APPENDIX B.

Approximate Funding Contributions ($1000s) by Funding Source for Each of the Interagency Ecological Program Monitoring and Special Study Activities ("Elements") Proposed for 1997-98

I. ESTUARY MONITORING ELEMENTS

PROGRAM ELEMENT	FUNDING SOURCE										
A. HYDRODYNAMICS	**DWR**	**DFG**	**WRCB**	**USBR**	**FWS**	**USGS**	**EPA**	**NMFS**	**ACOE**	**CVPIA**	**TOTAL**
1. Bay Salinity Monitoring	46			37		43					126
2. Delta Flow Measurement	85			170		336					591
3. Hydrodynamics Data Base	10			5		15					30
TOTAL HYDRODYNAMICS	**141**			**212**		**394**					**747**
B. WATER QUALITY											
1. Revised D-1485 Water Quality Compliance Monitoring	1,200			560							1,760
2. Ancillary Water Quality Data											By Element
3. S. J. River D.O. Monitoring	26										26
TOTAL WATER QUALITY MONITORING	**1,226**			**560**							**1786**
C. LOWER TROPHIC LEVELS											
1. Chlorophyll Sampling											Included in element I.B.1.
2. Upper Estuary Zooplankton	164										164
TOTAL LOWER TROPHIC LEVEL MONITORING	**164**										**164**
D. FISH & MACROINVERTS											
1. Estuarine & Marine Fish Abundance & Distribution Survey	169			198							367

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PROGRAM ELEMENT	DWR	DFG	WRCB	USBR	FWS	USGS	EPA	NMFS	ACOE	CVPIA	TOTAL
2. Bay Shrimp and Crab Abundance & Distribution Surveys											Included in I.D.1.
3. Benthic Grab Sampling (Delta - San Pablo Bay)											Included in I.B.1.
4. Fall-Spring Midwater Trawl	51	67		36						41	195
5. Delta Shoreline Fish Sampling	4	9		4							17
6. Adult Sturgeon Tagging	13	29		16							58
7. Sturgeon Year-Class Strength	12	27		14							53
8. Delta Juvenile Salmon Abundance and Distribution	320	10		381	103					168	982
9. Adult Striped Bass Population Parameters	43	104		57							204
10. 20mm Delta Smelt Survey	82			128							210
11. Fall Kodiak Trawl Survey	21			24							45
12. Summer Townet Survey	35	46		25						29	135
13. Knights Landing Juvenile Salmon Monitoring	41	10								41	92
TOTAL FISH AND MACROINVERTEBRATE	**791**	**302**		**883**	**103**					**279**	**2,358**
TOTAL ESTUARY MONITORING	**2,322**	**302**		**1,655**	**103**	**394**				**279**	**5,055**
II. SPECIAL STUDY ELEMENTS											
A. OPs. MONITORING											
1. Fall "Make-up" Pumping Real-Time Salmon Data Reporting	5			5							10
2. Spring/Summer Delta CALFED Ops Group Real Time Monitoring	277	21		176							474

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PROGRAM ELEMENT	DWR	DFG	WRCB	USBR	FWS	USGS	EPA	NMFS	ACOE	CVPIA	TOTAL
3. Real-Time Processing of 20mm Survey Results											Included in II.A.2.
4. Spring RTM Mobile Hydroacoustic Surveys[2]	56										56
TOTAL OPERATIONS MONITORING S.S.	**338**	**21**		**181**							**540**
B. SALMON MIGRATION & SURVIVAL											
1. Pilot Knights Landing Juvenile Monitoring	15										15
2. 1997 Large-Scale CNFH Fall-run Marking Experiment	66			35						66	167
3. Central Valley Chinook Salmon Life Cycle Modeling	45										45
4. Fall- and Late-Fall Run CNFH Smolt Mark & Recapture (Survival) Experiments										74	74
5. NMFS Winter-run Chinook Salmon Life-Cycle Model								100			100
6. NMFS Juvenile Chinook Salmon Estuarine Life History Invest.								300			300
7. Winter-run Race Identification	280										280
8. Fish/Channel Flow Study	40					85					125
9. Winter-run Captive Brood Stock	100			250						200	550
10. IEP Support for DFG Ocean Salmon Project	90										90
11. CNFH Late-Fall Run Production Tagging	18			35						53	106
12. Recovery of Adults from 1996 CNFH Production Tagging										8	8

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PROGRAM ELEMENT	DWR	DFG	WRCB	USBR	FWS	USGS	EPA	NMFS	ACOE	CVPIA	TOTAL
13. Delta Smolt Survival Modeling	19										19
14. Use of Otoliths to Evaluate Delta Rearing	22									13	35
TOTAL SALMON MIGRATION & SURVIVAL SPECIAL STUDIES	**529**			**285**				**400**		**348**	**1,562**
C. RESIDENT SPECIES											
1. Shallow-Water Habit role in the Early Life History of Delta Smelt	58			92							150
2. Delt[illegible]lt/Wakasagi Research	8			12							20
3. D[illegible]elt Life History	47			74							121
[illegible]ail Life History Invest.	78			78							156
5. Delta Smelt and Wagasaki Genetic Identification	12										12
6. Delta Smelt Culturing Investigations	80										80
7. Environmental Tolerances of Delta Smelt and Wakasagi (UCD)	44										44
TOTAL RESIDENT SPECIES SPECIAL STUDIES	**315**			**256**							**571**
D. ECOLOGICAL PROCESSES											
1. Net Fluxes in the Western Delta	55			55							110
2. Ecosystem Performance	20			20							40
3. S. F. Bay Hydrodynamic Model	40			55		70					165
4. Suisun Bay Hydrodynamics Data Collection & Analysis	88			58		281					427

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PROGRAM ELEMENT	DWR	DFG	WRCB	USBR	FWS	USGS	EPA	NMFS	ACOE	CVPIA	TOTAL
5. Yolo Bypass Investigations	42										42
6. Bay-Delta Hydrodynamic Modelling (Stanford)	29										29
7. Inland Siverside Effects on Delta Smelt[2]	70										70
8. Potamocorbula Effects on the Bay-Delta Ecosystem[2]	70										70
TOTAL ECOLOGICAL PROCESSES S.S.	**339**			**113**		**351**					**803**
E. ESTUARINE MONITORING											
1. Pilot Tidal Marsh Fish Sampling	49			58							107
2. Fish Egg & Larva Survey Analysis & Reporting	25	46		25						29	125
3. Lower Estuary Zooplankton Monitoring	5										5
4. Pilot Green and Mitten Crab Surveys	16			19							35
5. Pilot Young-of-the-Year Sturgeon Nursery Area Surveys	8	20		10							38
6. CALFED Ecosystem Monitoring Program Development	15			11							26
TOTAL ESTUARY MONITORING S.S.	**118**	**66**		**123**						**29**	**336**
F. FISH FACILITIES											
1. Georgiana Slough Acoustic Barrier Evaluation[3]	n/a										n/a

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PROGRAM ELEMENT	DWR	DFG	WRCB	USBR	FWS	USGS	EPA	NMFS	ACOE	CVPIA	TOTAL
2. Fish Screen and Screen Criteria Development	249										249
3. Tracy Fish Collection Facility Evaluation[4]	122			see note "1"							122
4. South Delta Temporary Barriers Fisheries Impacts Evaluation[5]											Not Available
TOTAL FISH FACILITIES SPECIAL STUDIES	**371**										**371**
G. AG. AND MUNICIPAL DIVERSION EVALUATION											
1. Delta Agricultural Diversion Evaluation Analysis and Reporting	50										50
2. Contra Costa Canal Entrainment				106							106
3. North Bay Aqueduct Fish Egg & Larva Entrainment Monitoring	120										120
4. Suisun Marsh Diversion Evaluation and Monitoring		75									75
5. Sherman Is. Ag. Diversion Fish Entrainment Study	134										134
6. Los Vaqueros Res. Intake Fish Entrainment Monitoring				75							75
TOTAL AG./MUNICIPAL DIVERSION S.S.	**254**	**75**		**181**							**510**
H. CLIFTON COURT FOREBAY PREDATION											
1. CCF Adult Striped Bass Sonic Tagging/Migration Studies	15										15
2. CCF Multi-year Pre-screen Loss Studies Wrap-up Analysis and Rpt.	15										15

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PROGRAM ELEMENT	DWR	DFG	WRCB	USBR	FWS	USGS	EPA	NMFS	ACOE	CVPIA	TOTAL
3. Hydroacoustic and Habituated Test Fish Pre-screen Loss Studies	121										121
TOTAL CLIFTON COURT FOREBAY PREDATION	**136**										**136**
I. CONTAMINANT EFFECTS											
1. IEP Support for Bay-Delta Contaminant Effects Studies	**37**			**38**							**75**
J. RESTORATION EVALUATION											
1. Striped Bass Hatchery Evaluation Project		560								134	694
2. IEP Contribution to U of W Flooded Is. Study	92										92
3. IEP Participation in VAMP Studies	40										40
TOTAL RESTORATION EVALUATION	**132**	**560**									**134**
K. IEP FUNCTIONS											
1. Implementation of IEP Boat/Field Safety Program											Costs included in "Program Management" and Element Costs
2. Implementation of IEP QA/QC Program											Costs included in "Program Management" and Element Costs
3. Long- Range/Strategic Planning											Costs included in "Program Management" and Element Costs
4. Data Management & Utilization	280			115						85	480
5. Science Advisory Group Support	18										18

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PROGRAM ELEMENT	DWR	DFG	WRCB	USBR	FWS	USGS	EPA	NMFS	ACOE	CVPIA	TOTAL
6. Purchase of Replacement 38-40' Research Boat[2]	200										200
7. Aquistion of Additional Boat Operator	75										75
8. Participation by agency staff on IEP Project Work Teams not covered by element costs	45										290
TOTAL IEP FUNCTIONS	**618**			**360**						**85**	**1,063**
TOTAL SPECIAL STUDY ELEMENTS	**3,187**	**722**		**1,537**		**351**		**400**		**596**	**6,793**
TOTAL MONITORING AND SPECIAL STUDY ELEMENTS	**5,509**	**1,024**	**0**	**3,192**	**103**	**745**	**0**	**400**	**0**	**875**	**11,848**

III. PROGRAM MANAGEMENT

AGENCY	DWR	DFG	WRCB	USBR	FWS	USGS	EPA	NMFS	ACOE	CVPIA	TOTAL
Dept. of Water Resources	58										58
Dept. of Fish and Game	58	272		44							374
Water Resources Control Board			10								10
U.S. Bureau of Reclamation				694							694
U.S. Fish and Wildlife Service					78						78
U.S. Geological Survey						15					15
U.S. Env. Protection Agency							20				20
National Marine Fisheries Service								5			5
U.S. Army Corps of Engineers									10		10
TOTAL PROGRAM MANAGEMENT	**116**	**272**	**10**	**738**	**78**	**15**	**20**	**5**	**10**	**0**	**1,264**
OVERALL PROGRAM TOTAL	**5,625**	**1,296**	**10**	**3,930**	**181**	**760**	**20**	**405**	**10**	**875**	**13,112**

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1997 elements completed in 1997 or otherwise not included in the 1998 program are shaded with diagonal lines.

1/ Approximately $2.0 million in "Non-IEP" USBR Funds (Denver Office) will be expended on the TFCF Evalution and Improvement Project.

2/ Proposed 1998 elements that are tentatively included in the work plan, but still under review.

3/ If dry conditions prevail in the Spring of 1998 an additional test of the Georgiana Slough acoustic barrier will likely be preformed using funding and support from DWR Planning and water agency stakeholders

4/ Amounts shown are only for support of DFG Biologists and Biological Technicians working on the "fish treadmill' studies at UCD.

5/ Additional fishery evaluations of the Temporary Barriers Project are likely to occur in 1998, but the scope and cost have not been determined. Funding is likely to come from DWR and USBR planning units.

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