore assumes no net gain. Actual inflows could be greater particularly during the irrigation season.

6. Reach 4 flows - Equal to the net Reach 3 flows. Additional flow in Reach 3 is on "top" of existing irrigation supply flows and no losses are assumed although Reach 3 appears to be a small tosing reach at this time. May become gaining reach over time if losses in Reach 2 fill sufficient aquifer storage.

7. Reach 5 flow - Assume equal to Reach 4 flow. Seasonal losses in Reach 4A and gains in Reach 4B. Although likely a net gain in Reach 4 flow, assumed no gain for simplicity.

Confluence - Reach 5 flow plus Mud and Salt Slough. Does not include up to another 50 cfs of accretion upstream of Mud and Salt Slough that the WOST hydrograph included.
 Riparian release total slightly different in critical years due to variations in the length of the November pulse flow and rounding of riparian release averages during the November 1-December 31 time period.

Hydrograph Carponent Easing and Finant Rparien Reach 2 Sast and Sast and File Misso Sast and Magnetic File Misso Reach 3 Reach 4 Reach 5 Confuences File Misso Sping Fun Aussion Flow Misso Mark 1- 10-05 Sping Flow Misso Sping Flow Misso Mark 1- 10-05 Sping Flow Misso Sping Flow Misso Sping Flow Misso Mark 1- 10-05 Sping Flow Misso Sping Flow Misso <th></th> <th>Gain ar</th> <th>Gain and Loss Assumptions</th> <th>Gain and Loss Assumptions</th> <th></th> <th>Flow at Ups</th> <th>Flow at Upstream End of Reach</th> <th>of Reach</th> <th></th>		Gain ar	Gain and Loss Assumptions	Gain and Loss Assumptions		Flow at Ups	Flow at Upstream End of Reach	of Reach	
Hydrograph Component Item Fall Base and Spring Run Inabation Flow Nov. 1- 6 Pulse Fall Run Attraction Flows Nov. 7 - Dec 31 Fall Run Spawning and Inabation Flow Nov. 7 - Dec 31 Winter Base Flows Jan. 1- Feb. 28 March 1-15 April 1-15 Spring Rise and Pulse Flows March 1-15 March 1-15 April 1-15 Spring Rise and Pulse Flows March 1-15 March 1-15 April 1-15 Spring Run Spawning Flows March 1-15 March 120 Chine Statiant Release March 1-15 Spring Run Spawning Flows July 1 - Aug 31 Spring Run Spawning Flows March 1-15 April 1-15 April 16-15 Spring Run Spawning Flows March 1-1 Spring Run Spawning Flows July 1 - Aug 31 Spring Run Satt Slough row releases (af) Total Annual (acre ft.) Iron CALSIM and WSS estimates; adjusted monthiy estimates to add to apric Stach 2 for an aver	Friant	Riparian	Reach 2	Salt and Mud Slough					
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Fail-Run Spawning and Incubation Flow Nov. 7 - Dec 31 Wirter Base Flows March 1-15 March 1-15 April 16-30 Spring Rise and Pulse Flows March 1-15 April 1-15 April 16-30 Summer Base Flows July 1 - June 30 Spring Rise and Pulse Flows March 1-15 April 16-30 Summer Base Flows July 1 - Aug 31 Sept. 1 - Sept. 30 Spring Run Spawning Flows July 1 - Aug 31 Spring Run spase Flows July 1 - Aug 31 Spring Run spase Flows July 1 - June 30 July 1 - Sept. 30 July 1 - Sept. 30 Sept. 1 - Sept. 30 Sept. 1 - Sept. 30 June CALSIM and WSS estimates; adjusted monthly estimates to add to apprive from 11 from CALSIM and WSS estimates; adjusted monthly astimates to add to apprive from 120 cfs estimate is an average of the assumed 130 cfs average in Nov June CALSIM and WSS estimates; adjusted monthly astimates to add to apprive them 120 cfs estimate is an average of the assumed 130 cfs average in Nov June CALSIM and WSS estimates; adjusted monthly astimates to add to apprive them 20 for	400	130	100	300	27	<u> </u>	175	175	475
Winter Base Flows Jan. 1 - Feb. 28 March 1-15 March 1-15 Spring Rise and Pulse Flows March 15-31 Spring Rise and Pulse Flows March 15-31 Spring Rise and Pulse Flows March 15-31 Spring Rise and Pulse Flows May 1 - June 39 Spring Rise and Pulse Flows July 1 - Aug 31 Spring Rise and Way 1 - June 39 July 1 - Aug 31 Spring Run Spewning Flows July 1 - Aug 31 Spring Run Spewning Flows July 1 - Aug 31 Spring Run Spewning Flows July 1 - Aug 31 Spring Run Spewning Flows July 1 - Aug 31 Spring Run Spewning Flows July 1 - Aug 31 Spept 1 - Sept 30 Spept 1 - Sept 30 Spept 3 Sept 4 - Sept 30 Total Annual (acre ft.) Assumed Riparian Release Restoration Releases - Riparian releases for current conditions average from 11 from CALSIM and WSS estimates: adjusted monthily estimates to add to approviate including 1999 pilot project. Flows at weater 1000 and 400 cfs low and 120 cfs average in Nov July 1 - Kust 210 secse - Delease 130 sec average in Nov July 1 - Kust 210 secse - Delease 130 sec average from 11 Saft and Mud Slough Accretions - Flow at verse 22005 have actually average 2. Insec average 10 cor 120 of 2005 average 2	120	120	80	400			0	0	400
Spring Rise and Pulse Flows March 15-31 Spring Rise and Pulse Flows March 15-31 Summer Base Flows April 16 - 30 Summer Base Flows May 1 - June 39 Spring Run Spawning Flows May 1 - June 39 Spring Run Spawning Flows May 1 - Aug 31 Spring Run Spawning Flows Sept. 1 - Sept. 30 Total Annual (acre ft.) Assumed Riparian Release Restoration Release Restoration Release In Robust Sept. 1 - Sept. 30 Total Annual (acre ft.) Assumed Riparian Release Restoration Release (af) Assumed Riparian Release In Reach 20 Grass - Determined by flow at head of Reach 2. Assume relatively data including 1999 pilot project. Flows between 300 and 400 cfs lose 90 cfs. flow at nector 2 loss et ure on fig 2-4 of the Background Report. That curve was based upon n Reach 2 loss pilot project. Flows between 300 and 400 cfs lose 90 cfs. flow at reach 2 loss et uput and Salt Slough inflow. Saft and Mud Slough Accretions - From Sum of Mud and Salt Slough flow in relative to total Mud and Salt Slough inflow. Reach 2 Bow - Equal to Reach 2 flow at head of Reach 2 is equal to Friant release minus rip because of local tributary inflow. return flow and requirement to meet 5 cfs flow at every diversion point. Saft and Mud Slough inflow. Saft and therefore assumes 6. Reach 3 flow i Reach 3 flows. Equal to the Arroyo Canal and therefore	110	100	80	500			0	0	500
Spring Rise and Pulse Flows May 1 - June 30 Summer Base Flows May 1 - June 30 Spring-Run Spawning Flows May 1 - June 30 Spring-Run Spawning Flows July 1 - Aug 31 Spring-Run Spawning Flows Sept 1 - Sept 30 India Auguster Satured Riparian Release If from CALSIM and WSS estimates; adjusted monthly estimates to add to appropring 120 cfs estimates; adjusted monthly estimates to add to appropring 120 cfs estimates; adjusted monthly estimates to add to appropring 2. Reach 2 loses the assumed 130 cfs every 2 lose with the assumed 130 cfs every 2 lose with the assumed 130 cfs every 2 lose with the assumed 130 cfs every 2 lose the addition? Jost cata including 1999 pilot project. Flows between 300 and 400 cfs lose 90 cfs; flow if reach 2 lose the addition? Jost cata including 1999 pilot project. Flows between 300 and 400 cfs lose 90 cfs; flow at every 2 lose 2 lose anding vered 2 dow 2 lose 2 lose and at every 2 lose andi	500	130	90	500	375	285	285	285	785
April 16 - 30 Summer Base Flows May 1 - June 30 Summer Base Flows Muly 1 - Aug 31 Spring-Run Spawning Flows Sept. 1 - Sept. 30 1. Riparian releases - Riparian releases for current conditions average from 11 Assumed Riparian Release 1. Riparian releases - Riparian releases for current conditions average in Nov. June. Friant base releases in recent years (2001 - 2005 have actually average in Nov. June. Friant base releases in recent years (2001 - 2005 flow add to approve the atta including 1999 pilot project. Flows between 300 and 400 cfs lose 90 cfs. flow idata including 1999 pilot project. Flows between 300 and 400 cfs lose 90 cfs. flow idata including 1999 pilot project. Flows between 300 and 400 cfs lose 90 cfs. flow if the atta including 1999 pilot project. Flows between 300 and 400 cfs lose 90 cfs. flow if the atta including 1999 pilot project. Flows between 300 and 400 cfs lose 90 cfs. flow in the acture was based upon in Reach 2 Below the Bituration Report. That curve was based upon in Reach 2 Below. Flow at head of Reach 2 Row of Mud and Salt Slough inflow. 3. Salt and Mud Slough inflow. 4. Reach 2 flow. Flow at every diversion point. 4. Reach 2 flow - Equal to Reach 2 flow minus Reach 2 low requirement to	200	150	<u>8</u>	400			0	0	400
Summer Base Flows May 1 - June 30 July 1 - Aug 31 Spring-Run Spawning Flows May 1 - June 30 July 1 - Aug 31 Sept. 1 - Sept. 30 Spring-Run Spawning Flows Sept. 1 - Sept. 30 Indation Sept. 1 - Sept. 30 Spring-Run Spawning Flows Sept. 1 - Sept. 30 Indation Sept. 1 - Sept. 30 Indation Restoration Release from 11 from CALSM and WSS estimates: adjusted monthly estimates to add to approver the assumed 120 cfs estimates in average of the assumed 130 cfs average in Nov. June. Friant base releases in recent years (2001 - 2005 have actually average from 11 data including 1999 pilot project. Flows between 300 and 400 cfs lose 90 cfs; flows enverage of the assumed 130 cfs average in Nov. June. Friant base releases in recent years (2001 - 2005 have actually average from 11 data including 1999 pilot project. Flows between 300 and 400 cfs lose 90 cfs; flow in relative to total Mud and Slough Accretions - From Sum of Mud and Slough flow in relative to total Mud and Slough inflow. 3. Salt and Mud Slough Accretions - From Sum of Mud and Salt Slough flow in relative to total Mud and Slough inflow. 4. Reach 2 flow - Flow at head of Reach 2 is equal to Friant release minus rip because of local tributary inflow. return flow and requirement to meet 5 cfs flow requirement to meet	200	150	80	400			0	0	400
July 1 - Aug 31 Spring-Run Spawning Flows Sept. 1 - Sept. 30 Spring-Run Spawning Flows Sept. 1 - Sept. 30 Total Annual (acre ft.) Assumed Riparian Release for 11 Restoration Release - Riparian releases for current conditions average from 11 from CALSIM and WSS estimates, adjusted monthly estimates to add to appropriod 120 cfs estimates, adjusted monthly estimates to add to appropriod 120 cfs estimates in recent years (2001 - 2005 have actually average 10m and 130 cfs estimates in room 130 cfs estimates to add to appropriod 120 cfs estimate is an average of the assumed 130 cfs average in Nov. June. Friant base releases in recent years (2001 - 2005 have actually average 10m and 200 securve on fig 2-4 of the Background Report. That curve was based upon n Reach 2 losses - Determined by flow at head of Reach 2. Assume relatively to total Mud and Stough Accretions - From Sum of Mud and Stough Accretions. 3. Salt and Mud Stough Accretions - From Sum of Mud and Stough flow in relative to total Mud and Stough inflow. 4. Reach 2 flow. Flow at head of Reach 2 is equal to Friant release minus rip because of local tributary inflow. return flow and requirement to meet 5 cfs flow at every diversion point. 5. Reach 3 flow - Equal to Reach 2 flow minus Reach 2 losses. Reach 3 flow in bottom of Reach 2 at Sack Dam into the Arroyo Canal and therefore assumes for and therefore assumes 6. Reach 4 flows - Equal to the net Reach 2 flows. Additional flow in Reach 3 flows is small lossing reach at this time. May become equining reach of a flows - Substomed flows areaded structore assumes for small lossing reach at this ti	215	190	80	400			0	C	400
 Spring-Kun Spawning Flows Spring-Kun Spawning Flows Totai Annual (acre ft.) Assumed Riparian Release Assumed Riparian Release Assumed Riparian Release from CALSIM and WSS estimates: adjusted monthly estimates to add to appropriod 120 cfs estimates in average of the assumed 130 cfs average in Nov-June. Friant base releases in recent years (2001 - 20)5 have actually average 2. Reach 22 losses - Determined by flow at head of Reach 2. Assume relatively data including 1999 pilot project. Flows between 300 and 400 cfs lose 90 cfs. flows ervice on fig 2-4 of the Background Report. That curve was based upon in Reach 2B below the Bifurcation. 3. Salt and Mud and Stough Accretions. 5. Sach 2 flow - Flow at head of Reach 2. flow and requirement to meet 5 cfs flow in relative to the aft to Reach 2 flow. 6. Reach 3 flow - Equal to the net Reach 2 flows. Additional flow in requirement to meet 5 cfs flow is between 3 flows. Additional flow in requirement to meet 5 cfs flow secure on file at 10 for a secure of the act 2 flow minus. File at 10 for a secure of the act 2 flow minus requirement to meet 5 cfs flow secure 3 flows. Additional flow in Reach 3 flows. Additional flow in Reach 3 flows. Substitution flows. 	255	230	88	275		00	00	00	275
Totai Annual (acre ft.) Assumed Riparian Release Tom CALSIM and WSS estimates; adjusted monthly estimates to add to approperiod 120 cfs estimates; adjusted monthly estimates to add to approperiod 120 cfs estimates in recent years (2001 - 2005 have actually average from 1 from CALSIM and WSS estimates; adjusted monthly estimates to add to approperiod 120 cfs estimates in recent years (2001 - 2005 have actually average 2. Reach 2 losses - Determined by flow at head of Reach 2. Assume relatively data including 1999 pilot project. Flows between 300 and 400 cfs lose 90 cfs; flows including 1999 pilot project. Flows between 300 and 400 cfs lose 90 cfs; flows in Reach 2 B blow the Bifurcation. 3. Salt and Mud Slough Accretions. 3. Salt and Mud Slough inflow. 4. Reach 2 flow - Flow at head of Reach 2 is equal to Friant release minus rip because of local tributary inflow. 4. Reach 2 losses. Reach 3 flow in relative to total Mud and Salt Slough inflow. 5. Reach 3 flow - Equal to Reach 2 flow minus Reach 2 losses. Reach 3 flow in the and saft Slough inflow. 5. Reach 3 allow - Equal to Reach 2 flow minus Reach 3 flow in because of local tributary inflow. 6. Reach 4 flows - Equal to the art Reach 3 flows. Additional flow in Reach 3 flows. Additional flow in Reach 3 flows. Additional flow in Reach 3 flows. Reach 4 flows - Equal to the art Reach 3 flows. Additional flow in Reach 3 flows. Small lossion reach at this time. May become qaining reach over 4 flows - Equal to the art Reach 3 flows. Additional flow in Reach 3 flows. Small lossion reach at this time.	290 2	210	32	5/2	5 <u>5</u>			o	6/7
 Restoration Release (af) Riparian releases - Riparian releases for current conditions average from 11 from CALSIM and WSS estimates; adjusted monthly estimates to add to appropriod 120 cfs estimate is an average of the assumed 130 cfs average in Nov-June. Friant base releases in recent years (2001 - 20)5 have actually average 2. Reach 2 losses - Determined by flow at head of Reach 2. Assume relatively data including 1999 pilot project. Flows between 300 and 400 cfs lose 90 cfs. f lose curve on fig 2-4 of the Background Report. That curve was based upon n Reach 2B below the Bifurcations. Salt and Mud Slough Accretions - From Sum of Mud and Salt Slough flow in relative to total Mud and Salt Slough inflow. Reach 2 flow - Flow at head of Reach 2: losses. Reach 3 flow is because of local tributary inflow, return flow and requirement to meet 5 cfs flow is bottom of Reach 3 flow - Equal to Reach 2 flow minus Reach 2 flows. Additional flow in sequal to the Arroyo Canal and therefore assumes 6. Reach 3 flows. Equal to the Arroyo Canal and therefore assumes 6. Reach 4 flows. Equal to the net Reach 3 flows. Additional flow in Reach 3 stlows. Additional flow in Reach 3 stlows. Additional flow in Reach 3 stlows. Equal to the net Reach 3 flows. Additional flow in Reach 3 stlows. Additional flow in Reach 3 stows. Additional flow in Reach 3 stows. 	187,457 116,662	116,662	60,568	276,012	74,408	49,352	49,352	49,352	325,364
 Riparian releases - Riparian releases for current conditions average from 11 from CALSIM and WSS estimates, adjusted monthly estimates to add to appropried 120 cfs estimate is an average of the assumed 130 cfs average in Nov. June. Friant base releases in recent years (2001 - 2005 have actually average 2. Reach 2 losses - Determined by flow at head of Reach 2. Assume relatively data including 1999 pilot project. Flows between 300 and 400 cfs lose 90 cfs; flose curve on fig 2-4 of the Background Report. That curve was based upon n Reach 2B below the Birturation. Salit and Mud Slough Accretions - From Sum of Mud and Salit Slough flow in relative to total Mud and Slough inflow. Reach 2 flow - Flow at head of Reach 2 is equal to Friant release minus rip because of local tributary inflow, return flow and requirement to meet 5 cfs flow requirement to meet 5 cfs flow requirement to meet 5 cfs flow is because of local tributary inflow. return flow and requirement to meet 5 cfs flow is because of local tributary inflow. Reach 2 flow minus Reach 2 losses. Reach 3 flow in the Arroyo Canal and therefore assumes for shore a sume is bottom of Reach 2 at Sat Boun into the Arroyo Canal and therefore assumes for shore a sume is classing reach at flows. Additional flow in Reach 3 minus if bottom of Reach 3 at Sack Dam into the Arroyo Canal and therefore assumes for semill resing reach at this time. May become qaining reach or other at the second sole and therefore assumes for semilles in reach at this time. May become paining reach or other at the second sole and the action at the second sole. 	70,795								
	m 117- to 126 approx 117 TA approx 117 TA Nov and 110 c erage of appro: dively constant dively constant cfs; flows abov pon non- stead flow in Table 2- flow in Table 2- flow at every s flow at every s flow at every ach 4A and gain ach 4A and gain e up to another	TAF/YR. As and to be the index to be the index to be the and be attraction of the Bau diversion poil diversion poil of existing in of existing in of existing in the attraction of existing in the attraction of existing in the attraction of existing in the attraction of existing in the attraction of existing in the attraction of existing in the attraction of existin	sumed appro- more consists May/June p 000 acre fee e conditions and e conditions and celly Ford bas nt. Summer nt. Summer nt. Summer the auffer stort the autifer stort the au	x 117 TAF/VI tent with data eriod average ti in order to in folose 100 cfs:-i- d thus likely o bort. Addition bort. Addition bort. Addition of 5 cf base flow is c base flow is c base flow s and r in flows and r age. likely a net g and flud a	A to be consist from last 5 yes of 190 cfs is, yes neet 5 cfs, at e a for consistent with verestimate st verestimate st verest	that with Stears: rounded and ars: rounded and ars: rounded and ars: rounded and very diversion than 300 los that arc and y Ford base an 5 cfs becare and the irrigation that the WC that that the WC that that the WC that that that that that that that tha	iner declara to nearest of 175 cfs in on point duri se 80 cfs co data. Above enditions. <i>A</i> h 4B and 5 h 4B and 5 irrigu ause of irrigu subset on the subset on ogain ned no gain of hydrogi	tion which i 10 cfs. Th May and 2 rig all seas risistent wit sume no but small (u but small (u ation return ation return ation return a appears for simplici raph includi	s derived a Nov/Dec 00 cfs in nssed flow losses in p to 50 cfs) n winter flow and srted at the sto be a v.

Gain and Loss Assumptions			Gain at	Gain and Loss Assumptions	mptions		Flow at Upstream End of Reach	tream End	of Reach	
					Salt and					
		Friant	Riparian	Reach 2	Mud Slough					
Hvdroaraph Component		Release	Releases	losses	Accretions	Reach 2	Reach 3	Reach 4	Reach 5	Confitience
Incubation Flow	loct. 1 - 31	350	160	80	300	195	115	115	115	415
Fall Run Attraction Flow	Nov. 1 - 10	200	130	100	300	575	475	475	475	775
Fall-Run Snawning and Incubation Flow	Nov. 11 - Dec 31	350	120	80	400	235	155	155	155	555
Winter Base Flows	Jan. 1 - Feb. 28	350	100	80	500	255	175	175	175	675
	March 1 - 15	500	130	06	500	375	285	285	285	785
	March 16 - 31	1,500	130	150	475	1,375	1,225	1,225	1,225	1,700
Spring Rise and Pulse Flows	Anril 1-15	350	150	80	400	205	125	125	125	525
	April 16 - 30	350	150	80	400	205	125	125	125	525
	Mav 1 - June 30	350	190	80	400	165	85	85	85	485
Summer Base Flows	Julý 1 - Aug 31	350	230	80	275	125	45	45	45	320
Spring-Run Spawning Flows	Sept. 1 - Sept. 30	350	210	80	275	145	65	65	65	340
			r c	FOF 00	000 920	107 030	176 000	1.08 O/D	176 008	AC1 CUA
	Total Annual (acre ft.)	300,762	116,/41	00,121	177'0/7	000'101	120,800	000,021	120,300	4021 120
	Assumed Riparian Release	116,741								
	Restoration Release (af)	184,021								
1, Riparian releases - Riparian releases for current conditions average from 117- to 126 TAF/YR. Assumed approx 117 TAF/YR to be consistent with Steiner declaration which is derived	current conditions average from	117- to 126	T.AF/YR. As:	sumed approx	x 117 TAF/YR	to be consiste	nt with Steir	her declara	tion which i	s derived
from CALSIM and WSS estimates; adjusted monthly estimates to add to approx 117 TAF and to be more consistent with data from last 5 years; rounded to nearest 10 cfs. The Nov/Dec	i monthly estimates to add to app	orox 117 TAI	and to be	more consisti	ent with data f	om last 5 year st 100 of i io or	s; rounded	to nearest	10 cfs . Th May and 2	e Nov/Dec D0 rfe in
period 120 cis estimate is an average of the assumed 1-00 cis average in 1900 and 110 cis is period average of 170 cis is an average of 1	e assumed too cis average in tvo		15 113 LIGU, 1130 June 40 h. 40 d	a Iviay, uus to pr	in order to mo	u lau ula la ul	and diversion	in occurration in point duri	nn ell cose	
June. Friant base releases in recent years (2001 - 2005 nav	(2003 - 2005 have actually average or approximitieny 124,000 acte rest in outer to meet o the exploration university average or approximitienty 124,000 acte rest in outer to meet o the exploration of the	ige of appro.	umaueny i∠4.			riteet olus, at every urversatori pouri, uai urgi ari seasoris. A	ary urverarur	sion illind il	rig all coac	9113. 8 1005 200

2. Reach 2 losses - Determined by flow at head of Reach 2. Assume relatively constant, steady-state conditions. Flows at head of reach less than 300 lose 80 cfs consistent with 1995-200 data including 1999 pilot project. Flows between 300 and 400 cfs lose 90 cfs; flows above 400 and below 800 cfs lose 100 cfs; consistent with 1995-2000 data. Above 1000 cfs used flow lose curve on fig 2-4 of the Background Report. That curve was based upon non- steady-state flow conditions and thus likely overestimate steady-state conditions. Assume no losses in Reach 2B below the Bifurcation

3. Salt and Mud Slough Accretions - From Sum of Mud and Salt Slough flow in Table 2-15 of the Background Report. Additional accretions occur in reach 4B and 5 but small (up to 50 cfs) relative to total Mud and Salt Slough inflow

because of local tributary inflow, return flow and requirement to meet 5 cfs flow at every diversion point. Summer base flow is often higher than 5 cfs because of irrigation return flow and 4. Reach 2 flow- Flow at head of Reach 2 is equal to Friant release minus riparian release plus Gravelly Ford base flow of 5 cfs. The Gravelly Ford base flow is usually higher in winter requirement to meet 5 cfs flow at every diversion point.

5, Reach 3 flow - Equal to Reach 2 flow minus Reach 2 losses. Reach 3 flow ignores contributions from Delta Mendota Canal added at Mendota Pool which is subsequently diverted at the bottom of Reach 3 at Sack Dam into the Arroyo Canal and therefore assumes no net gain. Actual inflows could be greater particularly during the irrigation season.

6. Reach 4 flows - Equal to the net Reach 3 flows. Additional flow in Reach 3 is on "top" of existing irrigation supply flows and no losses are assumed although Reach 3 appears to be a small tosing reach at this time. May become gaining reach over time if losses in Reach 2 fill sufficient aquifer storage.

8. Confluence - Reach 5 flow plus Mud and Salt Slough. Does not include up to another 50 cfs of accretion upstream of Mud and Salt Slough that the WOST hydrograph included. Seasonal losses in Reach 4A and gains in Reach 4B. Although likely a net gain in Reach 4 flow, assumed no gain for simplicity. 7. Reach 5 flow - Assume equal to Reach 4 flow.

Hydrograph Component Fail Base and Spring Run Inoubation Flow Oct. 1 - 31 Fail Run Attraction Flow Nov. 1 - 1 Fail-Run Spawning and Inoutation Flow Nov. 11 - Fe Winter Base Flows Spring Rise and Pulse Flows April 16.				Gain and Loss Assumptions	mptions					
Hydrograph Component Fall Base and Spring Run Incubation Flow Fall-Run Spawning and Incubation Flow Winter Base Flows Spring Rise and Pulse Flows		Friant	Riparian	Reach 2	Salt and Mud Slough					
Fall Base and Spring Run Incubation Flow Fall Run Attraction Flow Fall-Run Spawning and Incubation Flow Winter Base Flows Spring Rise and Pulse Flows		Release	Releases	losses	Accretions	Reach 2	Reach 3	Reach 4	Reach 5	Confluence
all Run Attraction Flow all-Run Spawning and Inoutration Flow Winter Base Flows Spring Rise and Pulse Flows	MOd. 1 - 31	350	160	80	300		115	115	115	415
all-Run Spawning and Inoutration Flow Winter Base Flows Spring Rise and Pulse Flows	Nov. 1 - 10	700	130	100	300		475	475	475	775
Vinter Base Flows spring Rise and Pulse Flows	Nov 11 - Dec 31	350	120	80	400	235	155	155	155	555
spring Rise and Pulse Flows	Jan. 1 - Feb. 28	350	100	80	500		175		175	675
pring Rise and Pulse Flows	March 1 - 15	500	130	06	500					785
האוות גוואס מווח ג חואס גווטאס	March 16 - 31	1,500	130	150	475					1,700
	April 1-15	2,500	150	175 80	400	2,355	2,180 125	175	2,180 125	2,580
		250		200	400				9 9 9	485
Summer Base Flows	Indv 1 - June Jo	350	230	80	275				45	320
Spring-Run Spawning Flows	Sept. 1 - Sept. 30	350		80	275		95	65	65	340
	Total Apprilal (acre ft.)	364.617	116.741	63.548	275.220	251,490	187 942	187,942	187,942	463,162
	Assumed Riparian Release Restoration Release (af)	116,741 247,876								
 Riparian releases - Riparian releases for current conditions average from 117- to 126 TAF/YR. Assumed approx 117 TAF/YR to be consistent with Steiner declaration which is derived from CALSIM and WSS estimates; adjusted monthly estimates to add to approx 117 TAF and to be more consistent with data from last 5 years; rounced to nearest 10 cfs. The Nov/Dec period 120 cfs estimate is an average of the assumed 130 cfs average in Nov and 110 cfs in Dec; the May/June period average of 190 cfs is an average of 175 cfs in May and 200 cfs in June. Friant base releases in recent years (2001 - 2005 have actually average of approximately 124,000 acre feet in order to meet 5 cfs. at every diversion point during all seasons. 	or current conditions average fro onthly estimates to add to appro urned 130 cfs average in Nov an 1 - 2005 have actually average c	m 117- to 126 1 x 117 TAF and d 110 cfs in De of approximately	TAF/YR. As: to be more c; the May/Ji / 124,000 ac/	sumed approv consistent wi une period av re feet in orde	<pre>(117 TAF/YR th data from li erage of 190 r to meet 5 cf</pre>	t to be consiste ast 5 years; rou cfs is an avera 's. at every div	nt with Ste uncled to n ge of 175 arsion poir	einer declara earest 10 cfs cfs in May ai it during all s	ttion which s . The No nd 200 cfs seasons.	s derived fro //Dec period n June.
 Reach 2 losses - Determined by flow at head of Reach 2. Assume relatively constant, steady-state conditions. Flows at head of reach less than 300 loss B0 cfs consistent with 1995-200 data including 1999 pilot project. Flows between 300 and 400 cfs lose 90 cfs; flows above 400 and below 800 cfs lose 100 cfs; consistent with 1995-2000 data. Above 1000 cfs used flow lose curve on fig 2-4 of the Background Report. That curve was based upon non- steady-state flow conditions and thus likely overestimate steady-state conditions. Assume no losses in Reach 2B below the Bifurcation. 	t head of Reach 2. Assume rela etween 300 and 400 cfs lose 90 t. That curve was based upon n	tively constant, cfs; flows above on- steady-stat	steady-state e 400 and be e flow conditi	e conditions. F slow 800 cfs k ions and thus	flows at head sse 100 cfs; c likely overest	of reach less t onsistent with timate steady-t	han 300 lc 1995-2000 tate condi	ise 80 cfs co) data. Above tions. Assur	insistent wi e 1000 cfs me no lossi	h 1995-200 ised flow too is in Reach
3. Salt and Mud Slough Accretions - From Sum of Mud and Salt Slough flow in Table 2-15 of the Background Report. Additional accretions occur in reach 4B and 5 but small (up to 50 cfs) relative to total Mud and Salt Slough inflow.	າ Sum of Mud and Salt Slough fl w.	low in Table 2-1	15 of the Bac	kground Rep	ort. Additiona	al accretions oc	cur in rea	ch 4B and 5	but small (ip to 50 cfs)
4. Reach 2 flow- Flow at head of Reach 2 is equal to Friant release minus riparian release plus Gravelly Ford base flow of 5 cfs. The Gravelly Ford base flow is usually higher in winter because of local tributary inflow, return flow and requirement to meet 5 cfs flow at every diversion point. Summer base flow is often higher than 5 cfs because of irrigation return flow and requirement to meet 5 cfs flow at every diversion point. Summer base flow is often higher than 5 cfs because of irrigation return flow and requirement to meet 5 cfs flow at every diversion point.	2 is equal to Friant release minu w and raquirement to meet 5 cfs version point.	is riparian relea s flow at every c	ise ptus Grav diversion poli	/elly Ford bas nt. Summer t	e flow of 5 cfs)ase flow is of	s. The Gravelt) ften higher that	r Ford bas n 5 cfs bec	e flow is usu ause of irrig.	lally higher ation returr	n winter flow and
 Reach 3 flow - Equal to Reach 2 flow minus Reach 2 losses. Reach 3 flow ignores contributions from Delta Mendota Canal added at Mendota Pool which is sub bottom of Reach 3 at Sack Dam into the Arroyo Canal and therefore assumes no net gain. Actual inflows could be greater particularly during the irrigation season. 	ninus Reach 2 losses. Reach 3 f Arroyo Cana! and therefore assu	Reach 3 flow ignores contributions from Delta Mendota Canal added at Mendota Pool which is subsequently diverted at the sfore assumes no net gain. Actual inflows could be greater particularly during the irrigation season.	ntributions frc	om Delta Men lows could be	dota Canal ac greater partic	tded at Mendo sularly during th	ta Pool wh te irrigatio	iich is subsei n season.	quentty div	erted at the
6. Reach 4 flows - Equal to the net Reach 3 flows. Additional flow in Reach 3 is on "top" of existing irrigation supply flows and no losses are assumed although Reach 3 appears to be a small losing reach at this time. May become gaining reach over time if losses in Reach 2 fill sufficient aquifer storage.	13 flows. Additional flow in Reading reach over time if losses in	ch 3 is on "top" n Reach 2 fill su	of existing in ifficient aquifu	rigation suppl er storage.	y flows and n	o losses are as	sumed alt	hough Read	th 3 appear	s to be a sm
7. Reach 5 flow - Assume equal to Reach 4 flow. Seasonal loss	14 flow. Seasonal losses in Rea	ses in Reach 4A and gains in Reach 4B. Although likely a net gain in Reach 4 flow, assumed no gain for simplicity.	is in Reach 4	B. Although	likely a net ga	iin in Reach 41	low, assur	ned no gain	for simplic	ţy.

8. Confluence - Reach 5 flow plus Mud and Satt Slough. Does not include up to another 50 cfs of accretion upstream of Mud and Salt Slough that the WOST hydrograph included.

	Gain and Loss Assumptions	Gain ar	Gain and Loss Assumptions	mptions		low at ups	Flow at upsiream End of Read	ol Kead	
				Salt and					
	Friant	Riparian	Reach 2	Mud Slough				: • 	
Hvdrocraph Component	Release	Releases	losses	Accretions	Reach 2	Reach 3	Reach 4	Reach 5	Confluence
Fail Base and Spring Run Incubation Flow/Oot. 1 - 31	350	0 160	80	300	195	115	115	115	415
Fall Aun Attraction Flow	700	0 130	100	300	575	475	475	475	775
Inc. barion Flow	350	0 120	80	400	235	155	155	155	555
	350		80	500	255	175	175	175	675
	500		06	500	375	285	285	285	785
	1.500	-	150	475	1,375	1,225	1,225	1,225	1,700
Spring Rise and Pulse Flows	2.500		175	400	2,355	2,180	2,180	2,180	2,580
And 16 - 30	4.000	-	200	400	3,855	3,655	3,655	3,655	4,055
Maw 1. June 30	350		80	400	165	85	85	85	485
Summer Base Flows	350		80	275	125	45	45	45	320
Spring Run Spawning Flows Sept. 1 - Sept. 30	350		80	275	145	65	65	65	340
Total Annual (acre ft.)	473,022	2 116,741	67,112	275,220	359,895	292,783	292,783	292,783	568,003
Assumed Riparian Release	lease 116,741	-							
Restoration Release (af)	af) 356,281								

Salt and Mud Slough Accretions - From Sum of Mud and Salt Slough flow in Table 2-15 of the Background Report. Additional relative to total Mud and Salt Stough inflow. еń

because of local tributary inflow, return flow and requirement to meet 5 cfs flow at every diversion point. Summer base flow is often higher than 5 cfs because of irrigation return flow and The Gravelly Ford base flow is usually higher in winter 4. Reach 2 flow- Flow at head of Reach 2 is equal to Friant release minus riparian release plus Gravelly Ford base flow of 5 cfs. requirement to meet 5 cfs flow at every diversion point.

5. Reach 3 flow - Equal to Reach 2 flow minus Reach 2 fosses. Reach 3 flow ignores contributions from Delta Mendota Canal added at Mendota Pool which is subsequently diverted at the bottom of Reach 3 at Sack Dam into the Arroyo Canal and therefore assumes no net gain. Actual inflows could be greater particularly during the irrigation season.

6. Reach 4 flows - Equal to the net Reach 3 flows. Additional flow in Reach 3 is on "top" of existing irrigation supply flows and no losses are assumed although Reach 3 appears to be a May become gaining reach over time if losses in Reach 2 fill sufficient aquifer storage. small losing reach at this time.

8. Confluence - Reach 5 flow plus Mud and Salt Stough. Does not include up to another 50 cfs of accretion upstream of Mud and Salt Slough that the WOST hydrograph included. 7. Reach 5 flow - Assume equal to Reach 4 flow. Seasonal losses in Reach 4A and gains in Reach 4B. Although likely a net gain in Reach 4 flow, assumed no gain for simplicity.

Gain and Loss Assumptions			Gain ai	Gain and Loss Assumptions	mptions		Flow at Up	Flow at Upstream End of Reach	of Reach	
					Salt and					
		Friant	Riparian	Reach 2	Mud Stough					;
Hydrograph Component		Release	Releases	losses	Accretions	Reach 2	Reac	Reach 4	Reach 5	Confluence
Fall Base and Spring Run Incubation Flow Oct. 1 - 31	Oct. 1 - 31	350	160	80	300	195		115	115	415
Fall Run Attraction Flow	Nov. 1 - 10	700	130	100	300	575		475	475	775
Fall-Run Spawning and Inoubation Flow	Nov. 11 - Dec 31	350	120	80	400	235	155	155	155	555
Winter Base Flows	Jan. 1 - Feb. 28	350	100	80	500	255	175	175	175	675
	March 1 - 15	500	130	06	500	375	285	285	285	785
i	March 16 - 31	1,500	130	150	475	1,375	1,225	1,225	1,225	1,700
Spring Rise and Pulse Flows	April 1-15	2,500		175	400	2,355		2,180	2,180	2,580
	April 16 - 30	4,000	150	200	400	3,855	3,655	3,655	3,655	4,055
	May 1 - June 30	2.000	190	165	400	1,815	1,650	1,650	1,650	2,050
Summer Base Flows	July 1 - Aug 31	350	230	80	275	125	45	45	45	320
Sorino-Run Spewning Flows	Sept. 1 - Sept. 30	350	210	80	275	145	65	65	65	340
0										
	Total Annual (acre ft.)	672,309	116.741	77,378	275,220	559,182	461,803	481,803	481,803	757,023
	Assumed Riparian Release	116,741								
	Restoration Release (af)	555,568								
1 Rinarian releases - Rinarian releases for current conditions	r current conditions average fror	n 117- to 126	taf/yr. Asi	sumed approx	average from 117- to 126 TAF/XB. Assumed approx 117 TAF/YR to be consistent with Steiner declaration which is derived	o be consiste	int with Stei	ner declarat	tion which i	s derived
from CALSiM and WSS estimates; adjusted monthly estimates to add to approx 117 TAF and to be more consistent with data from last 5 years; rounded to nearest 10 cfs. The Nov/Dec	ed monthly estimates to add to a	pprox 117 TAF	and to be I	more consiste	ent with data fro	om tast 5 year	s; rounded	to nearest	10 cfs . The	Nov/Dec
period 120 cfs estimate is an average of the assumed 130 cfs line - Friant hase releases in recent vears (2001 - 2005 have	te assumed 130 cfs average in P s (2001 - 2005 have actually ave	Vov and 110 d rade of approx	is in Dec; the dimately 124.	May/June pe 000 acre feet	average in Nov and 110 cfs in Dec; the May/June period average of 190 cfs is an average of 176 cfs in Way and 200 cfs in actually average of aporoximately 124,000 acre feet in order to meet 5 cfs. at every diversion point during all seasons.	f 190 cfs is ar et 5 cfs. at ew	n average o erv diversio	t 175 cts in n point duri	May and 20 ng ail seaso	NU CTS IN INS.
2 Reach 2 losses - Determined by flow at head of Reach 2. Assume relatively constant, steady-state conditions. Flows at head of reach less than 300 loss 80 cfs consistent with 1995-200	head of Reach 2. Assume relat	ively constant.	steady-state	conditions. F	lows at head c	of reach less to	han 300 los	e 80 cfs coi	nsistent wit	1995-200 i
data including 1999 pilot project. Flows between 300 and 400 cfs lose 90 cfs; flows above 400 and below 800 cfs lose 100 cfs; consistent with 1995-2000 data. Above 1000 cfs used flow lose curve on fig 2-4 of the Background Report. That curve was based upon non- steady-state flow conditions and thus likely overestimate steady-state conditions. Assume no losses in Doord 20 below the Bitronition.	tween 300 and 400 cfs lose 90 c sport. That curve was based up	on non- stead	e 400 and be -state flow c	low 800 cfs lo onditions and	cfs lose 90 cfs; flows above 400 and below 800 cfs lose 100 cfs; consistent with 1995-2000 data. Above 1000 cfs used flow as based upon non-steady-state flow conditions and thus likely overestimate steady-state conditions. Assume no losses in	nsistent with restimate stea	1995-2000 - ady-state co	data. Above onditions. ⊅	e 1000 cfs u Assume no l	sed flow osses in
3. Satt and Mud Slough Accretions - From Sum of Mud and S	Sum of Mud and S	ow in Table 2-	15 of the Bac	kground Rep	satt Slough flow in Table 2-15 of the Background Report. Additional accretions occur in reach 4B and 5 but small (up to 50 cfs)	accretions og	cur in react	າ 4B and 5 ໂ	but small (u	p to 50 cfs)
relative to total Mud and Salt Slough Inflow.										
4. Reach 2 flow- Flow at head of Reach 2 is equal to Friant release minus riparian release plus Gravelly Ford base flow is usually higher in winter because of integration return flow and requirement to meet 5 cfs flow at every diversion point. Summer base flow is often higher than 5 cfs because of intigation return flow and	2 is equal to Friant release minus w and requirement to meet 5 cfs	s riparian relea	ise plus Grav diversion poir	elly Ford bas nt. Summer b	e flow of 5 cfs. vase flow is ofte	The Gravelly en higher thar	/ Ford base 1 5 cfs beca	flow is usuations of irrigation of the second se	ally higher í ation return	n winter flow and
requirement to meet 5 cfs flow at every diversion point.	rersion point.									
5. Reach 3 flow - Equal to Reach 2 flow minus Reach 2 losses. Reach 3 flow ignores contributions from Delta Mendota Canai added at Mendota Pool which is subsequently diverted at the	inus Reach 2 losses, Reach 3 fl	ow ignores cor	ntributions fro	m Delta Men	dota Canal ado	led at Mendo	ta Pool which	ch is subsec	quently dive	rted at the
bottom of Reach 3 at Sack Dam into the Arroyo Canal and therefore assumes no net gain. Actual inflows could be greater particularly during the irrigation season.	rroyo Canal and therefore assur	nes no net gai	n. Actual infl	ows could be	greater particu	ilarly during th	he irrigation	season.		

bottom of Reach 3 at Sack Dam into the Arroyo Canal and therefore assumes no net gain. Actual inflows could be greater particularly during the irrigation season. 6. Reach 4 flows - Equal to the net Reach 3 flows. Additional flow in Reach 3 is on "top" of existing irrigation supply flows and no losses are assumed although Reach 3 appears to be a

small losing reach at this time. May become gaining reach over time if losses in Reach 2 fill sufficient aquifer storage.

7. Reach 5 flow - Assume equal to Reach 4 flow. Seasonal losses in Reach 4A and gains in Reach 4B. Although likely a net gain in Reach 4 flow, assumed no gain for simplicity.

8. Confluence - Reach 5 flow plus Mud and Salt Slough. Does not include up to another 50 cfs of accretion upstream of Mud and Salt Slough that the WOST hydrograph included. 9. May - June flow of 2,000 c.f.s. is block of water for shaping as riparian recruitment recession flow.

STIPULATION OF SETTLEMENT

NRDC v. RODGERS

PARAGRAPH 11 MILESTONE DATES

EXHIBIT C

EXHIBIT C

The Parties have collectively developed the following timeline for the development and implementation of the improvements described in Paragraph 11 of the Stipulation of Settlement. In so doing, the Parties have considered a variety of factors including, but not limited to, the desire to commence Restoration Flows (and other restoration-related activities) at the earliest possible date, as well as the challenges associated with the development and implementation of these improvements. For these reasons, the dates set forth below represent milestones for purposes of implementing the Settlement. The enforceable deadlines are set forth in the Stipulation of Settlement.

These dates were drawn from a schedule the Federal Defendants developed to assess the estimated minimum period to complete the Paragraph 11 improvements. The Parties recognize that this schedule is ambitious and reflects the Parties' intent to complete the improvements in an expeditious manner. Many assumptions were made in developing this schedule and include, but are not limited to: technical understanding of the nature of the improvements given the current limited availability of detailed site-specific information, availability of sufficient funding and resources, timely acquisition of necessary land and entry rights, timely availability of detailed information and survey results for environmental analysis, timely issuance of necessary permits, and no reduction in the estimated annual 120day construction period due to weather, in-stream flows events, environmental or permitting requirements.

Program Environmental Compliance

September, 2009:	Complete necessary and appropriate NEPA, NHPA, ESA, CEQA
	review

Phase 1 Improvements

December, 2011:	Complete modification of Reach 4B to route at least 475 cfs
December, 2012:	Complete Reach 2B-Mendota Pool 4,500 cfs bypass channel
	Complete modifications of Sand Slough Control Structure and San Joaquin River headgate for routing 500-4,500 cfs and fish passage
	Complete screening of Arroyo Canal and construction of fish ladder at Sack Dam
	Complete modification of structures in the East Side and Mariposa Bypasses for fish passage

Complete construction of low-flow channel in East Side and Mariposa Bypasses, if necessary

Complete steps to enable deployment of fish barriers at Salt and Mud Sloughs

December, 2013: Complete Reach 2B channel capacity increase to 4,500 cfs with floodplain and riparian habitat

Phase 2 Improvements

December, 2016: Complete modification of Reach 4B for routing 4,500 cfs

Complete filling and isolating gravel pits in Reach 1

Complete modifications to Bifurcation Structure for fish passage and to prevent entrainment, if necessary

STIPULATION OF SETTLEMENT

NRDC v. RODGERS

EXHIBIT D

[Technical Advisory Committee and Restoration Administrator]

This Exhibit D describes the duties and tasks identified for the Restoration Administrator and the Technical Advisory Committee in the Stipulation of Settlement (the "Settlement").

A. Selection And Term Of Restoration Administrator

1. Within 60 days of the effective date of this Settlement, the Plaintiffs and Friant Defendants will decide upon a mutually agreed upon selection for Restoration Administrator. The Restoration Administrator shall have technical qualifications related to the Restoration Goal and, at the time of appointment, shall have no relationship to any of the Parties. In the event the Plaintiffs and Friant Defendants do not agree upon a Restoration Administrator selection within 60 days of the effective date of this Settlement, the Plaintiffs will appoint two individuals and the Friant Defendants will appoint two individuals to a selection committee, which will then select a fifth individual member who is not currently employed by any Party and has relevant technical background. This committee will confer no later than 90 days after the effective date of this Settlement and select by majority vote an individual to serve as the Restoration Administrator and submit such selection to the Court for appointment.

2. If the individual serving as Restoration Administrator resigns, is discharged by the non-federal Parties or is unable to perform the duties of the Restoration Administrator, then the process described in Paragraph 1 will be used to select a replacement within 60 days of the date the Restoration Administrator resigns, or is discharged or is unable to perform the duties of the Restoration Administrator. The selection shall be submitted to the Court for appointment. Any Party may petition the Plaintiffs and the Friant Defendants to replace the individual serving as Restoration Administrator for non-performance of duties. If the Parties do not agree about whether the Restoration Administrator should be discharged, the non-federal Parties shall form a selection or discharge of the Restoration Administrator. A majority vote recommendation of the committee will be binding on the Parties.

3. The appointment of the Restoration Administrator pursuant to Paragraph 1 above shall be for an initial term of 6 years. The Restoration Administrator may be reappointed, or a new Restoration Administrator may be appointed, by the Plaintiffs and Friant Defendants pursuant to the procedure set forth in Paragraph 1 above, each for a term of 6 years. The Restoration Administrator shall continue to advise the Secretary of the Interior ("Secretary") as specified in this Settlement and this Exhibit D until December 31, 2026, unless extended by mutual agreement of the Parties.

 B. Composition and Selection of the Technical Advisory Committee
 The Friant Defendants and Plaintiffs agree to establish a Technical Advisory Committee ("TAC") to assist the Restoration Administrator as set forth in this Settlement and Exhibit D.

5. The membership of the TAC shall not be federal employees. Accordingly, the TAC will consist of two Plaintiffs' designees and two Friant Defendants' designees. The TAC will also include two designees mutually agreed upon by the Plaintiffs and Friant Defendants. In order to provide the greatest assistance to the Restoration

Administrator regarding the implementation of the Settlement, it is agreed that all TAC members should have relevant technical or scientific background or expertise in fields related to river restoration or fishery restoration.

6. Within 60 days of the effective date of this Settlement, the Plaintiffs and the Friant Defendants shall (1) provide to all Parties the names and contact information for their two initial designees for the TAC; and (2) confer on a list of potential nominees for the two mutually-agreed upon designees for the TAC. If Plaintiffs and Friant Defendants cannot mutually agree on the two additional members of the TAC, then each of the two parties will submit three names along with supporting qualifications to the Restoration Administrator to select the two most qualified candidates for the positions.

7. All members of the TAC will be appointed for 3 year terms, which shall be renewable pursuant to the procedure set forth in Paragraph 5 and 6. Vacancies shall be filled pursuant to Paragraph 5 above. The TAC will continue until 2026, unless terminated sooner or extended further by mutual agreement of the Plaintiffs and Friant Defendants. The Secretary will not fund or manage the activities of the TAC. The work of the TAC will be coordinated by the Restoration Administrator, and the Restoration Administrator shall be authorized to create a separate account in a financial institution mutually agreeable to the Plaintiffs and Friant Defendants ("Restoration Administrator Account"), and accept funding into that account from the State or other non-federal sources, to support the work of the TAC. The Restoration Administrator, with the assistance of the Plaintiffs and Friant Defendants, shall ensure that the work of the TAC is funded at appropriate levels through this separate account, including appropriate compensation for the members of the TAC.

<u>C. Duties of the Restoration Administrator and Technical Advisory Committee</u> 8. The Restoration Administrator's general duties are set forth in Paragraphs 9, 11, 12, 13, 14, 15, 16, 17, 18 and 19 of the Stipulation of Settlement, and within this Exhibit D. In carrying out these duties, the Restoration Administrator shall consult with the TAC, and, as provided in Paragraphs 9 and 10 below, consult with such Federal

agency technical and regulatory staff as have been designated in accordance with Paragraph 19 of the Stipulation of Settlement. 9. The TAC's primary role will be to advise the Restoration Administrator. The Parties intend that the TAC and the Restoration Administrator will work closely together. In addition to the specific obligations referenced in Paragraph 10 below, the Restoration Administrator and TAC shall, as appropriate, consult with technical representatives of those State agencies with whom the Secretary of Interior and Secretary of Commerce (the Secretaries) have entered into cooperative agreements or memoranda of understanding, and those Federal agency representatives designated in accordance with Paragraph 18 of the Settlement, on matters including, but not be limited to, pre-permitting and pre-ESA consultation activities, sharing of information, and technical assistance during initial project development, planning,

design, and implementation phases, and monitoring.

10. In addition to the general duties set forth in the Settlement, the Restoration Administrator shall:

- a. schedule and attend meetings of the TAC, coordinate or facilitate the completion and/or production of any reports of the TAC, receive and consider any recommendations of the TAC, and ensure that meetings of the TAC are open to Federal and State staff designated to assist in the implementation of this Settlement.
- b. in consultation with the TAC, make recommendations to the Secretaries regarding stock selection, re-introduction strategies, and other significant decisions relating to reintroduction and management of restored Chinook salmon below Friant Dam.
- c. on or before February 1st of each year, provide an annual written report to the Parties about progress made over the previous calendar year in implementing the Settlement, and the Plaintiffs and Friant Defendants shall furnish a copy of this report to the Court. The report shall include but not be limited to a summary of settlement implementation activities of the previous year, findings of research and data collection, any additional recommended measures to achieve the Restoration Goal, a summary of progress and impediments in meeting targets established pursuant to Paragraph 11 below, and a summary of expenditures from the Restoration Administrator Account. The TAC shall assist in the preparation of this report. The report shall be made available to the Parties, and 30 days thereafter shall be publicly released.
- d. if in the implementation of any of the tasks set out in the Settlement or in this Exhibit D, the Restoration Administrator reasonably determines there is a need for technical assistance beyond the primary assistance provided by the TAC, the Restoration Administrator, in consultation with the TAC, shall obtain such technical assistance.

11. In order to achieve the Restoration Goal, the Restoration Administrator, in consultation with the TAC, shall as soon as possible, but not later than one year after the effective date of the Settlement, make recommendations to the Secretary regarding the following:

- a. stock selection, re-introduction strategies, and other significant decisions relating to reintroducing and managing spring run and fall run Chinook salmon below Friant Dam;
- b. appropriate use of existing and enhanced hatchery facilities and trap and haul for the sole purpose of accelerating the reintroduction of selfsustaining Chinook salmon fisheries below Friant Dam. Beyond the use of hatcheries and trap and haul to facilitate reintroduction, the Restoration Administrator shall only recommend the use of hatcheries and trap and haul for operations essential to protect fish populations from dropping below a level of low risk of extirpation;
- c. appropriate interim targets, goals and milestones for annual escapement of wild adult Chinook salmon, including interim targets designed to achieve continual population growth and the long-term population target

for spring and fall run Chinook salmon by 2025. Interim goals shall include objective criteria to prevent restored populations of wild salmon from dropping below a level of low risk for extirpation;

- d. appropriate long-term targets for annual escapement of wild adult Chinook salmon, which shall reflect the potential of the restored River to support robust populations of wild Chinook salmon; and
- e. coordination of releases from Friant Dam with fishery restoration actions on the Merced, Tuolumne, and Stanislaus Rivers.

EXHIBIT E

PROPOSED ORDER APPROVING STIPULATION OF SETTLEMENT

NRDC v. RODGERS

Case 2:88-cv-01658-LKK-GGH	Document 1341-1	Filed 09/13/2006	Page 73 of 80□
 HAMILTON CANDEE (SBN JARED W. HUFFMAN (SBN KATHERINE S. POOLE (SB) MICHAEL E. WALL (SBN 1 NATURAL RESOURCES DE 111 Sutter Street, 20th Floor San Francisco, CA 94104 Tel: (415) 875-6100; Fax: (4 Attorneys for Plaintiffs NRDC 	148669) N 195010) 70238) EFENSE COUNCIL 15) 875-6161		
 PHILIP F. ATKINS-PATTEN SHEPPARD MULLIN RICHT 4 Embarcadero Center, Suite 1 San Francisco, CA 94111 Tel: (415) 434-9100; Fax: (4 Attorneys for Plaintiffs NRDC FRED H. ALTSHULER (SBI SCOTT L. SHUCHART, pro ALTSHULER, BERZON, NU 177 Post Street, Suite 300 San Francisco, CA 94108 Tel: (415) 421-7151; Fax: (41) Attorneys for Plaintiff NRDC 	FER & HAMPTON, LLP 700 15) 434-3947 C et al. N 43878) hac vice (NY 4345617) ISSBAUM, RUBIN & DE	MAIN	
EOD TH	NITED STATES DISTRI E EASTERN DISTRICT		
 NATURAL RESOURCES DE Plaintiffs, Plaintiffs, v. KIRK RODGERS, as Regiona UNITED STATES BUREAU et al. Defendants, ORANGE COVE IRRIGATIO 	EFENSE COUNCIL, <i>et al.</i> al Director of the OF RECLAMATION,	 Case No. CIV-S-88-1658 I (PROPOSED) ORDER APPRO 	
Case No. Civ-S-88-1658 LKK/GGF	1		

1 Plaintiffs NRDC, et al. ("Plaintiffs"), defendants Kirk. Rodgers, et al. (the "Federal 2 Defendants"), and defendants-intervenors Orange Cove Irrigation District, et al. (the "Friant 3 Defendants") have jointly requested approval by this Court of a proposed settlement of this litigation 4 on the terms and conditions set forth in the Stipulation of Settlement (including Exhibits A - F thereto. 5 which are incorporated by reference as part of the Stipulation of Settlement). The Court, which has 6 presided over this complex case for the past 18 years and is intimately familiar with the issues and the 7 parties' positions with respect thereto, has carefully reviewed the Stipulation of Settlement, and the 8 arguments of counsel for the parties.

Accordingly,

9

IT IS HEREBY ORDERED, ADJUDGED AND DECREED that the Stipulation of
 Settlement, attached hereto as Exhibit 1 and incorporated herein by reference, be and hereby is
 approved.

IT IS FURTHER ORDERED, ADJUDGED AND DECREED that all obligations set
forth in the Stipulation of Settlement shall be performed in accordance with the terms of the
Stipulation of Settlement.

16 IT IS FURTHER ORDERED, ADJUDGED AND DECREED that this Court shall 17 retain jurisdiction, as provided in the Stipulation of Settlement, for purposes of resolving disputes that 18 may arise in connection with the interpretation of the Stipulation of Settlement or the implementation 19 of the settlement. This Court's continuing jurisdiction shall continue until the later of (i) July 1, 2026, 20 or (ii) a motion is brought pursuant to Paragraph 20 of the Stipulation of Settlement, and the matter is 21 finally resolved as provided therein. In the event that a party exercises its right under Paragraph 8 of 22 the Stipulation of Settlement prior to that date to declare the settlement provided therein void, the 23 Judgment shall be vacated, and the Court will convene a Status Conference.

IT IS FURTHER ORDERED, ADJUDGED AND DECREED that the Plaintiffs and
 the Friant Defendants are directed to meet and confer concerning the selection of the Restoration
 Administrator, as provided in the Stipulation of Settlement and Exhibit D thereto, and to submit a
 Proposed Order Appointing Restoration Administrator to the Court for approval as provided in the
 Stipulation of Settlement and Exhibit D thereto.

Case No. Civ-S-88-1658 LKK/GGH

1	IT IS FURTHER ORDERED, ADJUDGED AND DECREED that the
2	parties shall attempt to negotiate an award of Plaintiffs' reasonable attorneys' fees and
3	costs as provided in Paragraph 45 of the Stipulation of Settlement. To facilitate such negotiations,
4	and notwithstanding the time limit of Local Rule 54-292(b), Plaintiffs may file a Notice
5	of Motion and Motion for Attorneys' Fees and Costs within 30 days of the entry of the
6	Judgment in this action in order to meet the timeliness requirements of 28 U.S.C. §
7	2412(d)(1)(B) and Local Rule 54-293; provided, however, within 60 days thereafter, if
8	agreement has not been reached among the parties as to Plaintiffs' Motion for Fees and
9	Costs, then Plaintiffs shall file a brief and supporting materials addressing the remaining
10	requirements for a motion for attorneys' fees and costs as provided in Local Rules 54-293
11	and 54-292. The Federal Defendants and Friant Defendants may have 30 days following
12	service of Plaintiffs' brief and supporting materials to file papers in opposition, in whole
13	or in part, to Plaintiffs' Motion for Fees and Costs. Plaintiffs may file reply papers within
14	14 days of service of any opposition papers. Any amount of Plaintiffs' attorneys' fees and
15	costs not resolved by negotiations among the parties shall be determined by the Court
16	through a separate Order on Plaintiffs' Motion.
17	
18	
19	DATED:
20	THE HONORABLE LAWRENCE K. KARLTON SENIOR UNITED STATES DISTRICT JUDGE
21	
22	
23	
24	
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26	
27	
28	
	Case No. Civ-S-88-1658 LKK/GGH 2

EXHIBIT F

PROPOSED JUDGMENT

NRDC v. RODGERS

Case 2:8	8-cv-01658-LKK-GGH	Document 1341-1	Filed 09/13/2006	Page 77 of 80□
1	HAMILTON CANDEE (S			
2	JARED W. HUFFMAN (S KATHERINE S. POOLE	SBN 148669) (SBN 195010)		
	MICHAEL E. WALL (SB	N 170238)		
3	NATURAL RESOURCES	Floor	4	
4	San Francisco, CA 941 Tel: (415) 875-6100; F			
5	Attorneys for Plaintiffs I			
6	PHILIP F. ATKINS-PATT	ENSON (SBN 94901)		
7	SHEPPARD MULLIN RI	CHTER & HAMPTON,		
8	4 Embarcadero Center, San Francisco, CA 941			
9	Tel: (415) 434-9100; F	°ax: (415) 434-3947		
	Attorneys for Plaintiffs .	NKDC et al.		
10	FRED H. ALTSHULER	, ,	(17)	
11	SCOTT L. SHUCHART, ALTSHULER, BERZON			
12	177 Post Street, Suite 3	800		
13	San Francisco, CA 941 Tel: (415) 421-7151; Fa			
14	Attorneys for Plaintiff N	RDC		
15				
	1	UNITED STATES DIS ASTERN DISTRICT		
16		SACRAMENTO		
17	NATURAL RESOURCE	S DEFENSE		
18	COUNCIL, INC., et al.			
19	Plaintiffs		CV-S-88-1658 LKI	K/GGH
20				
21	vs.			
22	KIRK RODGERS, Regi	opal Director	[PROPOSED] JUD	SMENT
	UNITED STATES BUR	EAU OF	truer open open	
23	RECLAMATION, et al.			
24	Defendants.			
25				
26	ODANOD COME IDDIC	ATTON		
27	ORANGE COVE IRRIC DISTRICT, et al.,	ATION		
28				
	Defendants-Inte	erventors		
		-1-		
	[Proposed Judgment]	-1-		
	[Proposed Judgment]	-1-		

Case 2:8	8-cv-01658-LKK-GGH	Document 1341-1	Filed 09/13/2006	Page 78 of 80□
1	In accordance w	ith the Parties' Stipula	ation of Settlement a	nd the Court's
2	Order of this date appr			
3	that judgment is entere	ed in this case.		
4				
5				
6	Dated:	HON	. LAWRENCE K. KA	RITON
7		Senie	or United States Dis	trict Judge
8				
9				
10				
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18 19				
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22				
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24				
25				
26				
27				
28				
	[Proposed Judgment]	-2-		

Ca	se 2:88-cv-016	658-LKK-GGH	Document 1341-1	Filed 09/13/2006	Page 79 of 80□
10100	PROOF OF SERVICE				
1	I, Mary Ann Vitr				
2		I am a resident	f the State of California and over the age of eighteen years, and		
3	not a party to the within action Mall, Suite 1650, Sacramento, document(s): NOTICE OF LO		r; my business address is Best Best & Krieger LLP, 400 Capitol California 95814. On September 13, 2006, I served the within		
4			DGMENT OF STIPULATION OF SETTLEMENT		
5 6			via facsimile the document(s) listed above to the fax number(s) set nis date before 5:00 p.m.		
7 8	by placing the document(s) listed above in a sealed envelope with postage there fully prepaid, in the United States mail at Sacramento, California addressed as forth below.				
9 10			onal delivery by address(es) set forth be		t(s) listed above to the
11	by personally delivering the document(s) listed above to the person(s) at the address(es) set forth below.				
12 13	I caused such envelope to be delivered via overnight delivery addressed as indicated on the attached service list. Such envelope was deposited for delivery by following the firm's ordinary business practices.				
14	Via U.S. District Court, notice will be electronically mailed to:				
15 16	Fred H. Altsh	uler		perzon.com, tmason@a perzon.com, hmiller@a	
17	Philip F. Atkins-Pattenson		patkinspattenson@sheppardmullin.com		
18	J. Mark Atlas		jma@jmatlaslaw.com, matlas@mhalaw.com		
	Hamilton Candee		hcandee@nrdc.org, macaux@nrdc.org		
19 20	Ernest Albert Conant		econant@youngwooldridge.com, waterlaw@youngwooldridge.com		
21	Daniel M. Dooley		ddooley@dhlaw.net, mparten@dhlaw.net, apeltzer@dhlaw.net, ccarlson@dhlaw.net, jblack@dhlaw.net,vacosta@dhlaw.net		
22	Denslow Brooks Green		dengreen@sbcglobal.net		
23	Douglas Blaine Jensen		djb@bmjlaw.com		
	Jan Leslie Kahn		jkahn@kschanford.com, agarcia@kschanford.com		
24 25	Jeffrey A. Meith		jmeith@minasianlaw.com, j.meith@att.net, judy@minasianlaw.com, cmecf@minasianlaw.com		
26	Mark William Poole		mark.poole@doj.ca.gov		
27	Jon David Rubin		jrubin@diepenbrock.com, llawrie@diepenbrock.com, jonishi@diepenbrock.com		
28	Michael Victor Sexton		msexton@minasianlaw.com, cmecf@minasianlaw.com, anna@minasianlaw.com		
	SACRAMENTOUT	SACRAMENTO/JTHOMPSON/34585.1 NOTICE			

LAW OFFICES OF BEST BEST & KRIEGER 1LP 400 CAPITOL MALL, SUITE 1650 SACRAMENTO, CALIFORNIA 95814

1					
1	Lee N. Smith	Insmith@stoel.com, mmsykes@stoel.com, vlballew@stoel.com			
1	James E. Thompson	james.thompson@bbklaw.com, astrid.watterson@bbklaw.com, rebecca.lerma@bbklaw.com			
3	Gregory K. Wilkinson	gregory.wilkinson@bbklaw.com			
4	Jennifer Buckman	jennifer.buckman@bklaw.com			
	David B. Glazer	david.glazer@usdoj.gov, efile_sf.enrd@usdoj.com			
5	Clifford Thomas Lee	Cliff.Le@doj.ca.gov, Voneciel.Gaines@doj.ca.gov Stephen.Macfarlane@usdoj.gov, efile- sacramento.enrd@usdoj.com, deedee.sparks@usdoj.gov			
6	Stephen M. Macfarlane				
7	James A. Maysonett	James.A.Maysonett@usdoj.gov, Leatha.Johnson@usdoj.gov			
8	Leo Patrick O'Brien	leo@baykeeper.org			
9	Katherine Scott Poole	kpoole@nrdc.org			
10	Mark William Poole	mark.poole@doj.ca.gov			
	Richard Roos-Collins	rrcollins@n-h-i-org			
11 12	Daniel Joseph O'Hanlon	Dohanlon@kmtg.com, DGentry@kmtg.com, Calendar8@kmtg.com			
13	Gary William Sawyers	gsawyers@sawyerslaw.com			
	Danial Zackary Smith	zsmith@visalialaw.com			
14	Timothy O'Laughlin	towater@olaughlinparis.com			
15	William C. Paris	Bparis@olaughlinparis.com			
16	Notice will be delivered via first-class U.S. mail to: Dante John Nomellini, Jr.				
17	Nomellini Grilli & McDaniel				
18	P.O. Box 1461 Stockton, CA 95201-1461				
10	I am readily familiar with the firm's practice of collection and processing				

I am readily familiar with the firm's practice of collection and processing correspondence for mailing. Under that practice it would be deposited with the U.S. Postal Service on that same day with postage thereon fully prepaid in the ordinary course of business. I am aware that on motion of the party served, service is presumed invalid if postal cancellation date or postage meter date is more than one day after date of deposit for mailing in affidavit.

I declare that I am employed in the office of a member of the bar of this court at whose direction the service was made.

Executed on September 13, 2006

Mary Ann Vitry

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