					MULTI SF	PECIES CO	NSER	VATIO	N STRA	TEGY	MILEST	ONE 69	ROLLED U	JP SL	IMMARY	
			69 Develop and impler rant adult fish and downs	stream migrant juvenile	fish Battle Creek.	PROJECTS REVIEWED - ERP-96-M12, ERP-96-M25, ERP-97-M02, ERP-98-B16, ERP-99-B08, IMM-02-I01		and reconr construction passage. riparian, st steelhead being nego stewardshi	naissance for on was impler The other con reamside, an trout, and Par otiated. Educ ip projects.	fish ladders mented for an intracts provided in channel cific lamprey cational bene	s, screens, and dult upstream de for stewarr I aquatic habit A. Acquisition offits are assoc	dship planning an lats for Chinook s of conservation e ciated with some (nough no vnstream migrant id design of ialmon, easements is of the	WED	TO FORMULATE THE	ROLLED UP SUMMARY
_		96					CONT	TRACT						0		
MS Number	REGION	Project Type	Milestone	ERP Targets taken from ERPP Vol 2	MS Components or Questions for field personnel	ERP PROJECT	START DATE	END DATE	CALFED Award	Cost Share	Total Project Cost	Applicant	Principal Investigator	Quantifiable Units	Project Name	Comments
	SAC	SR	Develop and implement a solution to improve passage of upstream migrant adult fish and downstream migrant juvenile fish Battle Creek.	LINEF VOIZ	69 A. Status of the development of a solution to improve passage of upstream migrant adult fish and downstream migrant juvenile fish Battle Creek.	ERP-96-M25	May-97	Oct-99	50,000	50,000	100,000	Western Shasta Resource Conservation District	Richard Baumann		Battle Creek Watershed Management Strategy Project	Planning / Education; project completed. Harry Recter. DFG.
	SAC	SR			69 A. Status of the development of a solution to improve passage of upstream migrant adult fish and downstream migrant juvenile fish Battle Creek.	ERP-98-B16	Sep-98	Jul-04	395,000	0	395,000	U.S. Bureau of Reclamation	Carl Werder		Battle Creek Screens and Fish Passage (Reconnaissance Investigations)	Harry Rectenwald, DFG. Planning / Design; project com Non-CALFED funded projects contributing to milestones will be generated later.
	SAC	SR			69 A. Status of the development of a solution to improve passage of upstream migrant adult fish and downstream migrant juvenile fish Battle Creek.	IMM-02-I01	Mar-03	2	2,206,625	0	2,206,625	The Nature	Jake Jacobson		Battle Creek Protection and Stewardship	One of the project goals is to protect long-term sustainabil freshwater fish habitat that supports various life cycle stages of Lamprey, Chinook salmon and Steelhead trout by purcha conservation easements on over 6,800 acres of habitat lands. not completed, still negotiating on properties. One proper close in fall. Acquisition. Jake Jacobson, TNC
w	SAC				69 B. Status of the implementation of a solution to improve passage of upstream migrant adult fish and downstream migrant juvenile fish Battle Creek.			3				The Nature			Battle Creek Protection and Stewardship	One of the project goals is to protect long-term sustainabil freshwater fish habitat that supports various life cycle stages of Lamprey, Chinook salmon and Steelhead trout by purcha conservation easements on over 6,800 acres of habitat la Acquisition project not completed, still negotiating on pro
		75			69 B. Status of the	IMM-02-I01	Mar-03	?	2,206,625	0	2,206,625	Conservancy	Jake Jacobson		Battle Creek Chinook Salmon and	Project completed; planning for restoration and maintenant
	SACS	SR			implementation of a solution to improve passage of upstream migrant adult fish and downstream migrant juvenile fish Battle Creek.	ERP-96-M12	Jul-97	Apr-99	306,000	reduced 76,000	230,000	CDFG	Harry Rectenwald		Steelhead Restoration Study	riparian habitat. Harry Rectenwald, DFG

0 1,663,400

USBR

Carl Werder

Improve Upstream Ladder and Barrier Wier @ Coleman National Fish

Hatchery at Battle Creek

Project 70% complete; planning and design. Planning and designs are nearly complete. Harry Rectenwald, DFG

69 B. Status of the implementation of a solution to improve passage of upstream migrant adult fish and

downstream migrant juvenile fish Battle Creek.

ERP-99-B08 Dec-99 Oct-05 1,663,400

MS Number	REGION	Project Type	Milestone	ERP Targets taken from ERPP Vol 2	MS Components or Questions for field personnel	ERP PROJECT		END DATE	CALFED Award	Cost Share	Total Project Cost	Applicant	Principal Investigator	Quantifiable Units	Project Name	Comments
69	SAC	SR			69 B. Status of the implementation of a solution to improve passage of upstream migrant adult fish and downstream migrant juvenile fish Battle Creek.	ERP-97-M02	Jul-01	Jun-02	395,000	395,000	790,000	DWR Northern District	William Mendenhall		Battle Creek Screens and Fish Passage	Project completed; planning and design. Curtis Anderson, DWR
69	SAC				69 B. Status of the implementation of a solution to improve passage of upstream migrant adult fish and downstream migrant juvenile fish Battle Creek.	ERP-96-M25	May-97	Oct-99	50,000	50,000	100,000	Western Shasta Resource Conservation District	Richard Baumann		Battle Creek Watershed Management Strategy Project	Project completed; planning and education. Harry Rectenwald, DFG

					MULTI	SPECIES	CONSI	ERVAT	ION S	TRATE	GY MIL	ESTONE	70 ROLL	ED UF	PSUMMARY		
feas pas Old	ibilit sage Rive	y of e fac er-Fr	E 70 Evaluate the constructing fish illities at the Grays Bend reemont weir complex at nd of the Yolo Bypass.			PROJECTS REVIEWED -						arded to evaluate Bend-Old River	the feasibility of Freemont weir			AGENCY NOTES	NOTES CONT'D
			MULTI SPECIE	S CONSER\	/ATION STRATEG	Y MILESTO	ONE 70) EVA	LUATI	ION OF	INDIVI	DUAL PR	OJECTS R	EVIEV	WED TO FORMULATE 1	THE ROLLED UP SUMI	MARY
MS Number	REGION	Project Type	Milestone Evaluate the feasibility of constructing fish passage facilities at the Grays Bend-Old River-Freemont weir		MS Components or Questions for field personnel 70 A. Status of the evaluation of the feasibility of constructing fish passage facilities at the Grays Bend-	ERP PROJECT NUMBERS	START DATE	END DATE	CALFED Award	Cost Share	Total Project Cost	Applicant	Principal Investigator	Quantifiable Units	Project Name	Comme	nts
20	SAC	SR	complex at the upper end of the Yolo Bypass.		Old River-Freemont weir complex at the upper end of the Yolo Bypass.												

rogram to reduce or eliminate fish tranding in the Sacramento, feather and Yuba rivers and the colusa Basin drain and Sutter sypass in the active stream hannels, floodplains, shallow onds and borrow areas. Develop rotocols for ramping flow eductions. Conduct surveys of tranding under a range of flow onditions and recommend olutions.	PROJECTS REVIEWED - ERP-99-B27, ERP-99-N14, ERP-99-N17, ERP-02-P13, ERP-02-P47, AFRP-01-01	SUMMARY – No contracts were issued to develop flow reduction ramping plans, conduct stranding surveys over a range of flow conditions, or make recommendations to reduce fish stranding on the Sacramento or Feather Rivers or in the Sutter Bypass. The Colusa Basin Drain Watershed Program was funded to address riparian and floodplain restoration issues at selected sites and may reduce fish stranding, but is not a program to specifically target stranding or ramping of flows. Another watershed coordination program on the Yuba River might similarly address fish stranding issues, but the Narrows 2 project specifically addresses a fixed bypass flow that will maintain downstream flows at 3000 cfs in the lower Yuba River. Expectations were to reduce or eliminate fish stranding on each of the Sacramento, Feather, Yuba Rivers and the Colusa Basin Drain and Sutter Bypass by development of flow reduction ramping plans, conducting stranding surveys through a range of flow conditions, and making recommendations to reduce stranding.	AGENCY NOTES	NOTES CONT'D
		Only the Narrows 2 project specifically addresses fish stranding issues by constructing a bypass to allow a stable flow below the power plant. It is not known if a flow reduction ramping plan was developed or if stranding surveys and recommendations were developed.		

MULTI SPECIES CONSERVATION STRATEGY MILESTONE 71 -- EVALUATION OF INDIVIDUAL PROJECTS REVIEWED TO FORMULATE THE ROLLED UP SUMMARY

_		96					CONT	RACT						9		
MS Number	REGION	ct Type			MS Components or						Total			Quantifiable Units		
Z	9	Project '		ERP Targets taken	Questions for field	ERP PROJECT	START	END	CALFED		Project		Principal	uan nits		
ž	22	ď	Milestone	from ERPP Vol 2	personnel	NUMBERS	DATE	DATE	Award	Cost Share	Cost	Applicant	Investigator	ずう	Project Name	Comments
			Develop a program to reduce		71 A. Status of the										INFORM - Integrated Forecast and	The purpose of this project is to demonstrate, as well as quantify, the
			or eliminate fish stranding in		development of a program to										Reservoir Management Demonstration	improved efficiency of water management in California for hydropower
			the Sacramento, Feather and		reduce or eliminate fish										for Northern California Water	production, water supply and flood control through implementation of
			Yuba rivers and the Colusa		stranding in the Sacramento River in the active stream										Resources	an integrated management system for reservoir operation that
			Basin drain and Sutter Bypass in the active stream channels.		channels, floodplains, shallow											incorporates global climate model forecasts. May contribute to temperature management problems. <i>Konstatine Georgakakos</i> ,
			floodplains, shallow ponds and		ponds and borrow areas											Hydrological Research Center. Planning/Research. Project is
			borrow areas. Develop		porios and borrow areas											20% complete.
			protocols for ramping flow													20% complete.
			reductions. Conduct surveys													
			of stranding under a range of													
			flow conditions and									Hydrologic				
١_	SAC	S	recommend solutions.									Research	Konstantine			
7	Ŋ	ଊ			71.0.01.1.611	ERP-02-P13	Oct-02	Sep-05	600,000	400,000	1,000,000	Center	Georgakakos		INFORM 1.1	T1
					71 B. Status of the development of a program to										INFORM - Integrated Forecast and Reservoir Management Demonstration	The purpose of this project is to demonstrate, as well as quantify, the improved efficiency of water management in California for hydropower
					reduce or eliminate fish										for Northern California Water	production, water supply and flood control through implementation of
					stranding in the Feather River										Resources	an integrated management system for reservoir operation that
					in the active stream channels.										Resources	incorporates global climate model forecasts. May contribute to
					floodplains, shallow ponds and											temperature management problems. Konstatine Georgakakos,
					borrow areas											Hydrological Research Center. Planning/Research. Project is
	4.											Hydrologic	Konstantine			20% complete.
7	SAC	SR				ERP-02-P13	Oct-02	Sep-05	600.000	400.000	1.000.000	Research Center	Georgakakos			·
_	0	3)			71 C. Status of the	LINE-02-F 13	OCI-02	3ep-03	000,000	400,000	1,000,000	Center	Georgananus		Yuba Watershed Council:	Project is to request funding for a watershed coordinator position,
					development of a program to										Collaborative Approach	including the materials, equipment, and office space necessary to
					reduce or eliminate fish											administer and coordinate the efforts of the Yuba Watershed Council.
					stranding in the Yuba River in							Yuba				The role of the watershed coordinator is to provide coordination and
					the active stream channels,							Watershed				assistance, adaptive management and monitoring, education a
					floodplains, shallow ponds and							Council/Nevad				outreach, and continuity and program oversight of current and future
					borrow areas							a County	Ron Zinke, Cara			watershed projects. May contribute to various Yuba River (EMU)
												Resource	Wasilewski, also			milestones. John Van Derveen, Yuba Watershed Council.
	SAC	~										Conservation	John Van Der			Implementation. Project completed.
71	ď	SR				ERP-99-N17	Jun-00	Jun-03	142,618	0	142,618	District	Veen			

	1		<u> </u>		1	1	ı		ı				I			T
à		, be					CONT	RACT						ole		
MS Nimber	S	Project Type			MS Components or						Total			Quantifiable Units		
Z Z	REGION	roje	Milestene	ERP Targets taken	Questions for field	ERP PROJECT	START	END	CALFED	0 10	Project	A !! 4	Principal	uan	Davis of Name	0
2	<u> </u>	-	Milestone	from ERPP Vol 2	personnel 71 C. Status of the	NUMBERS	DATE	DATE	Award	Cost Share	Cost	Applicant	Investigator	05	Project Name Narrows 2 Hydro Power Plant Flow	Comments The Narrows 2 powerplant on the Yuba River just downstream of
					development of a program to										Bypass System Design	Englebright Dam. Under existing conditions, anadromous fish in the
					reduce or eliminate fish stranding in the Yuba River in											lower Yuba River can be adversely affected by normal maintenance, emergency operations, and catastrophic failure of the Narrows 2
					the active stream channels,											powerplant or PG&E transmission system. Potential impacts include
					floodplains, shallow ponds and											stranding of juveniles, dewatering of redds, and thermal stress caused
					borrow areas											by increased river temperatures. Yuba County Water Agency is requesting funding for final engineering design work for a proposed
																flow bypass system for the Narrows 2 hydroelectric powerplant. The
																objective is to provide a means of maintaining uninterrupted releases from the Narrows 2 powerplant during temporary or sustained
																transmission or plant malfunctions for flows up to 3,000 cfs, and, thus,
																eliminate or substantially reduce flow fluctuations and associated biological impacts caused by scheduled and unscheduled outages of
																the Narrows 2 powerplant. DFG: Ian Drury. Project is 50% complete
	ړي											Yuba County				- working on designs and permits.
74	SAC	SR			74.0.04-4	AFRP-01-01			299,606	109,568	409,174	Water Agency	Curt Aikens		INISODM Internated Secretary	
					71 C. Status of the development of a program to										INFORM - Integrated Forecast and Reservoir Management Demonstration	The purpose of this project is to demonstrate, as well as quantify, the improved efficiency of water management in California for hydropower
					reduce or eliminate fish										for Northern California Water	production, water supply and flood control through implementation of
					stranding in the Yuba River in the active stream channels,										Resources	an integrated management system for reservoir operation that incorporates global climate model forecasts. May contribute to
					floodplains, shallow ponds and											temperature management problems. Konstatine Georgakakos,
	0				borrow areas							Hydrologic Research	Konstantine			Hydrological Research Center. Planning/Research. Project is 20% complete.
7	SAC	SR				ERP-02-P13	Oct-02	Sep-05	600,000	400,000	1,000,000	Center	Georgakakos			·
					71 C. Status of the development of a program to										Narrows 2 Powerplant Flow Bypass System	Project will construct a 3,000-cfs bypass system to maintain stable releases and water temperatures in the lower Yuba River during
					reduce or eliminate fish										o you	emergency and maintenance shutdowns of the Narrows 2 Powerplant.
					stranding in the Yuba River in the active stream channels,											This project will improve flow management to reduce or eliminate fish stranding in active stream channels and floodplains. <i>John Nelson</i> ,
					floodplains, shallow ponds and											DFG. Implementation. Construct a 3,000 cfs bypass system to
					borrow areas											maintain stable releases and water temperature on the Lower Yuba River. 50 percent complete. Construction in progress.
1	SAC	SR				ERP-02-P47	Jul-03	Jun-06	4.280.600	0	4.280.600	Yuba County Water Agency	Curt Aikens			, , , , , , , , , , , , , , , , , , , ,
_	- 65	- 0			71 D. Status of the	ERF-02-F41	Jui-03	Juli-06	4,260,000	- 0	4,200,000	water Agency	Curt Aikeris		Colusa Basin Watershed Project	The Colusa Basin Drain Watershed project will serve as a project that
					development of a program to reduce or eliminate fish											assists private landowners in addressing non-pint source pollution, flood control issues, exotic invasive weeds, and reactivating important
					stranding in the Colusa Basin											ecological processes and functions of riparian corridors. The project
					Drain in the active stream channels, floodplains, shallow											will consist of 6 to 12 selected sites, which will implement riparian enhancement and other restoration practices. <i>Patti A. Turner</i> ,
					ponds and borrow areas											Colusa County Resource Conservation District. Implementation;
												Caluan				75 percent complete. Six sites are done. Monitoring and restoration of 600,000 acres. Land owners,NCRS, and Colusa
												Colusa Resource				Basin Drainage funded restoration projects.
7	SAC	SR				ERP-99-N14	lun 01	May 04	492,500	191,000	692 500	Conservation	Christopher Bose			
F	<u>υ</u>	- v			71 D. Status of the	ERF-99-IN 14	Jun-01	May-04	492,500	181,000	683,500	District	Christopher Rose		Watershed Educational Training	Contributes to monitoring and restoration efforts along the Colusa
					development of a program to reduce or eliminate fish											Basin. The Watershed Educational Training (WET) project revolves around the use of EnviroScape interactive watershed models to teach
					stranding in the Colusa Basin											the importance of how the public's actions can have both positive and
					Drain in the active stream channels, floodplains, shallow											adverse effects on the watershed ecosystem. Patti A. Turner, Colusa County Resource Conservation District. Educational;
					ponds and borrow areas											project completed. Colusa County Resource Conservation
												Colusa County Resource				District funded an educational project on Best Management Practices for Non Point Source Pollution.
	SAC	~										Conservation				Fractices for Non-Fount Source Foliation.
71	Ś	R			71 E. Status of the	ERP-99-B27	Oct-99	3/9/03	13,000	7,686	20,686	District	Patti Ann Turner			
					development of a program to											
					reduce or eliminate fish stranding in the Sutter Bypass											
					in the active stream channels,											
	Q				floodplains, shallow ponds and borrow areas											
7	SAC	SR														

Γ.		ē					CONT	RACT								
MS Number	REGION	Project Typ	Milestone	ERP Targets taken from ERPP Vol 2	personnel	ERP PROJECT NUMBERS	START DATE	END DATE	CALFED Award	Cost Share	Total Project Cost	Applicant	Principal Investigator	Quantifiabl Units	Project Name	Comments
_	AC	SR			71 F. Status of developing protocols for ramping flow											
74	SACS	S			reductions. 71 G. Status of conducting surveys of stranding under a range of flow conditions and recommended solutions.											

MULTI SPECIES CONSERVATION STRATEGY MILESTONE 72 -- ROLLED UP SUMMARY

MILESTONE 72 -- Install positive barrier fish screens on all diversions greater than 250 cfs in all EMZs and 25% of all smaller unscreened diversions in the Sacramento River Basin. Among those diversions to be screened are the DWR Pumping Plants and 50% of small diversion located M23, ERP-97-C01, ERP-97-C02, screened, leaving us 145 screens short of the 25% target. Tracy Mitigation funds studied on east side of Sutter Bypass, the Bella Vista diversion in the upper Sacramento River near Redding, East West Diversion Weir, Weir 5, Weir 3, Guisti Weir and Weir 1 in the Sutter Bypass, White Mallard Dam, Morton Weir, Drivers Cut Outfall and Colusa Shooting/Tarke Weir Outfall and associated diversion screens in the Butte Sink..

95-M02. ERP-95-M05. ERP-96-B01, ERP-98-B02, ERP-98-B03, 98-B24, ERP-98-B26, ERP-98-B28, ERP-98-B29, ERP-98-N01, ERP-99-B03, ERP-99-N01, ERP-00-B01, ERP-00-B02, ERP-00-R01, ERP-01-N51, ERP-01-N52, ERP-01-N53, ERP-01-N55, ERP-01-N60, ERP-02-P08D, ERP-02-P09D, ERP-02-P10D, ERP-02-P15, FRP-02-P24, FRP-98-R01, CVPIA-02-V02. AFRP-00-19

PROJECTS REVIEWED - ERP- SUMMARY -- Several projects were funded by CALFED, AFRP, or other funds to M04, ERP-96-M05, ERP-96-M07, plan, permit, design, construct, or repair fish screens in the Sacramento River Basin. Of ERP-96-M17, ERP-96-M19, ERP- 38 diversions > 250cfs, 21 (55%) have been screened leaving 17 (45%) to be screened. 96-M21, ERP-96-M22, ERP-96- There are 903 smaller unscreened diversions in the Basin and 85 (9%) have been ERP-97-C04A, ERP-97-M02, ERP 97-M03, ERP-97-M04, ERP-98-design and engineered plans for 2 of the 3 DWR Pumping Plants. DWR funded the design and engineering of the third plant. Construction and permit funds are needed to ERP-98-B16, ERP-98-B22, ERP- screen the 3DWR Plants. The task of screening 50% of the 95 small diversions located on east side of Sutter Bypass, the Bella Vista diversion in the upper Sacramento River near Redding, East West Diversion Weir, Weir 5, Weir 3, Guisti Weir and Weir 1 in the Sutter Bypass, White Mallard Dam, Morton Weir, Drivers Cut Outfall and Colusa Shooting/Tarke Weir Outfall and associated diversion screens in the Butte Sink has not been addressed - none were screened except Weir 5.

AGENCY NOTES --

NOTES CONT'D --

MULTI SPECIES CONSERVATION STRATEGY MILESTONE 72 -- EVALUATION OF INDIVIDUAL PROJECTS REVIEWED TO FORMULATE THE ROLLED UP SUMMARY

<u>.</u>		9					CONT	RACT						9		
MS Number	z	Project Type												fiab		
ΙĒ	REGION	ect		FDD T4- 4-1	MS Components or	EDD DDG IEGE	START	END			Tatal Busines		Dulas almad	Quantifia Units		
2	l iii	ō	Milestone	ERP Targets taken from ERPP Vol 2	Questions for field personnel	ERP PROJECT NUMBERS	DATE	DATE	CALFED Award	Cost Share	Total Project Cost	Applicant	Principal Investigator	ni ≌	Project Name	Comments
_	Œ	-	Install positive barrier fish	ITOIII ERPP VOI 2	72 A. Status of the Installation	NUMBERS	DATE	DATE	Awaru	Cost Snare	Cost	Applicant	investigator	כט	Durham Mutual Fish Screen and Fish	Project completed. Installed ladder and fish screens on Butte
			screens on all diversions		of positive barrier fish screens										Ladder Project	Creek. Paul Ward, DFG
			greater than 250 cfs in all		on all diversions greater than										Ladder Project	Creek. Paul Ward, DFG
			EMZs and 25% of all smaller		250 cfs in all EMZs and 25%											
			unscreened diversions in the		of all smaller unscreened											
			Sacramento River Basin.		diversions in the Sacramento											
			Among those diversions to be		River Basin. Among those											
			screened are the DWR		diversions to be screened are											
			Pumping Plants and 50% of		the DWR Pumping Plants and											
			small diversion located on east		50% of small diversion located											
			side of Sutter Bypass, the		on east side of Sutter Bypass,											
			Bella Vista diversion in the		the Bella Vista diversion in the											
			upper Sacramento River near		upper Sacramento River near											
			Redding, East West Diversion		Redding, East West Diversion											
			Weir, Weir 5, Weir 3, Guisti		Weir, Weir 5, Weir 3, Guisti											
			Weir and Weir 1 in the Sutter		Weir and Weir 1 in the Sutter											
			Bypass, White Mallard Dam,		Bypass, White Mallard Dam,											
			Morton Weir, Drivers Cut		Morton Weir, Drivers Cut											
			Outfall and Colusa		Outfall and Colusa											
			Shooting/Tarke Weir Outfall		Shooting/Tarke Weir Outfall											
			and associated diversion		and associated diversion											
	မှ	SS	screens in the Butte Sink.		screens in the Butte Sink							Durham Mutual				
12	Ŋ	Ø				ERP-95-M02	Jul-97	Dec-97	316,500	591,251	907,751	Water Co.	Dale Nelson			
					72 A. Status of the Installation										Mand T / Parrot Pumping Station and	Project relocated and screened a 130 cfs pump. Project
					of positive barrier fish screens										Fish Screen Project (Relocation and	completed. James Well, Ducks Unlimited
1		1			on all diversions greater than	ĺ									Construction)	
					250 cfs in all EMZs and 25% of all smaller unscreened											
1					diversions in the Sacramento	ĺ										
1					River Basin.	ĺ						Ducks				
72	ΙĂ	SR			INVEL DASIII.	ERP-95-M05	Feb-97	Dec-97	1,610,000	260.000	1.870.000	Unlimited	James Well			
_	(O	(O				□KF-90-W05	Feb-97	Dec-97	1,010,000	200,000	1,010,000	Jillillilled	Jailles Well			

er		Туре					CONT	RACT						ple		
MS Number	REGION	Project T	Milestone	ERP Targets taken from ERPP Vol 2	MS Components or Questions for field personnel	ERP PROJECT NUMBERS	START DATE	END DATE	CALFED Award	Cost Share	Total Project Cost	Applicant	Principal Investigator	Quantifiable Units	Project Name	Comments
72	SAC	SR			72 A. Status of the Installation of positive barrier fish screens on all diversions greater than 250 cfs in all EMZs and 25% of all smaller unscreened diversions in the Sacramento River Basin.	ERP-96-M04	Oct-96	Dec-97	75,000	162,980	237.980	Reclamation District 1004	Jack Baber		Princeton Pumping Plant Fish Barriers- Feasibility Study Phase 1	Project completed, Planning and feasibility. Jack Baber, Reclamation District 1004, Reclamation District 1004
72	Ų				72 A. Status of the Installation of positive barrier fish screens on all diversions greater than 250 cfs in all EMZs and 25% of all smaller unscreened diversions in the Sacramento River Basin.	ERP-96-M05	Sep-96	Apr-97	75,000	75,000	150,000	Princeton - Codora - Glenn and Provident Irrigation District	Lance Boyd		Sacramento River Princeton - Codora - Glenn Irrigation District Fish Screen Phase 1	Project completed. Planning phase. Lance Boyd
72	ပ				72 A. Status of the Installation of positive barrier fish screens on all diversions greater than 250 cfs in all EMZs and 25% of all smaller unscreened diversions in the Sacramento River Basin.	ERP-96-M07		not sure	5,500,000	5,881,213	11,381,213	Princeton - Codora - Glenn and Provident Irrigation District	Lance Boyd		Sacramento River Princeton - Codora - Glenn Irrigation District Pumping Station and Fish Screen Phase 2	Project completed. This project installed fish screens on three pump sites in the Sacramento River. Lance Boyd
72	v				72 A. Status of the Installation of positive barrier fish screens on all diversions greater than 250 cfs in all EMZs and 25% of all smaller unscreened diversions in the Sacramento River Basin.	ERP-96-M17	Mar-98	Dec-98	114,750	191,250	306,000	Browns Valley Irrigation District	Robert Winchester		Browns Valley Irrigation District Fish Screen Project	Project completed. Installed fish screens on Browns Valley Diversion in the Yuba River. Ian Drury, DFG
72	O.				72 A. Status of the Installation of positive barrier fish screens on all diversions greater than 250 cfs in all EMZs and 25% of all smaller unscreened diversions in the Sacramento River Basin.							Reclamation			Wilkins Slough Fish Screen Project PHASE 2 (Feasibility Study and Preliminary Design)	Project completed. Luther Hintz, Rec District 108
72 7	Ŋ.				72 A. Status of the Installation of positive barrier fish screens on all diversions greater than 250 cfs in all EMZs and 25% of all smaller unscreened diversions in the Sacramento River Basin.	ERP-96-M19 ERP-96-M21	Mar-97 May-98	Jun-97 Jun-98	70,304	116,300 50,000	216,300 120,304	Rancho Esquon Partners	Luther Hintz Rick Ponciano		Adams Dam Fish Ladder and Screen Feasibility Study	Project completed. Planning and design phase. Paul Ward, DFG
.2	3AC	SR			72 A. Status of the Installation of positive barrier fish screens on all diversions greater than 250 cfs in all EMZs and 25% of all smaller unscreened diversions in the Sacramento River Basin.	ERP-96-M22	2	?	67.990	56,500	124,490	Gorrill Land Co.	Don Heffren		The Gorrill Dam Fish Screen and Fish Ladder Project	Project completed: planning, feasibility and design. Tracy Pumps funded one phase of this project. Paul Ward, DFG
72 7	O.				72 A. Status of the Installation of positive barrier fish screens on all diversions greater than 250 cfs in all EMZs and 25% of all smaller unscreened diversions in the Sacramento River Basin.	ERP-96-M22	, Jan-97		90,000	0		Buell and	James W. Buell		Hydraulic and Biological Performance Testing of an Innovative Fish Screen for Small Unscreened Diversions	(< 50 cfs) unscreened diversions 2 foot wide with 0.5mm clear openings. <i>Project completed, Planning</i>

er		/be					CONT	RACT						ole		
MS Number	REGION	Project Type	Milestone	ERP Targets taken from ERPP Vol 2	MS Components or Questions for field personnel	ERP PROJECT	START DATE	END DATE	CALFED Award	Cost Share	Total Project Cost	Applicant	Principal Investigator	Quantifiable Units	Project Name	Comments
72	c				72 A. Status of the Installation of positive barrier fish screens on all diversions greater than 250 cfs in all EMZs and 25% of all smaller unscreened diversions in the Sacramento River Basin.	ERP-97-C01	Jul-98	Dec-99	2,500,000	7,872,000	10,372,000	Reclamation	Luther Hintz		Wilkins Slough Pumping Plant Fish Screen Project	Installation of an 810 cfs pumping plant with fish screens. Project completed, Implementation
72	Ų				72 A. Status of the Installation of positive barrier fish screens on all diversions greater than 250 cfs in all EMZs and 25% of all smaller unscreened diversions in the Sacramento River Basin.	ERP-97-C02	Sep-98	Jun-99	1,750,000	5,350,000	7,100,000	Reclamation District 1004	Jack Baber		Princeton Pumping Plant Fish Screen Project (construction phase)	Installation of fish screens on a pumping plant in the Sacramento River. Project completed, Implementation
	c				72 A. Status of the Installation of positive barrier fish screens on all diversions greater than 250 cfs in all EMZs and 25% of all smaller unscreened diversions in the Sacramento River Basin.	ERP-97-C04A	Sep-98	Feb-02	374.850	0	374.850	CDFG	Phil Warner		Selected Fish Screens on the Sacramento River and Tributaries	Cal Crawford, DFG. Implementation; project complete. Selected Fish Screens on Sacramento River and Tributaries. The project constructed or upgraded 14 fish screens smaller unscreened diversions and one fishway, in the Sacramento River Basin.
72	S				72 A. Status of the Installation of positive barrier fish screens on all diversions greater than 250 cfs in all EMZs and 25% of all smaller unscreened diversions in the Sacramento River Basin.	ERP-97-M02	Jul-01	Jun-02	395,000	395,000	790,000	DWR Northern	William Mendenhall		Battle Creek Screens and Fish Passage	Curtis Anderson, DWR. Project completed, Planning and Design
72	c				72 A. Status of the Installation of positive barrier fish screens on all diversions greater than 250 cfs in all EMZs and 25% of all smaller unscreened diversions in the Sacramento River Basin.							Rancho Esquon			Adams Ladder and Screen Construction	Construction of a fish ladder and fish screens on Adams Dam. Paul Ward, DFG, Project completed, Implementation. Tracy Pumps funded the preliminary engineering phase of this project.
72	C				72 A. Status of the Installation of positive barrier fish screens on all diversions greater than 250 cfs in all EMZs and 25% of all smaller unscreened diversions in the Sacramento River Basin.	ERP-97-M04 ERP-99-B03	Jul-98 Aug-99	Nov-99 Apr-01	216,892 5,100,000	679,192 5,100,000	896,084 10,200,000	Anderson Cottonwood Irrigation District	Rick Ponciano Dee E. Swearingen		Anderson - Cottonwood Irrigation District Fish Passage and Screen Phase 3	Installation of fish screens and monitor how effective they are. Project completed, Implementation and Monitoring
		SR			72 A. Status of the Installation of positive barrier fish screens on all diversions greater than 250 cfs in all EMZs and 25% of all smaller unscreened diversions in the Sacramento River Basin.	ERP-98-B01	Jun-98	Aug-99	49.000	0	49.000	Borcalli and	Francis E. Borcalli P.E.		Richter Brothers Screen Phase I	Positive barrier fish screen. Henry, Mark and David Richter, Owners. Project completed, planning
7.	C				72 A. Status of the Installation of positive barrier fish screens on all diversions greater than 250 cfs in all EMZs and 25% of all smaller unscreened diversions in the Sacramento River Basin.	ERP-98-B02	Aug-98	ŭ	15,000	0	49,000 15,000	Boeger Family Farms	Matt Boeger		Boeger Family Farms Screen Feasibility Study Phase 1	Phase 1 is to determine which screen is effective. <i>Project</i> completed, planning.

		0					CONT	RACT								
MS Number	z	Type					30.11	10.01						Quantifiable Units		
N	REGION	Project '		ERP Targets taken	MS Components or Questions for field	ERP PROJECT	START	END	CALFED		Total Project		Principal	antif		
ΣW	Æ	Pro	Milestone	from ERPP Vol 2	personnel	NUMBERS	DATE	DATE	Award	Cost Share	Cost	Applicant	Investigator	85	Project Name	Comments
					72 A. Status of the Installation of positive barrier fish screens										Anderson - Cottonwood Irrigation District Fish Passage and Screen	Planning and Design, project completed.
					on all diversions greater than										District Figure 4 and Corosin	
					250 cfs in all EMZs and 25% of all smaller unscreened							Anderson -				
					diversions in the Sacramento							Cottonwood				
72	SAC	SR			River Basin.	ERP-98-B03	A 00	Mar-99	325,000	0	325,000	Irrigation District	Dee E. Swearingen			
_	S	S			72 A. Status of the Installation	ERP-96-B03	Aug-98	Mai-99	325,000	U	323,000	DISTRICT	Swearingen		Battle Creek Screens and Fish	Harry Rectenwald, DFG. Planning / Design; project completed.
					of positive barrier fish screens										Passage (Reconnaissance	
					on all diversions greater than 250 cfs in all EMZs and 25%										Investigations)	
					of all smaller unscreened											
	6				diversions in the Sacramento River Basin.							U.S. Bureau of				
72	SAC	SR				ERP-98-B16	Sep-98	Jul-04	395,000	0	395,000	Reclamation	Carl Werder			
					72 A. Status of the Installation of positive barrier fish screens										Fish Passage Improvement at the Red Bluff Diversion Dam	Planning / Feasibility; project completed.
					on all diversions greater than										Biuli Diversion Dam	
					250 cfs in all EMZs and 25%											
					of all smaller unscreened diversions in the Sacramento							Tehama -				
	SAC	SR			River Basin.							Colusa Canal				
72	Ø	S			72 A. Status of the Installation	ERP-98-B22	Dec-99	Feb-00	340,164	39,100	379,264	Authority	Arthur R. Bullock		Anderson - Cottonwood Irrigation	Planning , Permitting ,and Design, project completed.
					of positive barrier fish screens										District Fish Passage and Fish Screen	3, 1 3, 1 13, 7
					on all diversions greater than 250 cfs in all EMZs and 25%										Improvement Project Phase II Final Design	
					of all smaller unscreened							Anderson -			Besign	
					diversions in the Sacramento River Basin.					reduced by		Cottonwood Irrigation	Dee E.			
72	SAC	SR			River basin.	ERP-98-B24	Feb-99	Oct-99	860,000	19,240.65	840,759	District	Swearingen			
					72 A. Status of the Installation of positive barrier fish screens										Boeger Family Farms Fish Screen Phase 2	15-18 cfs pump was screened. Project completed, implementation.
					on all diversions greater than										Filase 2	implementation .
					250 cfs in all EMZs and 25%											
					of all smaller unscreened diversions in the Sacramento											
	SAC	SR			River Basin.							Boeger Family				
72	Ś	S			72 A. Status of the Installation	ERP-98-B26	Mar-99	Jan-04	139,500	0	139,500	Farms	Matt Boeger		City of Sacramento Fish Screen	Project completed, planning
					of positive barrier fish screens										Replacement Project Phase 2	, , , , , , , , , , , , , , , , , , ,
					on all diversions greater than 250 cfs in all EMZs and 25%											
					of all smaller unscreened											
					diversions in the Sacramento River Basin.							City of				
72	SAC	SR			River basin.	ERP-98-B28	Jul-99	Sep-00	654,500	1,310,000	1,964,500	City of Sacramento	Gary E. Gosse			
					72 A. Status of the Installation of positive barrier fish screens										American Basin Fish Screen and	Project completed, planning
					on all diversions greater than										Habitat Improvement Project (Feasibility)	
					250 cfs in all EMZs and 25%										, , , , , , , , , , , , , , , , , , , ,	
1					of all smaller unscreened diversions in the Sacramento							Natomas				
 	SAC	~			River Basin.							Mutual Water				
72	δ	ŝ			72 A. Status of the Installation	ERP-98-B29	Sep-99	Jun-02	200,000	250,000	450,000	Company	Peter J. Hughes		Anderson - Cottonwood Irrigation	No description
					of positive barrier fish screens										District Fish Passage Improvement	Tto doscription
1					on all diversions greater than 250 cfs in all EMZs and 25%										Project	
					of all smaller unscreened							Anderson -				
					diversions in the Sacramento							Cottonwood	Do- F			
22	SAC	SR			River Basin.	ERP-99-N01	Jun-01	Dec-05	5,100,000	0	5,100,000	Irrigation District	Dee E. Swearingen			
_	, 0,	,	1		1	LIN 00-1101	0011-01	D00-00	0,100,000		0,100,000	Diotrict	Officialingen		1	l .

		ø					CONT	DACT						_		
MS Number	_	Туре					CONT	KACI						Quantifiable Units		
M	REGION	Project		EBB Targete taken	MS Components or Questions for field	ERP PROJECT	START	END	041.550		Total Project		Principal	intif		
SE SE	REG	Proj	Milestone	ERP Targets taken from ERPP Vol 2	personnel	NUMBERS	DATE	DATE	CALFED Award	Cost Share	Cost	Applicant	Investigator	O nit	Project Name	Comments
					72 A. Status of the Installation										City of Sacramento Intake Fish Screen	Replaced two fish screens. Implementation; project completed.
					of positive barrier fish screens on all diversions greater than										Replacement Project	
					250 cfs in all EMZs and 25%											
					of all smaller unscreened		Spring of					City of				
	ပ				diversions in the Sacramento River Basin.		2001 (proposed					Sacramento Department of				
72	SAC	SR				ERP-01-N51	`` ')	?	47,220,001	0	47,220,001	Utilities	Gary E. Gosse			
					72 A. Status of the Installation of positive barrier fish screens										Reclamation District 2035 Fish Screen Design and Environmental Review	Regina Cherovsky, Reclamation District 2035. Planning, Design, Environmental Permitting; 75 percent complete. Waiting on
					on all diversions greater than										Joseph and Environmental Novich	permits.
					250 cfs in all EMZs and 25% of all smaller unscreened											
					diversions in the Sacramento											
	SAC	SR			River Basin.					_		Reclamation				
72	S	S		+	72 A. Status of the Installation	ERP-01-N55	Oct-01	Dec-03	1,384,000	0	1,384,000	District 2035	James Staker		American Basin Fish Screen and	Planning and Design; 60 percent done.
					of positive barrier fish screens										Habitat Improvement Project Phase III	, ramming and zooign, to percont donor
					on all diversions greater than 250 cfs in all EMZs and 25%											
					of all smaller unscreened											
					diversions in the Sacramento							Natomas				
72	SAC	SR			River Basin.	ERP-01-N60	Nov-01	Jun-04	950,000	950,000	1,900,000	Mutual Water Company	Peter J. Hughes			
<u> </u>	٠,				72 A. Status of the Installation	214 011100	1101 01	0011 01	000,000	000,000	1,000,000	Company	1 otor or riagnos		Reclamation District 2035 Fish Screen	Regina Cherovsky, Reclamation District 2035. Planning, Design,
					of positive barrier fish screens on all diversions greater than											Environmental Permitting; 75 percent complete. Waiting on permits. Planning / Feasibility; project completed.
					250 cfs in all EMZs and 25%											permits. Training / Teasibility, project completed.
					of all smaller unscreened											
	ပ				diversions in the Sacramento River Basin.							Reclamation				
72	SAC	SR				ERP-98-N01	Mar-99	Feb-00	100,000	0	100,000	District 2035	James Staker			
					72 A. Status of the Installation of positive barrier fish screens										M and T / Llano Seco Fish Screen Facility Short Term / Long Term	Pump has changed the course of the river and created a gravel bar near the pumping station. <i>Planning, Research and Design; project</i>
					on all diversions greater than										Protection	is 50 percent complete.
					250 cfs in all EMZs and 25%											
					of all smaller unscreened diversions in the Sacramento											
١.,	SAC	~			River Basin.							Ducks				
72	Š	SR			72 A. Status of the Installation	ERP-02-P08D	Jul-03	Jun-06	636,000	0	636,000	Unlimited	Olen Zirkle		Reclamation District 108 Consolidated	Planning and Design; 60 percent complete.
					of positive barrier fish screens										Pumping Facility and Fish Screen	g and 200.g., so person complete.
					on all diversions greater than											
					250 cfs in all EMZs and 25% of all smaller unscreened											
					diversions in the Sacramento											
72	SAC	SR			River Basin.	ERP-02-P10D	Jul-03	Jun-04	630,000	630,000	1,250,000	Reclamation District 108	Luther Hintz			
	3,	3,			72 A. Status of the Installation	210 02-1 100		5411-0 1	333,000	000,000	1,200,000	District 100	Edition Things		American Basin Fish Screen and	Removal of a diversion dam. Removal of a diversion dam and
					of positive barrier fish screens										Habitat Improvement Project; Phase I	pumps from the Natomas cross canal. Also, consolidate five
					on all diversions greater than 250 cfs in all EMZs and 25%										and II	pumps to two on the Sacramento river and screen them. Implementation; 40 percent done.
					of all smaller unscreened											, , , , , , , , , , , , , , , , , , , ,
1	O				diversions in the Sacramento River Basin.							Natomas Mutual Water				
72	SAC	SR				ERP-02-P09D	Jul-03	Jun-06	12,600,000	12,600,000	25,200,000	Co.	Peter J. Hughes			
					72 A. Status of the Installation of positive barrier fish screens										Meridian Farms Water Company Positive Barrier Fish Screen Project	Planning; project just started up (not completed).
					on all diversions greater than										1 Ositive Damer 1 ISH Screen F10Ject	
					250 cfs in all EMZs and 25%											
					of all smaller unscreened diversions in the Sacramento							Meridian				
l	SAC	~			River Basin.							Farms Water				
72	ŝ	SR				ERP-02-P15	Jul-03	Jun-04	750,000	300,000	1,050,000	Co.	Harold Webster	1		

	T	1				1										
<u>-</u>		be					CONT	RACT						9		
MS Number	z	Project Type			MS Components or									Quantifiable Units		
Į ž	REGION	ojec		ERP Targets taken		ERP PROJECT	START	END	CALFED		Total Project		Principal	iant		
ž	RE	P	Milestone	from ERPP Vol 2	personnel	NUMBERS	DATE	DATE	Award	Cost Share	Cost	Applicant	Investigator	ฮิริ	Project Name	Comments
					72 A. Status of the Installation of positive barrier fish screens										Sutter Mutual Water Company-Tisdale Positive Barrier Fish Screen Pumping	Phase 3 is the final design and environmental documentation & planning. Phase 4 is the construction of the screen. Planning and
					on all diversions greater than										Plant	Design; 90 percent done
					250 cfs in all EMZs and 25%											
					of all smaller unscreened diversions in the Sacramento											
	SAC				River Basin.							Sutter Mutual				
72	Š	S.			70.4.01.1.611.1.611.11	ERP-02-P24	Apr-03	Mar-04	1,270,000	230,000	1,500,000	Water Co.	Max Sakato		0 710 5110	2 444 4 252 24 4 4 4 4 4 4 4 4 4 4 4 4 4
					72 A. Status of the Installation of positive barrier fish screens										Gorrill Dam Fish Screen and Fish Ladder Project	Paul Ward, DFG. Planning and design. Project completed.
					on all diversions greater than										Zaddo. 1 Tojoot	
					250 cfs in all EMZs and 25%											
					of all smaller unscreened diversions in the Sacramento											
	SAC	~			River Basin.							Gorrill Land				
72	/s	SR			70 D. Ctatus of the installation	ERP-97-M03	Sep-98	Nov-99	369,641	1,024,266	1,393,907	Company	Don Heffren		Richter Brothers Screen Pase I	Desitive howier fish servery House and Devid Dichter
					72 B. Status of the installation of positive barrier fish screens										Richler Brothers Screen Pase I	Positive barrier fish screen. Henry, Mark and David Richter, Owners. Project completed, planning
					on 25% of all smaller											, , ,
					unscreened diversions in the Sacramento River Basin.											
					Sacialiletilo River Basili.											
	SAC	SR										Borcalli and	Francis E.			
12	Ø	S			72 B. Status of the installation	ERP-98-B01	Jun-98	Aug-99	49,000	0	49,000	Associates,Inc.	Borcalli P.E.		Sacramento River Small Fish Screen	Install fish screens on eleven pumps in the Sacramento River.
					of positive barrier fish screens										Project Vertical River Pump Diversions	Monitoring,Planning,Implementation; project completed.
					on 25% of all smaller											
					unscreened diversions in the Sacramento River Basin.											
					odoramonto ravor baom.											
8	SAC	SR				ERP-01-N52	Oct-01	Oct-04	1.800.000	0	1.800.000	Family Water Alliance	Susan Sutton			
_	0	0)			72 B. Status of the installation	ERF-01-N32	OCI-01	OCI-04	1,000,000	U	1,600,000	Alliance	Susaii Sulloii		Small Diversion Fish Screens	Installation of a positive barrier fish screens. 10 fish screens, 20 cfs
					of positive barrier fish screens											screen. Install five fish screens on pumps in the Sacramento
					on 25% of all smaller unscreened diversions in the											River. Project completed, implementation.
					Sacramento River Basin.											
												F:h . \A/-4				
72	SAC	SR				ERP-98-R01	Sep-01	Sep-03	957,200	0	957.200	Family Water Alliance	Susan Sutton			
		1			72 B. Status of the installation	2141 00 1401	COP C.	00p 00	001,200		00.,200	7	Guddii Gulloii		Mand T / Parrot Pumping Station and	Relocate and screen a 130 cfs pump. Project completed.
					of positive barrier fish screens										Fish Screen Project (Relocation and	Implementation
					on 25% of all smaller unscreened diversions in the										Construction)	
_ ~	SAC	SR			Sacramento River Basin.							Ducks				
72	S)	S		 	72 B. Status of the installation	ERP-95-M05	Feb-97	Dec-97	1,610,000	260,000	1,870,000	Unlimited	James Well		Hydraulic and Biological Performance	(< 50 cfs) unscreened diversions 2 foot wide with 0.5mm clear
		1			of positive barrier fish screens										Testing of an Innovative Fish Screen	openings. Project completed, Planning
	4.	1			on 25% of all smaller							Duell			for Small Unscreened Diversions	
22	SAC	SR			unscreened diversions in the Sacramento River Basin.	ERP-96-M23	Jan-97	Nov-97	90,000	0	90.000	Buell and Associates Inc.	James W. Buell			
		1			72 B. Status of the installation		55		22,000	Ĭ	22,000	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			Selected Fish Screens on the	Cal Crawford, DFG. Implementation; project complete. Selected
		1			of positive barrier fish screens on 25% of all smaller										Sacramento River and Tributaries	Fish Screens on Sacramento River and Tributaries. The project
		1			unscreened diversions in the											constructed or upgraded 14 fish screens smaller unscreened diversions and one fishway, in the Sacramento River Basin.
	ပ	1			Sacramento River Basin.											
72	SAC	SR				ERP-97-C04A	Sep-98	Feb-02	374,850	0	374,850	CDFG	Phil Warner			
		1			72 B. Status of the installation of positive barrier fish screens										City of Redding Water Utility Fish Screen Rehabilitation	44.6 cfs. Darren Langfield, City of Redding Public Works. Planning / Feasability. The project is 25 percent complete. The
		1			on 25% of all smaller							City of Redding			Scieen ivenabilitation	Feasability phase is complete.
۲,	SAC	~			unscreened diversions in the							Dept. of Public				· · · · ·
1,2	Ŝ	S.		-	Sacramento River Basin. 72 B. Status of the installation	ERP-00-B01	Aug-00	Nov-04	495,400	90,000	585,400	Works	Mike Robertson		Maxwell Irrigation District (Tuttle Pump	After relocation, pumps will be screened, 20 cfs. Douglas B. Mc
		1			of positive barrier fish screens										Relocation)	Geoghegan, Maxwell Irrigation District. Implementation. A
		1			on 25% of all smaller							Maxwell	Davida D.11			positive barrier fish screen was installed on a 20cfs pump.
72	SAC	SR			unscreened diversions in the Sacramento River Basin.	ERP-00-B02	May-01	Dec-02	427,900	n	427,900	Irrigation District	Douglas B. Mc Geoghegan			Project completed.
7	()	₁ O	l .	I.	Cacramento INVEL DASIII.	LIXE-UU-DUZ	iviay-∪ i	DCC-02	441,800	. 0	421,800	DISTRICT	Geografyan	l	I.	<u>I</u>

Г																
	REGION	Project Type	Milestone	ERP Targets taken from ERPP Vol 2	MS Components or Questions for field personnel	ERP PROJECT	START DATE	END DATE	CALFED Award	Cost Share	Total Project Cost	Applicant	Principal Investigator	Quantifiable Units	Project Name	Comments
					72 B. Status of the installation							TT	3		Sacramento River Small Diversion Fish	Project completed, monitoring
					of positive barrier fish screens on 25% of all smaller										Screen (Monitoring)	
	AC AC	SR			unscreened diversions in the Sacramento River Basin.	ERP-00-R01	Apr-01	Nov-01	312,700	0	312,700	Family Water Alliance	Susan Sutton			
۲	. 0	0			72 C. Status of the installation	ERF-00-R01	Apr-01	1100-01	312,700	U	312,700	Alliance	Susan Sullon		Develop a final list of pumping plants	Objective: Determine the exact location of each of the pumps in the
					of positive barrier fish screens on DWR Pumping Plants									diversions screened	requiring screens and collect site specific information for each pumping plant for the east side of Sutter Bypass on lower Butte Creek	East Side Sutter Bypass and characterize the pumping plant sites including elevations, cross-sections, pumping plant specifications and annual pumping durations and determine the feasibility of pumping plant consolidations. Contract was signed 9/2000 between FWS (AFRP) and Ducks Unlimited, Inc (DU). Initial meetings held with stakeholders to discuss project methodology and process. DU identified 24 sites, which with valid water rights in the area. Meetings have been held with stakeholders, agencies and DWR to review and approve plans to screen the 3 DWR pumping plant diversions. Jones & Stokes has been hired to develop a Biological Assessment for the Sutter Bypass and to facilitate a process to develop a Memorandum of Agreement (MOA) setting out the framework for the development of a fisheries plan for the east side of the Sutter Bypass. Meetings with stakeholders began in October of 2001. Current schedule for the project indicate that a signed MOA will be available by December 31, 2003.
Ι,	Ac Ac	SR				1500 00 10			105.000		405.000	4500				
\$		SR			72 D. Status of the installation of positive fish screens on 50% of the small diversions located on the east side of Sutter Bypass.	AFRP-00-19			195,000		195,000	AFRP	John Icanberry	3 diversions screened	Develop a final list of pumping plants requiring screens and collect site specific information for each pumping plant for the east side of Sutter Bypass on lower Butte Creek	Objective: Determine the exact location of each of the pumps in the East Side Sutter Bypass and characterize the pumping plant sites including elevations, cross-sections, pumping plant specifications and annual pumping durations and determine the feasibility of pumping plant consolidations. Contract was signed 9/2000 between FWS (AFRP) and Ducks Unlimited, Inc (DU). Initial meetings held with stakeholders to discuss project methodology and process. DU identified 24 sites, which with valid water rights in the area. Meetings have been held with stakeholders, agencies and DWR to review and approve plans to screen the 3 DWR pumping plant diversions. Jones & Stokes has been hired to develop a Biological Assessment for the Sutter Bypass and to facilitate a process to develop a Memorandum of Agreement (MOA) setting out the framework for the development of a fisheries plan for the east side of the Sutter Bypass. Meetings with stakeholders began in October of 2001. Current schedule for the project indicate that a signed MOA will be available by December 31, 2003.
ť	. 0,	- 0,			72 E. Status of the installation	AI IV -00-19			193,000		193,000	ALIXE	John Icamberry	e)		
í	SAC	SR			of positive fish screens on the Bella Vista Diversion on the upper Sacramento River near Redding											
9	SAC	SR			72 F. Status of the installation of positive fish screens on the East/West Diversion Weir											
		SR			72 G. Status of the installation of positive fish screens on Weir 5											
-		S.			72 H. Status of the installation of positive fish screens on Weir 3											
ŝ	SAC	SR			72 I. Status of the installation of positive fish screens on Guisti Weir											

-		e d.				CONT	RACT						e le		
MS Number	REGION	Milestone	ERP Targets taken from ERPP Vol 2	personnel	ERP PROJECT NUMBERS	START DATE	END DATE	CALFED Award	Cost Share	Total Project Cost	Applicant	Principal Investigator	Quantifiab Units	Project Name	Comments
72	SAC	۳۵ ا		72 J. Status of the installation of positive fish screens on Weir 1 in the Sutter Bypass.											
72	SAC	RS		72 K. Status of the installation of positive fish screens on the Diversion at White Mallard Dam	ERP-01-N53	Jan-02	Apr-04	84,938	0	84,938	California Waterfowl Association	Robert Capriola		White Mallard Dam and Associated Diversions	Planning and Engineering; project completed.
72		AS.		72 K. Status of the installation of positive fish screens on the Diversion at White Mallard Dam	CVPIA-02-V02	Apr-04	Jun-04	753,415	?	753,415	Ducks Unlimited	Olen Zirkle		White Mallard Dam and Associated Diversions Phase III Construction	Fish passage impediments are currently being removed. Implementation; 20 percent complete (new project)
72	SAC	RS		72 N. Status of the installation of positive fish screens on Colusa Shooting/Tarke Weir Outfall and associated diversion screens in the Butte Sink											

					MULTI	SPECIES (CONSE	RVATI	ON ST	RATEG	Y MILE	STONE 7	3 ROLLE	D UP	SUMMARY		
imple reduce substantial	mentance tance arge	t, and Iluta es, no es fro	73 Develop, d support measures to nt (oxygen depleting utrients, and ammonia) m concentrated animal tions. (from Phase II			PROJECTS REVIEWED - ERP-98-B05, ERP-99-N14, ERP-01-N22		control objespecifically oxygen de manageme manageme indirectly coperations (SWRCB 3 milestone.	ectives were r target runo pleting subsent practices ent practices contribute to . There may 319 (j) or Pro See milesto	e funded for the firm animal tances. The stances for grazing, so evaluated a simproved ruly be other prop 50) that we	this region. lal feeding operse projects or orchards and impleme noff/pollutantojects under ould contributant 101 for a	n non-point source However, these perations or runo emphasized impi di ririgated cropla nted for these lai t control from an different grant p ute more directly additional project	orojects did not if and control of oved ands. The nd uses may mal feeding rograms to this			AGENCY NOTES	NOTES CONT'D
	Ī		MULTI SPECIE	S CONSERV	ATION STRATEGY	/ MILESTO	NE 73	EVAI	LUATIC	ON OF I	NDIVID	UAL PRO	JECTS RE	VIEW	ED TO FORMULATE T	HE ROLLED UP SUMM	ARY
MS Number	REGION	Project Type	Milestone	ERP Targets taken from ERPP Vol 2	MS Components or Questions for field personnel	ERP PROJECT NUMBERS	START DATE	END DATE	CALFED Award	Cost Share	Total Project Cost	Applicant	Principal Investigator	Quantifiable Units	Project Name	Commer	nts
73	SAC		Develop, implement, and support measures to reduce pollutant (oxygen depleting substances, nutrients, and ammonia) discharges from concentrated animal feeding operations. (from Phase II Report)		73 A. Status of development of measures to reduce pollutant (oxygen depleting substances, nutrients, and ammonia) discharges from concentrated animal feeding operations. (from Phase II Report)	ERP-98-B05	Dec-99	Dec-01	599,000	0	599.000	Colusa County Resource Conservation	Roney Gutierrez		Sand and Salt Creek Watershed Project	Reclamation and CCRCD entered into of improving water quality by decreasi and sedimentation. Benefits of this increasing aquatic and terrestrial h supporting sustainable populations species. Patti A. Turner, Colusa Co District. Implementation; project co aimed at reducing runoff in	this Agreement for the purpose ng undesirable runoff, residues, project include improving and abitats in the Bay-Delta and of diverse plant and animal unty Resource Conservation mpleted. Selection of 20 sites
73	SAC	SR			73 A. Status of development of measures to reduce pollutant (oxygen depleting substances, nutrients, and ammonia) discharges from concentrated animal feeding operations. (from Phase II Report)	ERP-99-N14	Jun-01	May-04	492,500	191,000	683,500	Colusa County Resource Conservation District	Christopher Rose		Colusa Basin Watershed Project	The Colusa Basin Drain Watershed pri assists private landowners in address flood control issues, exotic invasive we ecological processes and functions of will consist of 6 to 12 selected sites, enhancement and other restoration Colusa County Resource Conservat 75 percent complete. Six sites a restoration of 600	ing non-point source pollution, seeds, and reactivating important riparian corridors. The project which will implement riparian practices. Patti A. Turner, tion District. Implementation; are done. Monitoring and
7	SAC	SR			73 A. Status of development of measures to reduce pollutant (oxygen depleting substances, nutrients, and ammonia) discharges from concentrated animal feeding operations. (from Phase II Report)	LIVI TOOTH 14	Juli-01	iviay-04	+32,300	191,000	303,300	Central Valley Regional Water Quality	NUSC		Rainbow Trout Toxicity Monitoring	Research and monitoring of rainbow Water Resource Control Board. completed. There have been contro yet starte	. Monitoring. Project not act delays. The work has not

						CONT	DAOT								
<u>.</u>		be				CONT	RACI						e e		
MS Number	REGION	Project Type	ERP Targe Milestone from ERP		ERP PROJECT NUMBERS	START DATE	END DATE	CALFED Award	Cost Share	Total Project Cost	Applicant	Principal Investigator	Quantifiabl Units	Project Name	Comments
				73 B. Status of implementing measures to reduce pollutant (oxygen depleting substances nutrients, and ammonia) discharges from concentrated animal feeding operations (from Phase 11 Report)										Rainbow Trout Toxicity Monitoring	Research and monitoring of rainbow trout. Karen Larsen, State Water Resource Control Board. Monitoring. Project not completed. There have been contract delays. The work has not yet started.
73	SAC	SR SR			ERP-01-N22	Sep-98	Jun-01	530,000	120,000	650,000	Central Valley Regional Water Quality Control Board	Karen Larsen			
73	SAC			73 B. Status of implementing measures to reduce pollutant (oxygen depleting substances nutrients, and ammonia) discharges from concentrated animal feeding operations (from Phase 11 Report)	ERP-99-N14	Jun-01	May-04	492,500	191,000	683,500	Colusa County Resource Conservation District	Christopher Rose		Colusa Basin Watershed Project	The Colusa Basin Drain Watershed project will serve as a project that assists private landowners in addressing non-point source pollution, flood control issues, exotic invasive weeds, and reactivating important ecological processes and functions of riparian corridors. The project will consist of 6 to 12 selected sites, which will implement riparian enhancement and other restoration practices. Patti A. Turner, Colusa County Resource Conservation District. Implementation; 75 percent complete. Six sites are done. Monitoring and restoration of 600,000 acres.
73	SAC			73 B. Status of implementing measures to reduce pollutant (oxygen depleting substances nutrients, and ammonia) discharges from concentrated animal feeding operations (from Phase 11 Report)	ERP-98-B05	Dec-99			0	599,000	Colusa County Resource Conservation District	Roney Gutierrez		Sand and Salt Creek Watershed Project	Reclamation and CCRCD entered into this Agreement for the purpose of improving water quality by decreasing undesirable runoff, residues, and sedimentation. Benefits of this project include improving and increasing aquatic and terrestrial habitats in the Bay-Delta and supporting sustainable populations of diverse plant and animal species. Patti A. Turner, Colusa County Resource Conservation District. Implementation; project completed. Selection of 20 sites aimed at reducing runoff into the Colusa Drain.

ssolved oxygen conditions in salmonid spawning and rearing habitat,	ROJECTS EVIEWED - RP-98-B05, FRP-01-10	SUMMARY Two projects contribute to this milestone which apply best management practices and undertake actions to improve soil erosion and sedimentation. There are no ERP studies that specifically address inter-substrate low dissolved oxygen conditions for spawning and rearing habitat. The management practices evaluated and implemented for these land uses may indirectly contribute to this milestone. There may be other projects under different grant programs that would contribute more directly to this milestone. See milestone 102 for additional projects that address this milestone at a landscape level.		AGENCY NOTES	NOTES CONT'D
---	---	---	--	--------------	--------------

MULTI SPECIES CONSERVATION STRATEGY MILESTONE 74 -- EVALUATION OF INDIVIDUAL PROJECTS REVIEWED TO FORMULATE THE ROLLED UP SUMMARY

5		be					CON	TRACT						9		
MS Number	REGION	Project Type	Milestone	ERP Targets taker		ERP PROJECT	START DATE	END DATE	CALFED Award	Cost Share	Total Project Cost	Applicant	Principal Investigator	Quantifiable Units	Project Name	Comments
14	SAC	SR	Actions to minimize or eliminate inter-substrate low dissolved oxygen conditions in salmonid spawning and rearing habitat, especially in the Mokelumne, Cosumnes, American, Merced, Tuolumne, and Stanislaus Rivers (from Phase II Report and Water Quality Program Plan): Develop inter-substrate DO testing for salmonid spawning and rearing habitat. Conduct comprehensive surveys to assess the extent and severity of inter-substrate low DO conditions. Develop and begin implementing appropriate best management practices (BMPs), including reducing anthropogenic fine sediment loads, to minimize or eliminate inter-substrate low DO conditions.		74 A. Status of actions to minimize or eliminate intersubstrate low dissolved oxygen conditions in salmonid spawning and rearing habitat, especially in the Mokelumne, Cosumnes, American, Merced, Tuolumne, and Stanislaus Rivers (from Phase II Report and Water Quality Program Plan):	ERP-98-805	Dec-99	Dec-01	599,000	0	599,000	Colusa County Resource Conservation District			Sand and Salt Creek Watershed Project	Reclamation and CCRCD entered into this Agreement for the purpose of improving water quality by decreasing undesirable runoff, residues, and sedimentation. Benefits of this project include improving and increasing aquatic and terrestrial habitats in the Bay-Delta and supporting sustainable populations of diverse plant and animal species. Pattl A. Turner, Colusa County Resource Conservation District. Implementation; project completed. Selection of 20 sites aimed at reducing runoff into the Colusa Drain.

	4		MS Number
., 0	SAC	SAC	REGION Project Type
	ž.		Milestone
			ERP Targets taken from ERPP Vol 2
74 D. Status of developing and begin implementing appropriate best management practices (BMPs), including reducing anthropogenic fine	74 B. Status of the development of inter- substrate DO testing for salmonid spawning and rearing habitat.	74 A. Status of actions to minimize or eliminate intersubstrate low dissolved oxygen conditions in salmonid spawning and rearing habitat, especially in the Mokelumne, Cosumnes, American, Merced, Tuolumne, and Stanislaus Rivers (from Phase II Report and Water Quality Program Plan):	MS Components or Questions for field personnel
		AFRP-01-10	ERP PROJECT
		Jun-05	CONT START DATE
		Sep-02	END DATE
		299,606	CALFED Award
		75,000	Cost Share
		224,606	Total Project Cost
		Battle Creek Watershed Conservancy	Applicant
		Sharon Paquin- Gilmore, Watershed Coordinator	Principal Investigator
			Quantifiable Units
Sand and Salt Creek Watershed Project		Battle Creek Watershed Stewardship, Phase 2	Project Name
Reclamation and CCRCD entered into this Agreement for the purpose of improving water quality by decreasing undesirable runoff, residues, and sedimentation. Benefits of this project include improving and increasing aquatic and terrestrial habitats in the Bay-Delta and supporting sustainable populations of diverse plant and animal		BCWC proposes a project to do all of the following: 1) Complete an assessment of watershed conditions in the upper watershed and in the lands lying immediately upland of Battle Creek's Restoration Project reaches. 2) Implement, in close cooperation with the resource agencies and local schools, a watershed information system to support Restoration Project monitoring, assessment, and adaptive management. 3) Sustain implementation of the Battle Creek Watershed Strategy, through work in the schools and communities, with agencies and landowners, toward the complementary objectives of safeguarding the Battle Creek watershed's lightly- populated, agricultural lifestyle and protecting the public investment in the Battle Creek Salmon and Steelhead Restoration Project. Harry Rectenwald, DFG. Planning / Implementation; 50 percent complete. Project is ongoing.Watershed strategy is complete. Conservation easement planning is complete. Implement an information system for watershed.	Comments

					MULTI	SPECIES	CONSE	ERVAT	ION S	ΓRATE	SY MILI	ESTONE	75 ROLL	ED UF	PSUMMARY		
regu disc sub unp	ulato harg stand ermi	ry a le of ces tted	E 75 Encourage ctivity to reduce f oxygen reducing and nutrients by dischargers. (from port)			PROJECTS REVIEWED - ERP-98-B05		taken by E However, t their own a There may Prop 50 so Those proj	RP to encounter to encounter to encounter the ERP state authority (aggreen below the encounter the encounter to encounter the en	urage regula ff works clos ricultural wai ojects under hat would co ot addressed	tory activities ely with RWi ver and non different gra ntribute mor I in this eval		milestone. king steps under lution programs). pecially recent milestone. estones 28, 46,			AGENCY NOTES	NOTES CONT'D
			MULTI SPECIE	S CONSER\	/ATION STRATEG	Y MILESTO	NE 75	EVA	LUATI	ON OF	INDIVII	DUAL PRO	OJECTS R	EVIEV	WED TO FORMULATE	THE ROLLED UP SUMM	MARY
MS Number	REGION	Project Type	Milestone Encourage regulatory activity to reduce discharge of oxygen reducing substances and nutrients by unpermitted dischargers. (from Phase II Report)	ERP Targets taken from ERPP Vol 2	MS Components or Questions for field personnel 75 A. Number of actions taken to encourage regulatory activities which reduce discharge of oxygen reducing substances and nutrients by unpermitted dischargers. (from Phase II Report)	ERP PROJECT NUMBERS	START DATE	END DATE	CALFED Award	Cost Share	Total Project Cost	Applicant Colusa County Resource Conservation	Principal Investigator	Quantifiable Units	Project Name Sand and Salt Creek Watershed Project	Reclamation and CCRCD entered into of improving water quality by decreasi and sedimentation. Benefits of this increasing aquatic and terrestrial h supporting sustainable populations species. Patti A. Turner, Colusa Co. District. Implementation; project co.	this Agreement for the purpose ng undesirable runoff, residues, project include improving and abitats in the Bay-Delta and of diverse plant and animal punty Resource Conservation empleted. Selection of 20 sites
75	SAC	SR				ERP-98-B05	Dec-99	Dec-01	599,000	0	599,000	District	Roney Gutierrez			aimed at reducing runoff i	nto the Colusa Drain.

MILESTONE 76 Actions to reduce fine sediment loading to streams, especially Tuolumne, Merced, Stanislaus, Cosumnes, Napa, and Petaluma Rivers, and Sonoma Creek, due to human activities (from Phase II Report and Water Quality Program Plan): Participate in implementation of USDA sediment reduction program. Implement sediment reduction BMPs in construction areas, on agricultural ands, for urban storm water runoff, and other specific sites. Implement stream restoration and revegetation work. Quantify and determine ecological impacts of sediments in target watersheds, implement corrective actions. PROJECTS REVIEWED- ERP-97-N05, ERP-98-805, ERP-91-N26, ERP-91-N26, ERP-91-N25, ERP-01-N25, ERP-01-N25, ERP-01-N25, ERP-01-N25, ERP-01-N30, ERP-01-N31, ERP-02-P36, AFRP-01-10	AGENCY NOTES	NOTES CONT'D
--	--------------	--------------

MULTI SPECIES CONSERVATION STRATEGY MILESTONE 76 -- EVALUATION OF INDIVIDUAL PROJECTS REVIEWED TO FORMULATE THE ROLLED UP SUMMARY

	REGION	Project Type					CONT	RACT						Quantifiable Units		
	<u> </u>	ect			MS Components or						Total			ntifi s		
	REGION	jo j	Milestone	ERP Targets taken from ERPP Vol 2	Questions for field personnel	ERP PROJECT NUMBERS	START DATE	END DATE	CALFED Award	Cost Share	Project Cost	Applicant	Principal Investigator	Qua Jnit	Project Name	Comments
		1	Actions to reduce fine		76 A. Status of actions to		57112		7111414	0		7.00	conguto.		Sand and Salt Creek Watershed	Reclamation and CCRCD entered into this Agreement for the purpose
			sediment loading to streams,		reduce fine sediment loading										Project	of improving water quality by decreasing undesirable runoff, residues,
			especially Tuolumne, Merced,		to streams in the Sacramento											and sedimentation. Benefits of this project include improving and
			Stanislaus, Cosumnes, Napa, and Petaluma Rivers, and		River Basin due to human activities (from Phase II Report											increasing aquatic and terrestrial habitats in the Bay-Delta and supporting sustainable populations of diverse plant and animal
			Sonoma Creek, due to human		and Water Quality Program											species. Patti A. Turner, Colusa County Resource Conservation
			activities (from Phase II Report		Plan):											District. Implementation; project completed. Selection of 20 sites
			and Water Quality Program													aimed at reducing runoff into the Colusa Drain.
			Plan):													
			 Participate in implementation of USDA sediment reduction 													
			program.													
			· Implement sediment													
			reduction BMPs in													
			construction areas, on agricultural lands, for urban													
			storm water runoff, and other													
			specific sites.													
			· Implement stream restoration													
			and revegetation work.													
			 Quantify and determine ecological impacts of 									0-1				
			sediments in target									Colusa County Resource				
			watersheds, implement									Conservation				
	SAC	l ~	corrective actions.									District				
	S &	SR				ERP-98-B05	Dec-99	Dec-01	599,000	0	599,000	(CCRCD)	Roney Gutierrez			
					76 A. Status of actions to reduce fine sediment loading										Sustaining Agriculture and Wildlife Beyond the Riparian Corridor	Objectives: 1) Develop compressed protocols to assess watershed functions and prioritize conservation work; 2) Conduct on-farm
					to streams in the Sacramento										Beyond the Ripanan Comdon	demonstration projects and research of a discrete set of agricultural
					River Basin due to human											conservation solutions; 3) Quantify the effects of the practices through
					activities (from Phase II Report											replicated, multi-year trials and monitoring of these projects; 4)
					and Water Quality Program											Develop a web-based landowner conservation decision assistance tool
					Plan):											(Yolo OnePlan) to facilitate small scale, private conservation planning for large-scale watershed improvements; and 5) Increase landowner
1																participation as a result of a strong education and outreach program
1																and the "landowner service" to provide technical assistance, economic
																incentives. Jeannette Wrysinski 530.662.2037 X 118 Project 75%
1												Yolo County				complete. program to establish, restore, and maintain riparian
1												Resource	Katy Pye or			habitat (4,000 ft) along Union Slough tributary to Willow Slough in the Yolo Basin EMZ
1	SAC	 ~										Conservation	Jeanette			in the 1010 basin Linz
	S. S	SR				ERP-01-N25	Sep-01	Aug-04	1,464,167	2,879,113	4,343,280	District	Wrysinski			

		1													
<u></u>		Project Type					CON	TRACT						9	
MS Number	z													Quantifiable Units	
Į	REGION	ect			MS Components or						Total			ntii	
8	EG	ō	M***	ERP Targets taken		ERP PROJECT		END	CALFED	Cost	Project	A II4	Principal	nit	Paris at Name
_ ≥	~	Δ	Milestone	from ERPP Vol 2	personnel	NUMBERS	DATE	DATE	Award	Share	Cost	Applicant	Investigator	٥٦	Project Name Comments
					76 A. Status of actions to reduce fine sediment loading										Digital Soil Survey Mapping and Digital Five published Soil Survey Areas (East Stanislaus Area, Merced Area, Orthophotoquad Imagery Development Madera Area, Tehama County, Glenn County) in the Bay-Delta Region
					to streams in the Sacramento										will be digitized, have SSURGO databases created, and have Digital
					River Basin due to human							Natural			Orthophotoquad (DOQ) imagery developed. <i>Glenn Stanisewski</i> ,
					activities (from Phase II Report							Resources			Natural Resources Conservation Service. Monitoring. 80%
92	SAC	SR			and Water Quality Program							Conservation			complete.
_ ~	(y)	S			Plan): 76 A. Status of actions to	ERP-01-N30	Aug-01	Aug-04	573,810	287,901	861,711	Service	Eric Vinson		Battle Creek Watershed Stewardship, BCWC proposes a project to do all of the following: 1) Complete an
					reduce fine sediment loading										Phase 2 Bowled Stewardship, Bowled proposes a project to do all of the following. T) Complete an assessment of watershed conditions in the upper watershed and in the
					to streams in the Sacramento										lands lying immediately upland of Battle Creek's Restoration Project
					River Basin due to human										reaches. 2) Implement, in close cooperation with the resource
					activities (from Phase II Report										agencies and local schools, a watershed information system to support
					and Water Quality Program										Restoration Project monitoring, assessment, and adaptive
					Plan):										management. 3) Sustain implementation of the Battle Creek
															Watershed Strategy, through work in the schools and communities,
		1													with agencies and landowners, toward the complementary objectives of safeguarding the Battle Creek watershed's lightly- populated,
															agricultural lifestyle and protecting the public investment in the Battle
															Creek Salmon and Steelhead Restoration Project. Harry
															Rectenwald, DFG. Planning / Implementation; 50 percent
															complete. Project is ongoing.Watershed strategy is complete.
												Battle Creek Watershed	Sharon Paquin- Gilmore.		Conservation easement planning is complete. Implement an
	0											Conservancy	Watershed		information system for watershed.
92	SAC	SR				AFRP-01-10	Jun-05	Sep-02	299,606	75,000	224,606	(BCWC)	Coordinator		
					76 A. Status of actions to							,			Auburn Ravine/Coon Creek Develop a plan with major emphasis on protection and restoration of
					reduce fine sediment loading										Restoration Planning riparian and aquatic habitats. John Nelson, Department of Fish and
					to streams in the Sacramento										Game. Planning; project completed.
					River Basin due to human activities (from Phase II Report										
	١				and Water Quality Program							Placer County			
92	SAC	딿			Plan):	ERP-97-N05	Mar-99	Jun-00	222.530	0	222.530	Planning Department	Loren Clark		
	- 0,	0,			76 A. Status of actions to	LIN -31-1403	IVIGIT-55	5u11-00	222,000	U	222,000	Department	LOICH CIAIR		The Ecological and Economic Costs
					reduce fine sediment loading										and Benefits of Alternative Agricultural economic costs and benefits of alternative agricultural practices in
					to streams in the Sacramento							I Iniversity of			Practices: Sediment, Nutrient, and irrigated row cropping systems, at the farm and societal levels.
					River Basin due to human							University of California,			Pesticides in Runoff from Conservation Project not completed. This project will determine the impacts of
					activities (from Phase II Report and Water Quality Program							Davis -			Tillage and Cover Cropped Systems reduced runoffs; hopes to decrease soil organic carbon, measure sediments and pesticides, and conduct analysis of water quality.
	Ų				Plan):							Agronomy and	Dr. Steve		Steve Temple, UC Davis.
92	SAC	SR			- /	ERP-02-P36	Jun-03	1-Jun	1402159	0	1402159	Range Science	Temple		
		1			76 B. Status of the sub										Sand and Salt Creek Watershed Reclamation and CCRCD entered into this Agreement for the purpose
					element of actions to reducing										Project of improving water quality by decreasing undesirable runoff, residues,
					fine sediment loading to the Sacramento River Basin:										and sedimentation. Benefits of this project include improving and increasing aquatic and terrestrial habitats in the Bay-Delta and
		1			Participate in implementation										supporting sustainable populations of diverse plant and animal
		1			of USDA sediment reduction										species. Patti A. Turner, Colusa County Resource Conservation
		1			program.							Colusa County			District. Implementation; project completed. Selection of 20 sites
												Resource Conservation			aimed at reducing runoff into the Colusa Drain.
	ပ											District			
92	SAC	SR				ERP-98-B05	Dec-99	Dec-01	599,000	0	599,000		Roney Gutierrez		
					76 B. Status of the sub										Auburn Ravine/Coon Creek Develop a plan with major emphasis on protection and restoration of
		1			element of actions to reducing										Restoration Planning riparian and aquatic habitats. John Nelson, Department of Fish and
		1			fine sediment loading to the Sacramento River Basin:										Game. Planning; project completed.
		1			Participate in implementation										
		1			of USDA sediment reduction							Placer County			
	SAC	 ~			program.							Planning			
9/	l'S	SR				ERP-97-N05	Mar-99	Jun-00	222,530	0	222,530	Department	Loren Clark		

nber	7	Туре					CONT	RACT						iable		
MS Number	REGION	Project Type		RP Targets taken from ERPP Vol 2	MS Components or Questions for field personnel	ERP PROJECT	START DATE	END DATE	CALFED Award	Cost Share	Total Project Cost	Applicant	Principal Investigator	Quantifiable Units	Project Name	Comments
N N	SAC	SR	milescore ii		76 B. Status of the sub element of actions to reducing fine sediment loading to the Sacramento River Basin: Participate in implementation of USDA sediment reduction program.	ERP-01-N25	Sep-01	Aug-04		2,879,113		Yolo County Resource Conservation District	Katy Pye or Jeanette Wrysinski	9	Sustaining Agriculture and Wildlife Beyond the Riparian Corridor	Objectives: 1) Develop compressed protocols to assess watershed functions and prioritize conservation work; 2) Conduct on-farm demonstration projects and research of a discrete set of agricultural conservation solutions; 3) Quantify the effects of the practices through replicated, multi-year trials and monitoring of these projects; 4) Develop a web-based landowner conservation decision assistance tool (Yolo OnePlan) to facilitate small scale, private conservation planning for large-scale watershed improvements; and 5) Increase landowner participation as a result of a strong education and outreach program and the "landowner service" to provide technical assistance, economic incentives. Jeannette Wrysinski. Project 75% complete. program to establish, restore, and maintain riparian habitat (4,000 ft) along Union Slough tributary to Willow Slough in the Yolo Basin EMZ
9.4	SAC	SR			76 B. Status of the sub element of actions to reducing fine sediment loading to the Sacramento River Basin: Participate in implementation of USDA sediment reduction program.	ERP-01-N26	Oct-01	Oct-04	849.845	0	849.845	United States Department of Agriculture Forest Service, Lassen National Forest (LNF)	Russ Volke		Lassen National Forest Watershed Stewardship Within the Anadromous Watersheds of Butte, Deer, and Mill Creeks	The LNF watershed stewardship project includes three watershed-based restoration tasks within the anadromous watersheds of Deer, Mill, Butte Creeks. Tasks 1a and 2a include 44 extensive sediment reduction projects in Deer and Mill Creek watersheds. Additional proposed activities include Colby Creek Meadow condition survey; followed by the implementation of meadow restoration demonstration projects, installation of interpretive displays at seven recreation areas along Deer and Mill Creeks, a campground education program at Potato Patch campground, a summer patrol of the Spring-run chinook salmon spawning areas in Deer Creek, and the establishment of Watershed Stewardship education programs at Chester Elementary and High Schools. Ken Roby, USFWS. Implementation of various restoration projects on Butte, Deer , and Mill Creeks; 66 percent complete.
. 92	SAC	SR			76 C Status of the sub element of actions to reducing fine sediment loading to the Sacramento Rive Basin: Implement sediment reduction BMPs in construction areas, on agricultural lands, for urban storm water runoff, and other specific sites.	ERP-98-B05	Dec-99	Dec-01	599,000	0	599,000	Colusa County Resource Conservation District	Roney Gutierrez		Sand and Salt Creek Watershed Project	Reclamation and CCRCD entered into this Agreement for the purpose of improving water quality by decreasing undesirable runoff, residues, and sedimentation. Benefits of this project include improving and increasing aquatic and terrestrial habitats in the Bay-Delta and supporting sustainable populations of diverse plant and animal species. Patti A. Turner, Colusa County Resource Conservation District. Implementation; project completed. Selection of 20 sites aimed at reducing runoff into the Colusa Drain.
	SAC				76 C Status of the sub element of actions to reducing fine sediment loading to the Sacramento Rive Basin: Implement sediment reduction BMPs in construction areas, on agricultural lands, for urban storm water runoff, and other specific sites.	ERP-02-P36						University of California, Davis - Agronomy and Range Science	Dr. Steve		The Ecological and Economic Costs and Benefits of Alternative Agricultural Practices: Sediment, Nutrient, and Pesticides in Runoff from Conservation Tillage and Cover Cropped Systems	The primary goal of this project is to quantify the ecological and economic costs and benefits of alternative agricultural practices in irrigated row cropping systems, at the farm and societal levels. Project not completed. This project will determine the impacts of reduced runoffs; hopes to decrease soil organic carbon, measure sediments and pesticides, and conduct analysis of water quality. Steve Temple, UC Davis.
9.4	SAC	SR			76 C Status of the sub element of actions to reducing fine sediment loading to the Sacramento Rive Basin: Implement sediment reduction BMPs in construction areas, on agricultural lands, for urban storm water runoff, and other specific sites.	ERP-01-N31		Aug-04		0	1,800,668	National Audubon Society	Judy Boshoven		Willow Slough Watershed Rangeland Stewardship	Project will enhance riparian habitat by erecting fences along 3 miles of riparian corridor to manage grazing and will also revegetate selected areas. Vance Russell, Audubon California. Implementation. Riparian: 3.38 miles/91 acres; Grassland treated with prescribed fire: 1397 acres; Native perennial grassland restoration: 423 acres; Wildlife ponds/stock ponds: 19.2 acres; Erosion control projects: 3 acres. Project 80% complete.

						CONT	RACT								
MS Number	REGION	Project Type	ERP Targets taken from ERPP Vol 2	MS Components or Questions for field personnel	ERP PROJECT NUMBERS		END DATE	CALFED Award	Cost Share	Total Project Cost	Applicant	Principal Investigator	Quantifiable Units	Project Name	Comments
				76 C Status of the sub element of actions to reducing fine sediment loading to the Sacramento Rive Basin: Implement sediment reduction BMPs in construction areas, on agricultural lands, for urban										Auburn Ravine/Coon Creek Restoration Planning	Develop a plan with major emphasis on protection and restoration of riparian and aquatic habitats. John Nelson, Department of Fish and Game. Planning; project completed.
92	SAC	SR		storm water runoff, and other specific sites.	ERP-97-N05	Mar-99	Jun-00	222.530	0	222.530	Placer County Planning Department	Loren Clark			
2.		SR		76 D. Status of the sub element of actions to reducing fine sediment loading to the Sacramento River Basin: Implementation of stream restoration and revegetation work.	ERP-01-N31	Oct-01	Aug-04		0	1.800.668	National Audubon Society	Judy Boshoven		Willow Slough Watershed Rangeland Stewardship	Project will enhance riparian habitat by erecting fences along 3 miles of riparian corridor to manage grazing and will also revegetate selected areas. Vance Russell, Audubon California. Implementation. Riparian: 3.38 miles/91 acres; Grassland treated with prescribed fire: 1397 acres; Native perennial grassland restoration: 423 acres; Wildlife ponds/stock ponds: 19.2 acres; Erosion control projects: 3 acres. Project 80% complete.
4				76 D. Status of the sub element of actions to reducing fine sediment loading to the Sacramento River Basin: Implementation of stream restoration and revegetation work.	ENT-01-1431	Octro I	Aug-v4	1,000,008	0	1,000,000	USFS; Lassen	Sur Bushovell		Lassen National Forest Watershed Stewardship Within the Anadromous Watersheds of Butte, Deer, and Mill Creeks	The LNF watershed stewardship project includes three watershed-based restoration tasks within the anadromous watersheds of Deer, Mill, Butte Creeks. Tasks 1a and 2a include 44 extensive sediment reduction projects in Deer and Mill Creek watersheds. Additional proposed activities include Colby Creek Meadow condition survey; followed by the implementation of meadow restoration demonstration projects, installation of interpretive displays at seven recreation areas along Deer and Mill Creeks, a campground education program at Potato Patch campground, a summer patrol of the Spring-run chinook salmon spawning areas in Deer Creek, and the establishment of Watersched Stewardship education programs at Chester Elementary and High Schools. Ken Roby, USFWS. Implementation of various restoration projects on Butte, Deer ,and Mill Creeks; 66 percent complete.
92	SAC	S.		76 D. Status of the sub	ERP-01-N26	Oct-01	Oct-04	849,845	0	849,845	National Forest (LNF)	Russ Volke		Orand and Orah Oranda Wicharahad	Reclamation and CCRCD entered into this Agreement for the purpose
9	SAC	SR		lement of actions to reducing fine sediment loading to the Sacramento River Basin: Implementation of stream restoration and revegetation work.	EDD 60 205	Day 22	D. of	500 000		500 000	Colusa County Resource Conservation District	David C		Sand and Salt Creek Watershed Project	reclamation and CCRCD entered into this Agreement for the purpose of improving water quality by decreasing undesirable runoff, residues, and sedimentation. Benefits of this project include improving and increasing aquatic and terrestrial habitats in the Bay-Delta and supporting sustainable populations of diverse plant and animal species. Patti A. Turner, Colusa County Resource Conservation District. Implementation; project completed. Selection of 20 sites aimed at reducing runoff into the Colusa Drain.
92	Ø	σ		76 D. Status of the sub element of actions to reducing	ERP-98-B05	Dec-99	Dec-01	599,000	0	599,000	(CCRCD)	Roney Gutierrez		Auburn Ravine/Coon Creek Restoration Planning	Develop a plan with major emphasis on protection and restoration of riparian and aquatic habitats. John Nelson, Department of Fish and
92	SAC	SR		fine sediment loading to the Sacramento River Basin: Implementation of stream restoration and revegetation work.	ERP-97-N05	Mar-99	Jun-00	222,530	0	222,530	Placer County Planning Department	Loren Clark		redeficient daming	Game. Planning; project completed.

76 SAC		MS Number REGION
SR	SR.	Project Type
	MINESTOTIE	Milestone
		ERP Targets taken from ERPP Vol 2
76 E. Status of the sub element of actions to reducing fine sediment loading to the Sacramento River Basin: Quantify and determine ecological impacts of sediments in target watersheds, implement corrective actions.	personnel 76 E. Status of the sub element of actions to reducing fine sediment loading to the Sacramento River Basin: Quantify and determine ecological impacts of sediments in target watersheds, implement corrective actions.	'
ERP-97-N05	ERP-01-N25	ERP PROJECT
Mar-99		CONT START DATE
Jun-00		RACT END DATE
222.530	1,464,167	CALFED Award
0		Cost Share
222.530		Total Project Cost
Placer County Planning Department	Yolo County Resource Conservation District	
Loren Clark	Investigator Katy Pye or Jeanette Wrysinski	Principal
		Quantifiable Units
Auburn Ravine/Coon Creek Restoration Planning	Sustaining Agriculture and Wildlife Beyond the Riparian Corridor	Project Name
Develop a plan with major emphasis on protection and restoration of riparian and aquatic habitats. <i>John Nelson, Department of Fish and Game. Planning; project completed.</i>	Objectives: 1) Develop compressed protocols to assess watershed functions and prioritize conservation work; 2) Conduct on-farm demonstration projects and research of a discrete set of agricultural conservation solutions; 3) Quantify the effects of the practices through replicated, multi-year trials and monitoring of these projects; 4) Develop a web-based landowner conservation decision assistance tool (Yolo OnePlan) to facilitate small scale, private conservation planning for large-scale watershed improvements; and 5) Increase landowner participation as a result of a strong education and outreach program and the "landowner service" to provide technical assistance, economic incentives. Jeannette Wrysinski. Project 75% complete. program to establish, restore, and maintain riparian habitat (4,000 ft) along Union Slough tributary to Willow Slough in the Yolo Basin EMZ	Comments

					MULTI	SPECIES	CONS	ERVA	TION ST	RATEC	SY MILE	STONE 7	7 ROLLE	D UP	SUMMARY		
necess advers thresh in sedi	sary se ec old c imen ny-De	rese olog once ts ar	7 Conduct the earch to determine no gical/biological effects entrations for mercury and key organisms in estuary and its			PROJECTS REVIEWED - ERP-97-C05, ERP-99-B06, ERP-02-C01-D, ERP-02-C06-A, ERP-02-C06-B, ERP-02D-C12, ERP-02D-P62, ERP-02-P40		shown that bioaccumus concentrate ERP has resources, treatment to bioaccumus tudies are However, amercury treatment to mercury stems to the state of	t there are ma ulations, and w ion in sedimen nade substant ansformations ulation process e just beginnin at this time the ansformations rategy also pr	ny factors ti re cannot se nts, without ial investme s, and factor ses. Two st g that will e ere are still s , bioaccumo ovides addi estigations t	hat affect mere et an "effects t consideration ents for resear rs controlling ti tudies have be valuate source significant kno ulation and eff titional informat to investigate t	ne methlation/de en completed, a es, processes ar wledge gaps in ects to fish and ion on what is k	n and ercury tors. However, nderstand mercury emethylation and and four more nd effects. understanding wildlife. The inown, and a milestones 30, 48,			AGENCY NOTES	NOTES CONT'D
			MULTI SPECIE	Y MILESTO	ONE 77	′ EV/	ALUATIO	ON OF	INDIVID	UAL PRC	JECTS RE	VIEW	ED TO FORMULATE TI	HE ROLLED UP SUMN	MARY		
MS Number	NS Components or ERP Targets taken Questions for field ERP Tom ERPP Vol 2 personnel NL						START DATE	END DATE	CALFED Award	Cost Share	Total Project Cost	Applicant	Principal Investigator	Quantifiable Units	Project Name	Comm	ents
77	SAC	r a e c s	Conduct the necessary research to determine no adverse ecological/biological effects threshold concentrations for mercury in sediments and key organisms in the Bay-Delta estuary and ts watershed.		77 A. Status of the necessary research to determine no adverse ecological/biological effects threshold concentrations for mercury in sediments and key organisms in the Bay-Delta estuary and its watershed. (Work specific to a key organism in a specific watershed	ERP-02-C01-D	Jul-01	Jun-05	4.432.966	0	4.432.966	USGS	Charlie Albers		Upper Yuba River: Water Quality and Sediment Studies	Project 1A Tasks 3,4, and 5 evaluat the Upper Yuba River, includin bioaccumulation in the Upper Yuba This contributes to our understandi tributaries. <i>Implementation:</i> augmentation only	mercury inputs, cycling and River and Englebright Reservoir. ng of the mercury problem in the percent complete. Gravel
	5,				77 A. Status of the necessary research to determine no adverse ecological/biological effects threshold concentrations for mercury in sediments and key organisms in the Bay-Delta estuary and its watershed. (Work specific to a key organism in a specific watershed	2 30,10	50.01	33.1 00	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,	, , , , , ,	5555	Crassia rapola		Mercury in San Francisco Bay-Delta Birds: Trophic Pathways, Bioaccumulation and Ecotoxicological Risk to Avian Reproduction	NO CONTRACT STILL UNDER I comprehensive study to deterr effects of mercury exposure and I in the Bay-Delta. The guilds inc recurvirostrids. The project inclu- reproductive effects, dietary expo- histopathological effects in bi- milestone is somewhat mislead factors that affect exposure and not just mercury concentration unlikely to develop NOEL s	nine exposure pathways and iloaccumulation in 3 bird guilds lude: terns, diving ducks and ides both field and lab studies, sure and bioaccumulation, and rd populations. (NOTE: this iling because there are many bioaccumulation of mercury s in sediment - therefore it is
77	SAC	SR				ERP-02D-C12			5,337,012		5,337,012	USFWS	Tom Suchanek				

<u>.</u>		be					CONT	RACT						9		
MS Number	z	Project Type			MS Components or						Total			Quantifiable Units		
₹	REGION	jeci		ERP Targets taken	Questions for field	ERP PROJECT	START	END	CALFED	Cost	Project		Principal	anti ts		
S	Æ	Pro	Milestone	from ERPP Vol 2	personnel	NUMBERS	DATE	DATE	Award	Share	Cost	Applicant	Investigator	Ω Uni	Project Name	Comments
					77 A. Status of the necessary								J		CALFED Mercury Project: An	Conduct the necessary research to determine no adverse
					research to determine no										Assessment of Ecological and Human	ecological/biological effects threshold concentrations for
					adverse ecological/biological effects threshold										Health Impacts of Mercury in the San Francisco Bay – Sacramento – San	mercury in sediments and key organisms in the Bay-Delta and its watershed. This research project investigated sources and
					concentrations for mercury in										Joaquin Delta Watershed (California)	cycling of mercury, including bioaccumulation and effects on
					sediments and key organisms										coaquiii Boila Watoronoa (Gainerina)	avian populations. The study of sources was focused on the
					in the Bay-Delta estuary and											Sacramento River, Cache Creek and the Delta, but the
					its watershed. (Work specific											biogeochemical cycling component applies to all regions. This
					to a key organism in a specific watershed											milestone is difficult to achieve because mercury sediment concentrations are not well correlated with affects, and there are
					Watershed											many other factors that influence methylation, exposure,
																bioaccumulation and effects. The results made significant gains
																in understanding mercury sources and cycling, but there are still
																many critical unknown processes that are not understood. More
																studies are needed to understand effects on fish and wildlife, methylation/demethylation processes and the factors that
																influence rates, controllable sources of mercury,
		1										San Jose State				bioaccumulation and trophic transfer.
												University				
												Foundation -				
	SAC	SR				EDD 00 D00	0 00	0 00	4 000 050		4 000 050	Moss Landing	Kanadh Oada			
7	S	S			77 A. Status of the necessary	ERP-99-B06	Sep-00	Sep-03	4,062,058		4,062,058	Marine Lab	Kenneth Coale		Transport, Cycling and Fate of Mercury	This research projects have a number of investigations to
					research to determine no										and Monomethyl Mercury in the San	understand mercury bioavailability in different sediment
					adverse ecological/biological										Francisco Delta and Tributaries - An	environments and the processes and factors that control it.
					effects threshold										Integrated Mass Balance Assessment	
					concentrations for mercury in sediments and key organisms										Approach- Prop 204 funded	
					in the Bay-Delta estuary and											
					its watershed. (Work specific							CDFG; San	Monte			
	O				to a key organism in a specific							Jose State University	Mark Stephenson,			
1	SAC	SR			watershed	ERP-02-C06-A	Apr-03	Mar-06	2,668,091		2,668,091	Foundation	Chris Thompson			
					77 A. Status of the necessary										Transport, Cycling and Fate of Mercury	
					research to determine no										and Monomethyl Mercury in the San Francisco Delta and Tributaries - An	ecological / biological effects threshold concentrations for mercury in sediments and key organisms in the Bay-Delta and its
					adverse ecological/biological effects threshold										Integrated Mass Balance Assessment	watershed. This research projects have a number of
					concentrations for mercury in										Approach- Prop 13 funded	investigations to understand mercury bioavailability in different
					sediments and key organisms							Dept. of Fish				sediment environments and the processes and factors that
1					in the Bay-Delta estuary and its watershed. (Work specific							and Game;				control it.
					to a key organism in a specific							San Jose State	Mark			
_	SAC	SR			watershed	EDD 00 000 -			4.040.404			University	Stephenson,			
12	(y)	S			77 A. Status of the necessary	ERP-02-C06-B			1,213,121			Foundation	Chris Thompson		Evaluation of Mercury Transformations	This research project conducts investigations to understand
					research to determine no										and Trophic Transfer in the San	mercury bioavailability in two different Delta locations and the
					adverse ecological/biological										Francisco Bay Delta: Identifying	processes and factors that control it, including bioaccumulation
					effects threshold										Critical Processes for Ecosystem	in the food chain. Understanding of processes applies to other
1					concentrations for mercury in sediments and key organisms										Restoration Program	regions as well.
1		1			in the Bay-Delta estuary and											
					its watershed. (Work specific											
	0				to a key organism in a specific								Mark Marvin-			
12	SAC	SR			watershed	ERP-02-P40	Jul-03	Jun-06	2,262,567			USGS	DiPasquale			
					77 A. Status of the necessary										The Effects of Wetland Restoration on	This research project looks at methylmercury production and
1					research to determine no										the Production of Methyl Mercury in	exposure in wetland environments, which are found in all
		1			adverse ecological/biological effects threshold										the San Francisco Bay Delta System	regions. This project found elevated methylmercury in the water column and biota of wetlands, compared to adjacent channels.
1					concentrations for mercury in											More studies are needed to determine methylation /
					sediments and key organisms											demethylation and exposure in different types of wetlands and
1		1			in the Bay-Delta estuary and											other habitats, to determine if there are controllable factors that
					its watershed. (Work specific to a key organism in a specific											can reduce methylation rates and exposure.
					watershed											
1	SAC	SS				ERP-97-C05	Jul-98	Sep 98?	546,171		546.171	UC Davis	Darell Slotton			
	,	, ,,			•				,		,				•	<u>'</u>

mber	z	Туре		MO O		CONT	RACT			Tatal			fiable		
Ž	유	5	CDD Townste token	MS Components or Questions for field	ERP PROJECT	OTABT	END	CALFED	Cost	Total Project		Principal	nti S		
2	REGION	Milestone	ERP Targets taken from ERPP Vol 2	personnel	NUMBERS	START DATE	END DATE	Award	Share	Cost	Applicant	•	Qua	Project Name	Comments
	- 4	L Wilestone		77 A. Status of the necessary	NOWBERS	DATE	DATE	Awaiu	Silate	CUST	Аррисані	investigator		Mercury and Methylmercury Processes	NO CONTRACT STILL UNDER DEVELOPMENT. This project will
				research to determine no										in North San Francisco Bay Tidal	examine mercury and methylmercury concentrations in the
				adverse ecological/biological										Wetland Ecosystems	sediments, water and biota of frive tidal marshes along a slainity
				effects threshold											gradient up the Petaluma River. The study will investigate how
				concentrations for mercury in											environmental variables affect methylmercury production and
				sediments and key organisms											bioaccumulation, including age of marsh and salinity, and
				in the Bay-Delta estuary and											assess seasonal and interannual variation. The project will also
				its watershed. (Work specific to a key organism in a specific											investigate potential effects to Virginia Rail and Clapper Rail populations in these marshes. The process-oriented
				watershed											investigations are applicable to other watersheds.
				l attended											mostigutions are approache to early materialists
	AC AC										San Fransisco				
77	SA	&			ERP-02D-P62			1,656,569		1,656,569	Bay Institute	Donald Yee			

MULTI SPECIES CONSERVATION STRATEGY MILESTONE 78 -- ROLLED UP SUMMARY SUMMARY CONTINUED -- control them. MILESTONE 78 -- Conduct the following mercury evaluation and abatement **SUMMARY** -- One large multifaceted project has been completed to evaluate

- work in the Cache Creek watershed (from Phase II Report):
- · Support development and implementation of TMDL for mercury. Determine bioaccumulation effects in creek and Delta.
- Source, transport, inventory, mapping and speciation of mercury.
- Participate in Stage 1 remediation (drainage control) of mercury mines as
- · Determine sources of high levels of bioavailable mercury

REVIEWED -ERP-99-B06. ERP-02-C03-D, ERP-02D-C12, ERP-02D-P62. ERP-03-C03. CSP-01-C01

mercury in Cache Creek, including mercury loads, particularly during storm events, mercury sources and source bioavailability, mine remediation feasibility, mercury bioaccumulation and trophic transfer in the food chain. This project provided significant information on loads of mercury from Cache Creek and the contribution of the mine sites to the mercury loads that is being used in the development of the Cache Creek TMDL for mercury. Several other mercury research studies that have occurred. See milestone 31 for additional recently begun will contribute information on mercury processes and effects on birds. Significant unknowns include the extent of mercury contamination in stream bed and bank sediments and its ability to mobilize, particularly during storm events. Factors such as speciation of mercury, presence of sulfides, redox conditions, availability of organic carbon, and structure of the trophic web have all been identified as potentially affecting bioavailability of mercury. However, this watershed has not been characterized to determine where these conditions exist or

Several other mercury research studies that have recently begun will contribute information on mercury processes and effects on birds. Several large mine sites in this watershed have been assessed, but no remediation has yet projects that address this milestone at a landscape level.

NOTES CONT'D --

AGENCY NOTES --

MULTI SPECIES CONSERVATION STRATEGY MILESTONE 78 -- EVALUATION OF INDIVIDUAL PROJECTS REVIEWED TO FORMULATE THE ROLLED UP SUMMARY

;	,	be.					CONT	RACT						96		
Mo M	REGION	Project Type			MS Components or						Total			Quantifiable Units		
وَ		ō	Milestone	ERP Targets taken from ERPP Vol 2	Questions for field personnel	ERP PROJECT NUMBERS	START DATE	END DATE	CALFED Award	Cost Share	Project Cost	Applicant	Principal Investigator	nits	Project Name	Comments
H	: 12	-	Conduct the following mercury	IIOIII ERPP VOI 2	78 A. Status of actions	NUMBERS	DATE	DATE	Awaru	Cost Share	COSI	Applicant	investigator	دی	CALFED Mercury Project: An	Status of actions undertaken to support the development and
			evaluation and abatement		undertaken to support the										Assessment of Ecological and Human	
			work in the Cache Creek		development and										Health Impacts of Mercury in the San	Task 1: Evaluate sources and storm loading of mercury in Cache
			watershed (from Phase II Report):		implementation of TMDL for mercury in Cache Creek										Francisco Bay – Sacramento – San Joaquin Delta Watershed (California)	Creek watershed, Task 5: Mercury Sources, bioaccumulation and trophic transfer in the Cache Creek Watershed. This project
			· Support development and		watershed										Joaquin Della Watershed (California)	contributed most of the scientific basis for development of the
			implementation of TMDL for		materies a											Cache Creek draft TMDL, including water and sediment
			mercury.													concentrations and loads, identification of sources, mercury
			· Determine bioaccumulation													levels in biota, sediment flux rates, and estimated
			effects in creek and Delta. · Source, transport, inventory,													bioaccumulation factors in the Cache Creek watershed. NOTE: Cache Creek is in the Sacramento Region, although there are
			mapping and speciation of													milestones related to Cache Creek listed in the Delta and
			mercury.													Sacramento Regions.
			· Participate in Stage 1													
			remediation (drainage control) of mercury mines as													
			appropriate.									San Jose State				
			· Determine sources of high									University				
			levels of bioavailable mercury									Foundation -				
١.	SAC	œ										Moss Landing				
- 6	S	SR			78 A. Status of actions	ERP-99-B06	Sep-00	Sep-03	4,062,058		4,062,058	Marine Lab	Kenneth Coale		Department of Conservation.	Tasks 1) Complete site assessments & final reports for the North
					undertaken to support the										Abandoned Mine Lands Unit Mine	Yuba watershed abandoned mine inventory; 2) Perform
					development and										Remediation Assessment and Field	preliminary site assessments & provide summary report for
					implementation of TMDL for										Investigations of the Middle Yuba River	abandoned mines in the Middle Yuba Watershed and other
					mercury in Cache Creek										and other Watersheds	watersheds identified as a priority by CALFED; 3) Work with DOC
					watershed											California Geologic Survey to prepare summary information on mine sites in the Cache Creek Watershed; 4) Provide technical
																support and information related to the abandoned mine inventory
																and remediation technology and costs; 5) Facilitate and
																coordinate an interagency & stakeholder discussion group to
																resolve technical and legal issues regarding the remediation of abandoned mine sites.
												California				apandoned mine sites.
	Ų											Department of				
9	SAC	SR				ERP-02-C03-D	May-02	Sep-04	400,000	0	400,000	Conservation	Douglas Craig			

Beg 5 September September	\prod					CONT	RACT								
FR - Status of sectors in proper development and implementation of machine the implementation of	REGION	Project Type	Milestone	Questions for field		START	END		Cost Share	Project	Applicant		Quantifiable Units	Project Name	Comments
7.6 B. Sinhas of the determination of biosecuring the results of the Control of t				78 A. Status of actions undertaken to support the development and implementation of TMDL for mercury in Cache Creek		no	no				Central Valley Regional Water quality			Regulatory Activities of Inactive Mine	Support development and implementation of TMDL for mercury. This project provides support for TMDL implementation - to support activities that will get inactive mine sites cleaned up by
78 B. Status of the determination of bioaccumulation effects in Cache Creek and the Delta 78 B. Status of the determination of bioaccumulation effects in Cache Creek and the Delta 78 B. Status of the determination of bioaccumulation effects in Cache Creek and the Delta 8				determination of bioaccumulation effects in							San Jose State University Foundation - Moss Landing			Assessment of Ecological and Human Health Impacts of Mercury in the San Francisco Bay – Sacramento – San	Status of the determination of bioaccumulation effects in Cache Creek and the Delta. Task 1: Evaluate sources and storm loading of mercury in Cache Creek watershed, Task 5: Mercury Sources, bioaccumulation and trophic transfer in the Cache Creek Watershed. This project contributed most of the scientific basis for development of the Cache Creek draft TMDL, including water and sediment concentrations and loads, identification of sources, mercury levels in biota, sediment flux rates, and estimated bioaccumulation factors in the Cache Creek watershed. NOTE: Cache Creek is in the Sacramento Region, although there are milestones related to Cache Creek listed in the Delta and Sacramento Regions.
Recomplete Status of the determination of bioaccumulation effects in Cache Creek and the Delta Status of the determination of bioaccumulation effects in Cache Creek and the Delta Status of the determination of bioaccumulation effects in Cache Creek and the Delta Status of the determination of bioaccumulation effects in Cache Creek and the Delta Status of the determination of bioaccumulation effects in Cache Creek and the Delta Status of the determination of bioaccumulation effects in Cache Creek and the Delta Status of the determination of Science Program Directed Action for Ecological evaluation of Yolo Bypass Research. Project 50% complete. Most of done.				determination of bioaccumulation effects in	EKF-99-B00	Зер-00	Зер-03	4,002,036		4,002,036	Wallie Lab	Refilieur Coale			
78 B. Status of the determination of bioaccumulation effects in bioaccumulation effects in bioaccumulation effects in Cache Creek and the Delta 8				determination of bioaccumulation effects in										Birds: Trophic Pathways, Bioaccumulation and Ecotoxicological	NO CONTRACT STILL UNDER DEVELOPMENT. This is a very comprehensive study to determine exposure pathways and effects of mercury exposure and bioaccumulation in 3 bird guilds in the Bay-Delta. The guilds include: terns, diving ducks and recurvirostrids. The project includes both field and lab studies, reproductive effects, dietary exposure and bioaccumulation, and histopathological effects in bird populations.
bioaccumulation effects in Cache Creek and the Delta Variable	S S	S.		78 B. Status of the	ERP-02D-C12			5,337,012		5,337,012	Service	Tom Suchanek			NO CONTRACT STILL UNDER DEVELOPMENT. Status of the
78 B. Status of the Science Program Directed Action for determination of determination of Science Program Directed Action for Ecological evaluation of Yolo Bypass done.	SAC	SR		bioaccumulation effects in	ERP-02D-P62			1.656.569		1.656.569		Donald Yee			determination of bioaccumulation effects in Cache Creek and the Delta. This project will investigate dietary exposure and potential reproductive effects to Virginia Rail and Clapper Rail. The study also includes investigations on food web transfer of mercury in these systems.
Cache Creek and the Delta Cache Creek and the Delta CSP-01-C01 ??-02 395,500 Dept. of Water Resources Ted Sommer				determination of bioaccumulation effects in	2131 025 1 02			.,000,000		.,000,000		Sonaid 100			Research. Project 50% complete. Most of research has been done.

					1		1									
١.		e					CONT	RACT						Θ.		
MS Number	_	Project Type												Quantifiable Units		
5	REGION	ect			MS Components or						Total			utit S		
15	EG.	roj	Milestone	ERP Targets taken from ERPP Vol 2		ERP PROJECT	START	END	CALFED	04-01	Project	Annlicant	Principal	nit Sa	Drainet Name	Comments
2	œ	Δ.	Milestone	from ERPP Vol 2	personnel 78 C. Status of determining	NUMBERS	DATE	DATE	Award	Cost Share	Cost	Applicant	Investigator	0 5	Project Name CALFED Mercury Project: An	Comments Status of determining source, transport, inventory, mapping and
					ro C. Status or determining source, transport, inventory, mapping and speciation of mercury in Cache Creek watershed.										Assessment of Ecological and Human Health Impacts of Mercury in the San Francisco Bay – Sacramento – San Joaquin Delta Watershed (California)	speciation of mercury in Cache Creek watershed. Task 1: Sources and loads from Cache Creek watershed. Task 1: Sources and loads from Cache Creek watershed, including special storm events Subtask 5A: Source Bioavailability and Mine Remediation Feasibility in the Cache Creek Watershed; Subtask 5B Mercury Bioaccumulation and Trophic Transfer in the Cache Creek Watershed Subtask 5C1: Assessment of the Feasibility of Remediation of Mercury Mine Sources in the Cache Creek Watershed, This project has contributed substantial information towards evaluating the loads from Cache Creek, mine sources, and bioavailability of some of those sources. Water quality sampling occurred in only 3 years, so it is not known how sources and loads relate to a variety of
																flow events. It is not known how the bioavailability changes as
																the sediment moves downstream.
												San Jose State				
												University Foundation -				
	ပ											Moss Landing				
78	SAC	SR				ERP-99-B06	Sep-00	Sep-03	4,062,058		4,062,058	Marine Lab	Kenneth Coale			
					78 C. Status of determining source, transport, inventory,										Department of Conservation, Abandoned Mine Lands Unit Mine	Tasks 1) Complete site assessments & final reports for the North Yuba watershed abandoned mine inventory; 2) Perform
					mapping and speciation of mercury in Cache Creek watershed.										Remediation Assessment and Field Investigations of the Middle Yuba River and other Watersheds	preliminary site assessments & provide summary report for abandoned mines in the Middle Yuba Watershed and other watersheds identified as a priority by CALFED; 3) Work with DOC
																California Geologic Survey to prepare summary information on mine sites in the Cache Creek Watershed; 4) Provide technical support and information related to the abandoned mine inventory and remediation technology and costs; 5) Facilitate and coordinate an interagency & stakeholder discussion group to resolve technical and legal issues regarding the remediation of abandoned mine sites.
	ا ۱۰ ا											California				
82	SAC	SR				ERP-02-C03-D	May-02	Sep-04	400.000	0	400.000	Department of Conservation	Douglas Craig			
	0,7	0,			78 C. Status of determining source, transport, inventory, mapping and speciation of mercury in Cache Creek	E141 02 000 B	May 52	оср оч	400,000		400,000	Schoolvalon	Dodgido Craig		Science Program Directed Action for Ecological evaluation of Yolo Bypass to support floodplain restoration	Research. Project 50% complete. Most of research has been done.
	ပ				watershed.							Dept. of Water				
78	SAC	SR				CSP-01-C01	??-01	??-02	395,500		395,500	Resources	Ted Sommer			
					78 D. Status of participation in Stage 1 remediation (drainage control) of mercury mines in Cache Creek watershed							San Jose State			CALFED Mercury Project: An Assessment of Ecological and Human Health Impacts of Mercury in the San Francisco Bay – Sacramento – San Joaquin Delta Watershed (California)	Status of participation in Stage 1 remediation (drainage control) of mercury mines in Cache Creek watershed. Subtask 5C1: Assessment of the Feasibility of Remediation of Mercury Mine Sources in the Cache Creek Watershed This project evaluated a number of specific mine sites in the Cache Creek watershed to determine extent of mercury contamination, loads to the waterbody and feasibility of cleanup.
												University Foundation -				contamination, rouge to the waterbody and reasibility of cleanup.
Ī	ပ											Moss Landing				
78	SA	SR				ERP-99-B06	Sep-00	Sep-03	4,062,058		4,062,058		Kenneth Coale			
					78 D. Status of participation in										Department of Conservation,	Participate in Stage 2 remediation of mercury mines as
	ပ				Stage 1 remediation (drainage control) of mercury mines in Cache Creek watershed							California Department of			Abandoned Mine Lands Unit Mine Remediation Assessment and Field Investigations of the Middle Yuba River and other Watersheds	appropriate. This project inventories and prioritizes abandoned mines that need to be remediated. This project also leads several groups to share information on mine remediation techniques and legal challenges associated with abandoned mine cleanup.
78	SAC	SR				ERP-02-C03-D	May-02	Sep-04	400,000	0	400,000	Conservation	Douglas Craig			
					78 D. Status of participation in Stage 1 remediation (drainage control) of mercury mines in							Central Valley Regional			Regulatory Activities of Inactive Mine Sites Affecting Bay-Delta Water quality	Board can have staff pursue mine cleanup by responsible
	ري ا	ا ہے ا			Cache Creek watershed		no	no				Water quality				parties, requiring permits or enforcement actions.
78	SAC	SR				ERP-03-C03	contract	contract	100,000	0	100,000	Control Board	Patrick Morris			

						CONT	DACT								
NS William	REGION	Project Type Milestone	ERP Targets taken from ERPP Vol 2	MS Components or Questions for field personnel	ERP PROJECT NUMBERS	START DATE	END DATE	CALFED Award	Cost Share	Total Project Cost	Applicant	Principal Investigator	Quantifiable Units	Project Name	Comments
78	SAC	SR		78 E. Status of determining sources of high levels of bioavailable mercury in the Cache Creek Watershed	ERP-99-B06	Sep-00	Sep-03	4,062,058		4,062,058	San Jose State University Foundation - Moss Landing Marine Lab	Kenneth Coale		CALFED Mercury Project: An Assessment of Ecological and Human Health Impacts of Mercury in the San Francisco Bay – Sacramento – San Joaquin Delta Watershed (California)	Subtask 1C:Mercury (Hg) Loads to the Sacramento-San Joaquin Delta from the Cache Creek Watershed and the Yolo Bypass. Subtask 1D: Special Storm Event Study of Hg Loading in Cache Creek, Subtask 5A: Source Bioavailability and Mine Remediation Feasibility in the Cache Creek Watershed, Subtask 5B Hg Bioaccumulation and Trophic Transfer in the Cache Creek Watershed, Subtask 5C1: Assessment of the Feasibility of Remediation of Hg Mine Sources in the Cache Creek Watershed. This project provided information on loads of Hg from Cache Creek and the contribution of the mine sites to the Hg loads. Significant unknowns include the extent of Hg contamination in stream bed and bank sediments and its ability to mobilize, particularly during storm events. Factors such as speciation of Hg, presence of sulfides, redox conditions, availability of organic carbon, structure of the trophic web have all been identified as potentially affecting bioavailability of Hg.
8	AC.	SS		78 E. Status of determining sources of high levels of bioavailable mercury in the Cache Creek Watershed	CSP-01-C01	??-01	??-02	395,500		395.500	Dept. of Water Resources	Ted Sommer		Science Program Directed Action for Ecological evaluation of Yolo Bypass to support floodplain restoration	Research. Project 50% complete. Most of research has been done.
62		S		78 E. Status of determining sources of high levels of bioavailable mercury in the Cache Creek Watershed	ERP-02-C03-D			400,000	0	400,000	California Department of	Douglas Craig		Department of Conservation, Abandoned Mine Lands Unit Mine Remediation Assessment and Field Investigations of the Middle Yuba River and other Watersheds	Determine sources of high levels of bioavailable mercury. This project inventories and assesses abandoned mine sites throughout the watershed. It ranks and prioritizes sites for remediation.

					MULTI	SPECIES	CONSE	ERVAT	ION STI	RATEG	SY MILE	STONE 79	ROLLE	D UP SUMMARY			
followabat Rive · Det of his · Ret	wing rement r (fronterming gh leventing	mero t wo n Ph ne, ir rels d ercu	79 Conduct the cury evaluation and rk in the Sacramento hase II Report): hventory, and sources of bioavailable mercury ury models. Participate tivities.			PROJECTS REVIEWED - ERP-97-C05, ERP-99-B06, ERP-00D-C01, ERP-02-C01-D		inventory a One large sources in loads. On wetlands. the mercui between s production these proje understand activities h	and assessme multi-faceted the watershe e study has b Four new stu ry mass balar ediment, wate and bioaccur ects will contri d mercury sou ave taken pla	ents mostly study has of d, including een comple dies are justice, including and air, and air, and air, and to toward urces, cyclinge in the ward in t	focused in the done a "mass a some monito eted on investi to beginning to go detailed stuand an in-depithe food chair ds developmeng, and bioacc	n in different habi nt of a mercury no cumulation. No re but work has bee	ver watershed. ment of mercury sources and ycling in ncertainties in movement f methyl mercury tat types. All of nodel to emediation		AGENCY NOTES NOTES CONT'D		
		ī	MULTI SPECIE	S CONSER	VATION STRATEG	Y MILESTO	ONE 79	EVA	LUATIO	N OF	INDIVID	UAL PRO	JECTS RE	VIEWED TO FORMULATE	THE ROLLED UP SUMMARY		
MS Number	REGION	Project Type	Milestone	ERP Targets taken from ERPP Vol 2		ERP PROJECT	CONT START DATE	END DATE	CALFED Award	Cost Share	Total Project Cost	Applicant	Principal Investigator	Quantifiable Units Duts Spring Project Name	Comments		
62	SAC		Conduct the following mercury evaluation and abatement work in the Sacramento River (from Phase II Report): Determine, inventory, and sources of high levels of bioavailable mercury Refine mercury models. Participate in remedial activities.		79 A. Status in the Sacramento River of the mercury evaluation and abatement work including inventory and determine sources of high level bioavailable mercury.	ERP-00D-C01	Jan-01	Sep-01	100,000	0	100,000	Department of Conservation	Doug Craig (Original investigators have left agency)	Yuba River, Sacramento Region			
62	0	SR			79 A. Status in the Sacramento River of the mercury evaluation and abatement work including inventory and determine sources of high level bioavailable mercury.	ERP-99-806	Sep-00	Sep-03	4.062.058		4.062.058	San Jose State University Foundation - Moss Landing Marine Lab	Kenneth Coale	CALFED Mercury Project: An Assessment of Ecological and Huma Health Impacts of Mercury in the Sa Francisco Bay – Sacramento – Sar Joaquin Delta Watershed (California	high level bioavailable mercury. Several of the tasks in this project evaluate sources of mercury in the Sacramento River		
2					79 A. Status in the Sacramento River of the mercury evaluation and abatement work including inventory and determine sources of high level bioavailable mercury.	ERF-99-DU0	<u> </u>	<u> </u>	+,002,036		4,002,008	wanie Lab	Kenneur Coale	Upper Yuba River: Water Quality an Sediment Studies	Determine, inventory, and sources of high levels of bioavailable mercury. Project 1A Tasks 1-5 evaluate the sources, cycling and bioaccumulation of mercury in the Upper Yuba River Watershed and Englebright reservoir. Ian Drury, DFG. Implementation; 50 percencomplete. Gravel augmentation only. Implement gravel augmentation.		
62	SAC	SR			79 A. Status in the Sacramento River of the mercury evaluation and abatement work including	ERP-02-C01-D	Jul-01	Jun-05	4,432,966	0	4,432,966	USGS	Charlie Alpers	The Effects of Wetland Restoration of the Production of Methyl Mercury in the San Francisco Bay Delta Syster	applies to other areas. This project assists in determining how		
62	SAC	SR			inventory and determine sources of high level bioavailable mercury.	ERP-97-C05	Jul-98	Sep 98?	546,171		546,171	UC Davis	Darell Slotton				

_		9					CONT	RACT						ø		
MS Number	REGION	Project Type	Milestone	ERP Targets taken from ERPP Vol 2	MS Components or Questions for field personnel	ERP PROJECT	START DATE	END DATE	CALFED Award	Cost Share	Total Project Cost	Applicant	Principal Investigator	Quantifiable Units	Project Name	Comments
62	SAC	SR			79 B. Status of refining mercury models for the Sacramento River	ERP-99-806	Sep-00	Sep-03	4.062.058		4.062.058	San Jose State University Foundation - Moss Landing Marine Lab	Kenneth Coale		CALFED Mercury Project: An Assessment of Ecological and Human Health Impacts of Mercury in the San Francisco Bay – Sacramento – San Joaquin Delta Watershed (California)	Status of refining mercury models for the Sacramento River. This project collected two years of water quality data to develop a simple mass balance model of sources in the watershed. More monitoring is needed to evaluate sources particularly during high flow events. More studies are needed to evaluate methylation and demethylation processes and the factors that influence them. More information is needed on landscape level changes that may affect the sources and bioavailability of methylmercury.
. 62	SAC	SR			79 B. Status of refining mercury models for the Sacramento River	2.4. 00 800	- GOP GC	оор ос	1,002,000		1,002,000	Marino Las	THOMAS OF THE STATE OF THE STAT			
. 62	SAC	SR			79 C. Status of actions in behalf of participation in Sacramento River mercury remedial activities.	ERP-99-B06	Sep-00	Sep-03	4,062,058		4,062,058	San Jose State University Foundation - Moss Landing Marine Lab	Kenneth Coale		CALFED Mercury Project: An Assessment of Ecological and Human Health Impacts of Mercury in the San Francisco Bay – Sacramento – San Joaquin Delta Watershed (California)	Status of actions in behalf of participation in Sacramento River mercury remedial activities. his project contributed to this goal by beginning an assessment of the most important sources and loads to the Sacramento River and Delta. This can help prioritize areas for remediation activities, as well as baseline monitoring data.
. 62	SAC	SR			79 C. Status of actions in behalf of participation in Sacramento River mercury remedial activities.				,		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					

MULTI SPECIES CONSERVATION STRATEGY MILESTONE 80 -- ROLLED UP SUMMARY

MILESTONE 80 -- Conduct the following pesticide work (from Phase II Report):

- Develop diazinon and chlorpyrifos hazard assessment criteria with CDFG and the Department of Pesticide Regulations.
- Support development and implementation of a TMDL for diazinon.
- · Develop BMPs for dormant spray and household uses.
- Determine the ecological significance of pesticide discharges.
- · Support implementation of BMPs.
- · Monitor to determine effectiveness of BMPs

PROJECTS REVIEWED -ERP-97-C12, ERP-97-N20, ERP-98-B05, ERP-98-C06, ERP-01-N22, ERP-02-P36 SUMMARY -- One project has been completed to develop the diazinon and chlorpyrifos hazard assessment criteria for toxicity. One project has been completed to support the development and implantation of a TMDL for diazinon, to assess and reduce diazinon inputs from urban stormwater runoff in Sacramento County. Three projects have been funded to evaluate and implement pesticide reduction practices for both urban stormwater and agriculture. Three projects have been funded to evaluate effects of pesticides on aquatic life. One project that developed BMPs for pesticide reductions in agriculture also monitored for effectiveness of various techniques. Recent results from studies indicate that pyrethroids are causing significant toxicity to benthic organisms in 25-60% of the waterbodies tested (particularly creeks and drainages). Other studies have also shown that very low concentrations of organophosphate pesticides may interfere with sensory cues needed for salmonid migration. Lab studies of salmon with sublethal exposures to pyrethroids showed significant increased susceptibility to mortality from

SUMMARY continued -- disease. More investigations are needed to evaluate episodes of both water and sediment toxicity from pesticides, including pyrethroids, as well as potential effects from sublethal exposures that may affect aquatic populations. There are significant efforts by other organizations to address pesticide issues, including the ag drainage program and TMDL development at the Regional Board, PRIZM grants from USEPA, and other efforts by USDA and local groups to reduce pesticide usage and impacts from pesticides. Also see milestones 33, 49, and 107.

NOTES CONT'D --

MULTI SPECIES CONSERVATION STRATEGY MILESTONE 80 -- EVALUATION OF INDIVIDUAL PROJECTS REVIEWED TO FORMULATE THE ROLLED UP SUMMARY

MS Number	REGION	Project Type	Milestone	ERP Targets taken from ERPP Vol 2		ERP PROJECT	START DATE	END DATE	CALFED Award	Cost Share	Total Project Cost	Applicant	Principal Investigator	o noutiliable of the project Name	Comments
			Conduct the following pesticide work (from Phase II Report): Develop diazinon and chlorpyrifos hazard assessment criteria with CDFG and the Department of Pesticide Regulations. Support development and implementation of a TMDL for diazinon. Develop BMPs for dormant spray and household uses. Determine the ecological significance of pesticide discharges. Support implementation of BMPs. Monitor to determine		80A Status of the development of diazinon and chlorpyrifos hazard assessment criteria with CDFG and the Department of Pesticide Regulations.									Water Quality Criteria for Cloropyrifos and Diazinon	Develop hazard assessment criteria for diazinon and cloropyrifos with DFG and Dept. of Pesticide and Regulation. <i>Brian Finlayson, DFG. Implementation. DFG tested for chlorpyrifos and diazinon and recalculated the criteria for them.</i>
8	SA	SR	Monitor to determine effectiveness of BMPs		80B Status of actions taken in	ERP-98-C06	Aug-98	Jun-99	67,753	0	67,753	CDFG	Brian Finlayson		
80	SAC	SR			support of development and implementation of a TMDL for diazinon. 80C Status of the development of BMPs for									Evaluation of Alternative Pesticide Use Reduction Practices	The project is designed to identify, promote, and monitor alternative practices to reduce biological impacts of pesticides on the water
08	SAC	SR			development of BMP's for dormant spray and household uses.	ERP-97-C12	Aug-98	Jul-01	957,781	none	957,781	UC Davis	Frank Zalom	Reduction Plactices	quality of all priority aquatic habitats identified by CALFED. <i>E-room</i> final report. Research. Project completed.

						CONT	RACT								
MS Number	REGION	Project Type	RP Targets taken from ERPP Vol 2	MS Components or Questions for field personnel	ERP PROJECT	START DATE	END DATE	CALFED Award	Cost Share	Total Project Cost	Applicant	Principal Investigator	Quantifiable Units	Project Name	Comments
08	SAC	SR		80C Status of the development of BMPs for dormant spray and household uses.	ERP-97-N20	Jul-98	Jun-01	1,680,631	None	1,680,631	Community Alliance with Family Farmers	Judith Redmond		Implementing Program to Reduce the Use of Pesticides and Fertilizers in the Sacramento and San Joaquin Watersheds	The project objectives: 1) Plan and implement and intensive media campaign to enlist mainstream farmers in CAFF's pesticide reduction programs; 2) Continue to coordinate BIOS in San Joaquin, Madera and Colusa Communities through the 1999 growing season; 3) Oversee the transition of BIOS projects to local leadership starting in the fall of 1999; 4) Use the Lighthouse Farm Network to offer consistent technical support to farmers. Marcia Gibbs, Community Alliance with Family Farmers (CAFF). Implementation. Project completed.
8				80D. Status of determining the ecological significance of pesticide discharges.	ERF-97-IN20	Jul-96	3011-01	1,000,031	None	1,000,031	railleis	Juditi Redinond		Evaluation of Alternative Pesticide Use Reduction Practices	The project is designed to identify, promote, and monitor alternative practices to reduce biological impacts of pesticides on the water quality of all priority aquatic habitats identified by CALFED. <i>E-room final report. Research. Project completed.</i>
08	SAC			80D. Status of determining the ecological significance of pesticide discharges.	ERP-97-C12	Aug-98	Jul-01	957,781	none	957,781	Community Alliance with Family	Frank Zalom		Implementing Program to Reduce the Use of Pesticides and Fertilizers in the Sacramento and San Joaquin Watersheds	The project objectives: 1) Plan and implement and intensive media campaign to enlist mainstream farmers in CAFF's pesticide reduction programs; 2) Continue to coordinate BIOS in San Joaquin, Madera and Colusa Communities through the 1999 growing season; 3) Oversee the transition of BIOS projects to local leadership starting in the fall of 1999; 4) Use the Lighthouse Farm Network to offer consistent technical support to farmers. Marcia Gibbs, Community Alliance with Family Farmers (CAFF). Implementation. Project completed. The primary stressor addressed by the project was water quality from agricultural, non-point source contaminants and increased nutrient inputs. The project reduced the use of pesticides that have been shown to degrade water quality. Farmers that enroll in BIOS have been shown to cut by 90% their use of diazinon. The project also decreased the use of other organophosphate insecticides.
80				80D. Status of determining the ecological significance of pesticide discharges.	ERP-97-N20	Jul-98 Sep-98	Jun-01	1,680,631	None	1,680,631	Farmers Central Valley Regional Water Quality Control Board	Judith Redmond Karen Larsen		Rainbow Trout Toxicity Monitoring	Research and monitoring of rainbow trout. Karen Larsen, State Water Resource Control Board. Monitoring. Project not completed. There have been contract delays. The work has not yet started.
80	SAC			80D. Status of determining the ecological significance of pesticide discharges.	ERP-02-P36	Jun-03	1-Jun	1,402,159	0	1,402,159		Dr. Steve Temple		The Ecological and Economic Costs and Benefits of Alternative Agricultural Practices: Sediment, Nutrient, and Pesticides in Runoff from Conservation Tillage and Cover Cropped Systems	The primary goal of this project is to quantify the ecological and economic costs and benefits of alternative agricultural practices in irrigated row cropping systems, at the farm and societal levels. Project not completed. This project will determine the impacts of reduced runoffs; hopes to decrease soil organic carbon, measure sediments and pesticides, and conduct analysis of water quality. Steve Temple, UC Davis.
80		SS		80E. Status of actions taken in support of implementation of BMPs.		Aug-98	Jul-01	957,781	none	957,781	UC Davis	Frank Zalom		Evaluation of Alternative Pesticide Use Reduction Practices	The project is designed to identify, promote, and monitor alternative practices to reduce biological impacts of pesticides on the water quality of all priority aquatic habitats identified by CALFED. <i>E-room final report. Research. Project completed.</i>

							CONT	RACT							
Number	z	Project Type			MS Components or						Total			Ouantifiable Units S Project Name	
MS No	REGION	rojec		ERP Targets taken	Questions for field	ERP PROJECT		END	CALFED	Cost	Project		Principal	nits units	
2	œ	Δ.	Milestone	from ERPP Vol 2	personnel 80E. Status of actions taken in	NUMBERS	DATE	DATE	Award	Share	Cost	Applicant	Investigator	でう Project Name Implementing Program to Reduce the	Comments The project objectives: 1) Plan and implement and intensive media
					support of implementation of									Use of Pesticides and Fertilizers in the	campaign to enlist mainstream farmers in CAFF's pesticide reduction
					BMPs.									Sacramento and San Joaquin	programs; 2) Continue to coordinate BIOS in San Joaquin, Madera
														Watersheds	and Colusa Communities through the 1999 growing season; 3)
															Oversee the transition of BIOS projects to local leadership starting in
															the fall of 1999; 4) Use the Lighthouse Farm Network to offer consistent technical support to farmers. <i>Marcia Gibbs, Community</i>
															Alliance with Family Farmers (CAFF). Implementation. Project
															completed. The primary stressor addressed by the project was
															water quality from agricultural, non-point source contaminants
															and increased nutrient inputs. The project reduced the use of
															pesticides that have been shown to degrade water quality. Farmers that enroll in BIOS have been shown to cut by 90% their
															use of diazinon. The project also decreased the use of other
												Community			organophosphate insecticides.
												Alliance with			
08	SAC	쫎				ERP-97-N20	Jul-98	Jun-01	1.680.631	None	1.680.631	Family	Judith Redmond		
- 80	S	S			80E. Status of actions taken in	ERP-97-N20	Jul-98	Jun-01	1,680,631	None	1,680,631	Farmers	Judith Reamond	Sand and Salt Creek Watershed	Reclamation and CCRCD entered into this Agreement for the purpose
					support of implementation of									Project	of improving water quality by decreasing undesirable runoff, residues,
					BMPs.									,,,,,	and sedimentation. Benefits of this project include improving and
															increasing aquatic and terrestrial habitats in the Bay-Delta and
															supporting sustainable populations of diverse plant and animal
												Colusa County			species. Patti A. Turner, Colusa County Resource Conservation District. Implementation; project completed. Selection of 20 sites
												Resource			aimed at reducing runoff into the Colusa Drain.
												Conservation			amica at readong ranon into the oblast Brain.
8	SAC	S				ERP-98-B05	Dec-99	Dec-01	599.000	0	599.000	District (CCRCD)	Roney Gutierrez		
	0,	,			80F Status of monitoring	L/(I -30-D03	200-33	200-01	555,000		333,000	(001100)	Troney Gulienez	Evaluation of Alternative Pesticide Use	The project is designed to identify, promote, and monitor alternative
					program to determine									Reduction Practices	practices to reduce biological impacts of pesticides on the water
I					effectiveness of BMPs										quality of all priority aquatic habitats identified by CALFED. <i>E-room</i>
															final report. Research. Project completed.
1_	SAC	~													
80	/S	SR				ERP-97-C12	Aug-98	Jul-01	957,781	none	957,781	UC Davis	Frank Zalom		

MILESTONE 81 Conduct the following actions in reduce organochlorine pesticide inputs to streams (from Phase II Report): Participate in implementation of JSDA sediment reduction program. Implement sediment reduction BMPs on agricultural lands and other specific sites. Implement BMPs for urban/industrial storm water runoff and discharges to reduce PCB and organochlorine pesticides.	PROJECTS REVIEWED - ERP-97-N20, ERP-98-B05, ERP-98-E13, ERP-01-N25, ERP-02-P36, WSP-01-FP-053, WSP-01-FP-065, WSP-02-FP-419	SUMMARY Organochlorine pesticides are no longer used in this watershed. However, they are extremely persistent and tend to bind strongly to the sediment. Therefore, efforts to reduce sediment inputs will also reduce inputs of organochlorine pesticides. These projects have been funded to reduce sediment and fertilizer usage in this watershed. See milestones 35, 51, and 109 for additional projects that address this milestone at a landscape level.	AGENCY NOTES	NOTES CONT'D
--	---	--	--------------	--------------

MULTI SPECIES CONSERVATION STRATEGY MILESTONE 81 -- EVALUATION OF INDIVIDUAL PROJECTS REVIEWED TO FORMULATE THE ROLLED UP SUMMARY

_		e					CONT	RACT						<u> </u>		
MS Numbe	REGION	Project Type	Milestone	ERP Targets taken from ERPP Vol 2	MS Components or Questions for field personnel	ERP PROJECT	START DATE	END DATE	CALFED Award	Cost Share	Total Project Cost	Applicant	Principal Investigator	Quantifiabl Units	Project Name	Comments
18	SAC	SR	Conduct the following actions in reduce organochlorine pesticide inputs to streams (from Phase II Report): - Participate in implementation of USDA sediment reduction program Implement sediment reduction BMPs on agricultural lands and other specific sites Implement BMPs for urban/industrial storm water runoff and discharges to reduce PCB and organochlorine pesticides.		81A. Status of participation in the implementation of USDA sediment reduction program in behalf of reducing organochlorine pesticide inputs to streams.	FRP-97-N20	Jul-98	Jun-01	1 680 631	None	1 680 631	Community Alliance with Family	Judith Redmond		Implementing Program to Reduce the Use of Pesticides and Fertilizers in the Sacramento and San Joaquin Watersheds	The project objectives: 1) Plan and implement and intensive media campaign to enlist mainstream farmers in CAFF's pesticide reduction programs; 2) Continue to coordinate BIOS in San Joaquin, Madera and Colusa Communities through the 1999 growing season; 3) Oversee the transition of BIOS projects to local leadership starting in the fall of 1999; 4) Use the Lighthouse Farm Network to offer consistent technical support to farmers. Marcia Gibbs, Community Alliance with Family Farmers (CAFF). Implementation. Project completed. The primary stressor addressed by the project was water quality from agricultural, non-point source contaminants and increased nutrient inputs. The project reduced the use of pesticides that have been shown to degrade water quality. Farmers that enroll in BIOS have been shown to cut by 90% their use of diazinon. The project also decreased the use of other organophosphate insecticides.
81	SAC	SR			81A. Status of participation in the implementation of USDA sediment reduction program in behalf of reducing organochlorine pesticide inputs to streams.	ERP-98-B05	Dec-99	Dec-01	599,000	0	599,000	Colusa County Resource Conservation	Roney Gutierrez		Sand and Salt Creek Watershed Project	Reclamation and CCRCD entered into this Agreement for the purpose of improving water quality by decreasing undesirable runoff, residues, and sedimentation. Benefits of this project include improving and increasing aquatic and terrestrial habitats in the Bay-Delta and supporting sustainable populations of diverse plant and animal species. Patti A. Turner, Colusa County Resource Conservation District. Implementation; project completed. Selection of 20 sites aimed at reducing runoff into the Colusa Drain.

		1 1													
<u>_</u>		be				-	CONT	RACT						9	
MS Number	z	Project Type												on on on the project Name	
Ž	REGION	ject	l _{EB}	RP Targets taken	MS Components or Questions for field	ERP PROJECT	START	END	CALFED	Cost	Total Project		Principal	ts at	
S	Ě	Pro		rom ERPP Vol 2	personnel	NUMBERS	DATE	DATE	Award	Share	Cost	Applicant	Investigator	Project Name	Comments
_		-	initestene in		81B. Status of the	HOMBERG	DAIL	DAIL	Awara	Onarc	0001	Арричин	mveotigator	Sustaining Agriculture and Wildlife	Objectives: 1) Develop compressed protocols to assess watershed
					implementation of sediment									Beyond the Riparian Corridor	functions and prioritize conservation work; 2) Conduct on-farm
					reduction BMPs on agricultural										demonstration projects and research of a discrete set of agricultural
					lands and other specific sites to reduce organochlorine										conservation solutions; 3) Quantify the effects of the practices through replicated, multi-year trials and monitoring of these projects; 4)
					pesticides										Develop a web-based landowner conservation decision assistance tool
															(Yolo OnePlan) to facilitate small scale, private conservation planning
															for large-scale watershed improvements; and 5) Increase landowner
															participation as a result of a strong education and outreach program and the "landowner service" to provide technical assistance, economic
															incentives. Jeannette Wrysinski .Project 75% complete. program
															to establish, restore, and maintain riparian habitat (4,000 ft) along
															Union Slough tributary to Willow Slough in the Yolo Basin EMZ
												Yolo County Resource	Katy Pye or		
	O											Conservation	Jeanette		
81	SAC	SR				ERP-01-N25	Sep-01	Aug-04	1,464,167	2,879,113	4,343,280	District	Wrysinski		
					81B. Status of the									The Ecological and Economic Costs	The primary goal of this project is to quantify the ecological and
					implementation of sediment reduction BMPs on agricultural									and Benefits of Alternative Agricultural Practices: Sediment, Nutrient, and	economic costs and benefits of alternative agricultural practices in irrigated row cropping systems, at the farm and societal levels.
					lands and other specific sites									Pesticides in Runoff from Conservation	Project not completed. This project will determine the impacts of
					to reduce organochlorine									Tillage and Cover Cropped Systems	reduced runoffs; hopes to decrease soil organic carbon, measure
					pesticides										sediments and pesticides, and conduct analysis of water quality.
۱.	SAC	SR								_					Steve Temple, UC Davis.
·œ	Ø	S			81B. Status of the	ERP-02-P36	Jun-03	Jun-06	1402159	0	1402159	UC Davis	Dr. Steve Temple	Implementing Program to Reduce the	The project objectives: 1) Plan and implement and intensive media
					implementation of sediment									Use of Pesticides and Fertilizers in the	campaign to enlist mainstream farmers in CAFF's pesticide reduction
					reduction BMPs on agricultural									Sacramento and San Joaquin	programs; 2) Continue to coordinate BIOS in San Joaquin, Madera
					lands and other specific sites									Watersheds	and Colusa Communities through the 1999 growing season; 3)
					to reduce organochlorine pesticides										Oversee the transition of BIOS projects to local leadership starting in the fall of 1999; 4) Use the Lighthouse Farm Network to offer
					poduoidoo										consistent technical support to farmers. <i>Marcia Gibbs, Community</i>
															Alliance with Family Farmers (CAFF). Implementation. Project
															completed. The primary stressor addressed by the project was water quality from agricultural, non-point source contaminants
															and increased nutrient inputs. The project reduced the use of
															pesticides that have been shown to degrade water quality.
															Farmers that enroll in BIOS have been shown to cut by 90% their
												0			use of diazinon. The project also decreased the use of other
												Community Alliance with			organophosphate insecticides.
	Ų											Family			
8	SAC	SR				ERP-97-N20	Jul-98	Jun-01	1,680,631	None	1,680,631	Farmers	Judith Redmond		
					81B. Status of the implementation of sediment]		Sand and Salt Creek Watershed Project	Reclamation and CCRCD entered into this Agreement for the purpose of improving water quality by decreasing undesirable runoff, residues,
					reduction BMPs on agricultural							1		Floject	and sedimentation. Benefits of this project include improving and
					lands and other specific sites										increasing aquatic and terrestrial habitats in the Bay-Delta and
					to reduce organochlorine										supporting sustainable populations of diverse plant and animal
					pesticides										species. Patti A. Turner, Colusa County Resource Conservation District. Implementation; project completed. Selection of 20 sites
												Colusa County	·		aimed at reducing runoff into the Colusa Drain.
	0											Resource Conservation			
28	SAC	SR				ERP-98-B05	Dec-99	Dec-01	599,000	0	599,000	District	Roney Gutierrez		
	1				81B. Status of the				,		, , , , ,		,	Union School Slough Watershed	This project will implement sediment reduction practices to 1) reduce
					implementation of sediment									Improvement Program	pesticide runoff that can degrade water quality (Subtask 6:
					reduction BMPs on agricultural lands and other specific sites							1			Construction of Tailwater Ponds: 5 tailwater ponds), and Revegetate canals and ditches that will reduce weed invasion and reduce
					to reduce organochlorine							1			herbicide use (Subtask 7: Revegetation of Irrigation Canals and
					pesticides							1			Ditches: revegetation of 3 miles of canal and ditch bank). Vance
												National			Russell, Audubon California. Implementation. Riparian: 1.05
												Audubon			miles; 56 acres; Grassland treated with prescribed fire: 567 acres; Native perennial grassland restoration: 277 acres;
												Society,			Wetlands/ponds: 15.7 acres; 7 ponds, 1 wetland project.
-	SAC	SR				ERP-98-E13	May 00	Jun-02	636,000	0	636,000	California	Judy Boshoven		
8	S	S				EKK-98-E13	May-99	Jui1-02	000,000	U	000,000	Chapter	Judy bosnoven	1	

	1	1			I	T T							1	1	T
l .		Ф					CONT	RACT						Φ.	
MS Number		Project Type				Ī								on on the project Name	
Ę	REGION	달			MS Components or						Total				
Ž	5	oje		ERP Targets taken	Questions for field	ERP PROJECT	START	END	CALFED	Cost	Project		Principal	its	
Σ	RE	Pr	Milestone	from ERPP Vol 2	personnel	NUMBERS	DATE	DATE	Award	Share	Cost	Applicant	Investigator	Project Name	Comments
					81B. Status of the									Implementation of BMPs to Mitigate	Project will develop demonstration orchards to educate
					implementation of sediment									OP Pesticides Runoff	landowners on BMP implenmentation
					reduction BMPs on agricultural lands and other specific sites										
					to reduce organochlorine										
					pesticides										
					Postionado										
												Agricultural			
	ပ											Resource			
2	SAC	SR				WSP-01-FP-053	Jun-01	Jun-05	400,000	362,000	762,000	Consulting	Gary Obenauf		
					81B. Status of the							Ü		Promotion of Farming BMPs and	Project sets up demonstration orchards for the implementation
					implementation of sediment										of BMPs to reduce the amount of OP chemical runoff into surface
					reduction BMPs on agricultural lands and other specific sites									Pesticide Runoff into the Sacramento	
					to reduce organochlorine									River Watershed	riparian habitat adjacent to orchard. Landowners will be educated on the use of the BMPs and their effectiveness.
					pesticides										educated on the use of the Dim 3 and their effectiveness.
												Coalition for			
												Rural/Urban			
	ပ											Environmental			
2	SAC	SR				WSP-01-FP-065	Jun-01	Jun-05	308,000	63,341	371,341	Stewardship	Parry Klassen		
					81B. Status of the							·	-		Project has developed a demonstration area that shows how
					implementation of sediment										BMPs for controlling runoff and stripping pesticides from runoff
					reduction BMPs on agricultural										can work. Continuation of the demonstration to educate
					lands and other specific sites to reduce organochlorine										landowners in the project area in BMP implementatioin.
					pesticides										
1															
												Glenn County			
	ပ											Department of		Glenn County Surface Water	
2	SAC	SR				WSP-02-FP-419			275,000	71,500	346,500	Agriculture	Ed Romano	Stewardship	
					81 C. Status of Implementing										
					BMPs for urban/industrial										
1					storm water runoff and										
1					discharges to reduce PCB and organochlorine pesticides.										
					organocinomie pesticides.										
2	SAC	쏬													
8	0,	3		1	I.	1				1			l	1	1

					MIII TI	SDECIES	CONSI	ED\/AT		TDATE		ESTONE	92 DOLL	ED III	P SUMMARY		
Rep · De · De · Eva · Pai · Pai wate · Pai	ort): termi termi aluate rticipa rtner er cor rticipa	ine s ine e e imp ate in with ntrol ate in	82 Conduct the follow spatial and temporal extracological significance a pacts of other metals sun Brake Pad Partnershipmunicipalities on evaluation facilities. In remediation of mine sund Delta restoration.	ent of metal poll and extent of cop uch as cadmium p to reduce intro lation and imples ites as part of lo	ution. oper contamination. , zinc, and chromium. oduction of copper. mentation of storm	PROJECTS REVIEWED -		SUMMA address Howeve Watersh the wate to the S cleanup milestor address	ARY No this mile er, there hed Prog- ershed. Tral Valle acramen of mine nes 36, 5 this mile	o projects estone in have been ram to more than to River to River to sites, suc 2, and 11 estone at	have been the Sacra nefforts be controlled the cont	en funded by mento River y the Sacrar metal contact en significar to reduce inp gulatory acti ron Mountai tional project pe level.	CBDA to Region. mento River mination in nt efforts by outs of metals ions and n Mine. See tts that			THE ROLLED UP SUM	NOTES CONT'D
MS Number	REGION	Project Type		ERP Targets taken	MS Components or Questions for field	ERP PROJECT	CONT	RACT END	CALFED		Total Project		Principal	Quantifiable Onits			
	c		Milestone Conduct the following trace metals work (from Phase II Report): Determine spatial and temporal extent of metal pollution. Determine ecological significance and extent of copper contamination. Evaluate impacts of other metals such as cadmium, zinc, and chromium. Participate in Brake Pad Partnership to reduce introduction of copper. Partner with municipalities on evaluation and implementation of storm water control facilities. Participate in remediation of mine sites as part of local watershed restoration and	from ERPP Vol 2	personnel 82 A. Status of determining spatial and temporal extent of trace metal pollution.	NUMBERS	DATE	DATE	Award	Cost Share	Cost	Applicant	Investigator	σ.	Project Name	Comme	nts
82	SAC	SR			82 B. Status of determining ecological significance and extent of copper contamination.												
82	SAC				82 C. Status of evaluating impacts of other metals such as cadmium, zinc, and chromium												

as Cadinium, 2mc, and chromium

82 D. Status of participation in Brake Pad Partnership to reduce introduction of copper.

82 E, Status of partnerships with municipalities on evaluation and implementation of storm water control facilities.

82 SAC SR

IS Number	EGION	roject Type		ERP Targets taken		ERP PROJECT		END	CALFED		Total Project		Principal	uantifiable nits		
	SAC		Milestone		personnel 82 F. Participate in remediation of mine sites as part of local watershed restoration and Delta restoration.	NUMBERS	DATE	DATE	Award	Cost Share	Cost	Applicant	Investigator	ØD	Project Name	Comments

MILESTONE 83 Conduct the following unknown toxicity work (from Phase II Report): Conduct appropriate studies to identify unknown toxicity, and develop management actions as appropriate.	PROJECTS REVIEWED - ERP-97-C06, ERP-98-C07, ERP-98-C08, ERP-01-N22, ERP-02-P36, ERP-02-P42, WSP-01-FP-073	SUMMARY One 1997 study did 3 species toxicity testing at several monitoring locations in the Delta and found toxicity in 4 samples out of 29. Chlorpyrifos was identified as the cause of toxicity in one sample. A 1999 study on pyrethroids found sediment toxicity in 42% of locations sampled on at least one occasion, with severe toxicity in 14% of the sites (all Central Valley sites). Pyrethroid concentrations were identified as the cause of toxicity in many instances, but did not explain all of the toxicity observed. Several more studies are underway to develop methods for toxicity identification evaluations (TIE), as well as additional monitoring for toxicity throughout the watershed. A multi-agency group has developed a "Strategy for Toxicity of Unknown Origin" that includes recommendations on future actions to monitor, identify and reduce episodes of toxicity in the watershed. In general, recent monitoring data has shown that toxic events from OP pesticides may be declining as control measures are put in place. However, new pesticides, such as pyrethroids are gaining in popularity and may incre	SUMMARY continued — toxicity and affect benthic organisms throughout the watershed. Additional studies need to be done to determine the spatial and temporal extent of toxic events, methods for identifying toxicants need further development. Once toxicants are identified, control programs need to be implemented to reduce affects to waterbodies. Currently, there are activities to reduce pesticide usage and inputs to waterbodies from both urban and agricultural sources. Some activities have been funded by CBDA (see pesticide milestone), but there are also significant efforts by other		NOTES CONT'D
--	---	--	---	--	--------------

MULTI SPECIES CONSERVATION STRATEGY MILESTONE 83 -- EVALUATION OF INDIVIDUAL PROJECTS REVIEWED TO FORMULATE THE ROLLED UP SUMMARY

;	5	Tvne					CONT	RACT						e)c		
OM OM	REGION	roject T			MS Components or						Total			Quantifial Units		
و	. I S	Proj	Milestone	ERP Targets taken from ERPP Vol 2	Questions for field personnel	ERP PROJECT NUMBERS	START DATE	END DATE	CALFED Award	Cost Share	Project Cost	Applicant	Principal Investigator	Jua	Project Name	Comments
F		+"	Conduct the following	HOIH EIGHT VOIZ	83 A. Status on conducting	NOMBERO	DAIL	DAIL	Awaiu	Onare	0031	Applicant	investigator	0 3	Fathead Minnow Toxicity Study in the	Monitoring and research of fathead minnows. Karen Larsen, State
			unknown toxicity work (from		appropriate studies to identify										Sacramento River	Water Resource Control Board. Monitoring. Project completed.
			Phase II Report):		unknown toxicity											
			· Conduct appropriate studies													
			to identify unknown toxicity, and develop management									State Water				
	ပ္		' , , , , , , , , , , , , , , , , , , ,									Resources				
6	SAC	S.	denote de appropriate.			ERP-98-C07	Sep-98	Nov-02	400,000	0	400,000	Control Board	Karen Larsen			
					83 A. Status on conducting										Rainbow Trout Toxicity Monitoring	Research and monitoring of rainbow trout. Karen Larsen, State
					appropriate studies to identify unknown toxicity							Central Valley				Water Resource Control Board. Monitoring. Project not completed. There have been contract delays. The work has not
					unknown toxicity							Regional				vet started.
١,	SAC	85	:									Water Quality				yet started.
8	<u> </u>	U,)		83 A. Status on conducting	ERP-01-N22	Sep-98	Jun-01	530,000	120,000	650,000	Control Board	Karen Larsen		Algae Toxicity Study	Monitoring and research. Karen Larsen. State Water Resource
					appropriate studies to identify										Algae Toxicity Study	Control Board. Monitoring. Project completed.
					unknown toxicity							State Water				
	0				·							Resources				
5	SAC	8				ERP-98-C08	Jun-01	Nov-02	500.000	0	500.000	Control Board	Karen Larsen			
					83 A. Status on conducting					-	,				Contaminant Effects on Smelt	Research and monitoring of listed species. William A. Bennett, UCD
					appropriate studies to identify											Bodega Bay. Research and Monitoring. Project completed.
					unknown toxicity											
	SAC	١.	.									UC Davis	William A.			
6	S S	S.	i			ERP-97-C06	Jul-98	Jun-01	437,326	none	437,326	(Bodega Bay)	Bennett			
					83 A. Status on conducting										The Ecological and Economic Costs	The primary goal of this project is to quantify the ecological and
					appropriate studies to identify unknown toxicity										and Benefits of Alternative Agricultural Practices: Sediment, Nutrient, and	economic costs and benefits of alternative agricultural practices in
					unknown toxicity										Pesticides in Runoff from Conservation	irrigated row cropping systems, at the farm and societal levels. Project not completed. This project will determine the impacts of
															Tillage and Cover Cropped Systems	reduced runoffs; hopes to decrease soil organic carbon, measure
8	SAC	8				ERP-02-P36	Jun-03	Jun-06	1.402.159	0	1.402.159	UC Davis	Dr. Steve Temple		rmage and seven stopped systems	sediments and pesticides, and conduct analysis of water quality.
		T.			83 A. Status on conducting	,			, ,		, ,				Pyrethroid Insecticides: Analysis,	Studying the unknown toxicity of Pyrethroids. Kathryn Kuivila,US
					appropriate studies to identify										Occurrence, and Fate in the	Geological Survey. Monitoring/Research. Note: Project is a
					unknown toxicity										Sacramento and San Joaquin Rivers	landscape project. Project is about 1% completed.
															and Delta	
,	SAC	8	: [ERP-02-P42	Oct-02	Sep-05	800.000	60.000	860.000	US Geological Survey	Kathrvn Kuivila			
_ 0	S	U,				ERF-02-P42	UUI-U2	3ep-05	000,000	00,000	000,000	Survey	Natifiyii Kulvila			

							CONT	RACT						Ф		
ıəqшnN SW	REGION	Project Type	Milestone	ERP Targets taken from ERPP Vol 2	MS Components or Questions for field personnel	ERP PROJECT NUMBERS	START DATE	END DATE	CALFED Award	Cost Share	Total Project Cost	Applicant	Principal Investigator	Quantifiabl Units	Project Name	Comments
					83 A. Status on conducting appropriate studies to identify unknown toxicity										Yolo Bypass Watershed Planning Project	This project is conducting studies to determine pollutants of concern, and a watewrshed plan to provide implementation of measures to address those pollutants
83	SAC	SR				WSP-01-FP-073	Jun-01	Jun-05	288,081		288,081	City of Woodland	Gary Wegener			
83	SAC	SR			83 B. Status on development of management actions to address identified unknown toxicity.	ERP-01-N22	Sep-98	Jun-01	530,000	120,000	650,000	Central Valley Regional Water Quality Control Board	Karen Larsen		Rainbow Trout Toxicity Monitoring	Research and monitoring of rainbow trout. Karen Larsen, State Water Resource Control Board. Monitoring. Project not completed. There have been contract delays. The work has not yet started.
					83 B. Status on development of management actions to address identified unknown toxicity.	LIN -01-1422	ОСР-30	Juli-01	330,000	120,000	030,000	UC Davis	William A.		Contaminant Effects on Smelt	Research and monitoring of listed species. William A. Bennett, UCD Bodega Bay Research and Monitoring. Project completed.
83	SAC	SR				ERP-97-C06	Jul-98	Jun-01	437,326	none	437,326	(Bodega Bay)	Bennett			
					83 B. Status on development of management actions to address identified unknown toxicity.				·						Fathead Minnow Toxicity Study in the Sacramento River	Monitoring and research of fathead minnows. Karen Larsen, State Water Resource Control Board. Monitoring. Project completed.
	۱.,											State Water				
83	SAC	SR				ERP-98-C07	Sep-98	Nov-02	400,000	0	400,000	Resources Control Board	Karen Larsen			