

December 6, 1996

David N. Kennedy, Director
Department of Water Resources

Jacqueline E. Schafer, Director
Department of Fish and Game

-Department of Fish and Game

Delta Pumping Plant Fish Protection Agreement - Amendment

Attached for your approval is Amendment 1 of the Delta Pumping Plant Fish Protection (4-Pumps) Agreement. The amendment provides the Department of Water Resources and the Department of Fish and Game five more years to spend the \$9 million that still remains of the \$15 million provided under Paragraph I.B. of the original agreement. It also changes the factors DFG is to use to convert the calculated striped bass losses to yearling equivalents. The latter change formally adopts the factors that DFG has actually been using for the past 10 years.

The Delta Pumping Plant Fish Advisory Committee has reviewed the amendment and recommended their approval. We agree with the Committee's recommendation.

RECOMMEND APPROVAL:

Original signed by

Original signed by

Randall L. Brown, Chief
Environmental Services Office
Department of Water Resources

Perry Herrgesell, Chief
Bay-Delta and Special
Water Projects Division
Department of Fish and Game

Date DEC 1 2 1996

Date DEC 1 3 1996

Attachment

SFord:Sandy Springer

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Spell Check: 12/6/96

**AMENDMENT ONE TO AGREEMENT BETWEEN
THE DEPARTMENT OF WATER RESOURCES AND
THE DEPARTMENT OF FISH AND GAME
TO OFFSET DIRECT FISH LOSSES IN RELATION TO
THE HARVEY O. BANKS DELTA PUMPING PLANT**

This Amendment One is made on November 6, 1996 between the Department of Water Resources (DWR) and Department of Fish and Game (DFG) to amend their 1986 agreement to offset direct losses of fish caused by the diversion of water by the Harvey O. Banks Delta Pumping Plant.

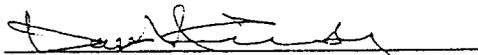
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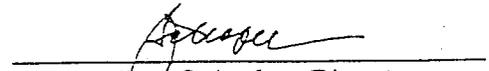
1. On December 30, 1986, DWR and DFG entered into an agreement to offset direct losses of fish caused by the diversion of water by the Harvey O. Banks Delta Pumping Plant (Delta Pumping Plant) since 1986.
2. In Paragraph I.B of the 1986 Agreement, the parties recognized that direct losses of fish for any given year would probably have been greater had there not been direct losses caused by the Pumping Plant in previous years. DWR agreed to provide \$15 million for fishery improvement projects to offset these potentially higher losses. Paragraph D.4. requires the \$15 million to be expended by December 29, 1996. However, DWR and DFG will have spent only about \$6 million by that time. About \$9 million will not have been spent.
3. Paragraph I.A. of the 1986 Agreement specifies that losses of striped bass, steelhead and salmon be calculated as outlined in Appendix A of that Agreement. This procedure is to be revised by mutual agreement as better information becomes available. Table 2 of Appendix A of the 1986 Agreement specifies the factors to be used to convert the losses of striped bass to yearling equivalent values. DFG has always used the factors presented in Attachment 1 of this amendment to calculate losses of bass as yearling equivalents.
4. At the November 6, 1996, Delta Pumping Plant Fish Advisory Committee Meeting, committee members reviewed and approved the draft of this Amendment One and recommended that the Amendment be submitted to the Directors of DWR and DFG for signature.

AGREEMENT #B-56172

The Department of Water Resources and the Department of Fish and Game agree to the following:

1. The period to expend the remainder of the \$15 million provided for fishery improvement projects is extended to December 29, 2001. The money will be allocated as specified in Attachment 2 of this amendment, unless otherwise recommended by the Delta Pumping Plant Agreement Fish Advisory Committee and agreed to by the Department Water Resources and the Department of Fish and Game.
2. The factors presented in Attachment 1 of this amendment will be used to calculate the number of yearling equivalent striped bass lost at the Delta Pumping Plant. These factors will replace those presented in Table 2 of Appendix A of the original agreement.
3. This Amendment One shall become effective upon signatures below and approval by the Department of General Services.


David N. Kennedy, Director
Department of Water Resources


Jacqueline Schafer, Director
Department of Fish and Game

Approved as to legal form
and sufficiency:


Susan N. Weber
Chief Counsel, Department
of Water Resources

Attachments:

1. Striped bass yearling equivalent survival factors.
2. Allocation of \$15 million account.

FORM	POLICY	BUDGET
Department of General Services		
APPROVED		
MAY 5 1997		
BY		
Ass't. Chief Counsel		

TABLE 2. STRIPED BASS YEARLING EQUIVALENT SURVIVAL FACTORS STRATIFIED BY SIZE GROUP AND TIME OF YEAR ENTRAINED INTO THE STATE WATER PROJECT.

Semi-Monthly Period		21-25 mm	26-30 mm	31-35 mm	36-40 mm	41-50 mm
JAN	1	0.017741	0.034535	0.060131	0.092805	0.150022
	2	0.030892	0.055883	0.090934	0.129617	0.203513
FEB	3	0.072347	0.116592	0.168253	0.216577	0.308627
	4	0.205760	0.278857	0.355389	0.421823	0.503530
MAR	5	0.002157	0.005229	0.010560	0.018725	1
	6	0.002211	0.005360	0.010825	0.019195	1
APR	7	0.002270	0.005504	0.011115	0.019710	0.038623
	8	0.002327	0.005642	0.011394	0.020205	0.039593
MAY	9	0.002397	0.005784	0.011681	0.020713	0.040588
	10	0.002489	0.005996	0.012035	0.021233	0.041607
JUN	11	0.002592	0.006244	0.012531	0.022083	0.042878
	12	0.002692	0.006485	0.013015	0.022935	0.044534
JUL	13	0.002797	0.006735	0.013518	0.023821	0.046254
	14	0.002963	0.007070	0.014056	0.024741	0.048040
AUG	15	0.003152	0.007521	0.014952	0.026097	0.050022
	16	0.003340	0.007969	0.015843	0.027652	0.052950
SEP	17	0.003627	0.008528	0.016852	0.029414	0.056322
	18	0.003962	0.009316	0.018256	0.031403	0.059678
OCT	19	0.004328	0.010177	0.019944	0.034306	0.064306
	20	0.004936	0.011350	0.021787	0.037477	0.070250
NOV	21	0.005701	0.013108	0.025126	0.042267	0.077197
	22	0.006895	0.015319	0.028759	0.048378	0.087780
DEC	23	0.008475	0.018829	0.034896	0.056735	0.100472
	24	0.011576	0.024409	0.042968	0.069733	0.120391

TABLE 2. Continued.

Semi- Monthly Period	51-60 mm	61-70 mm	71-80 mm	81-90 mm	91-100 mm
JAN 1	0.267298	0.395377	0.517053	0.636937	0.732085
2	0.328535	0.464298	0.591813	0.695812	0.775713
FEB 3	0.450597	0.578569	0.683508	0.777180	0.847867
4	0.638145	0.745224	0.824871	0.881578	0.920797
MAR 5	1	1	1	1	1
6	1	1	1	1	1
APR 7	1	1	1	1	1
8	1	1	1	1	1
MAY 9	0.088168	1	1	1	1
10	0.090383	1	1	1	1
JUN 11	0.092807	0.164786	0.253976	1	1
12	0.095369	0.168926	0.260356	1	1
JUL 13	0.099052	0.173169	0.266896	0.370199	1
14	0.102877	0.179686	0.273601	0.379499	1
AUG 15	0.107120	0.187097	0.282796	0.389676	0.497496
16	0.111257	0.194322	0.293717	0.399465	0.509993
SEP 17	0.118007	0.202337	0.305831	0.414317	0.523670
18	0.125039	0.212971	0.317641	0.430317	0.536824
OCT 19	0.132491	0.225663	0.331074	0.446934	0.554296
20	0.142362	0.239111	0.350803	0.464193	0.575701
NOV 21	0.156441	0.256420	0.373146	0.487611	0.599445
22	0.170902	0.280122	0.395383	0.516669	0.622594
DEC 23	0.193498	0.306016	0.428994	0.547459	0.649542
24	0.221476	0.342336	0.468648	0.580084	0.688251

TABLE 2. Continued.

Semi- Monthly Period	101-110 mm	111-120 mm	121-130 mm	131-140 mm	141-150 mm
JAN 1	0.803845	0.861540	0.907024	0.938102	0.959032
2	0.843837	0.894810	0.929809	0.953466	0.969286
FEB 3	0.897581	0.931715	0.954744	0.970131	0.980344
4	0.947408	0.965254	0.977110	0.984952	0.990123
MAR 5	1	1	1	1	1
6	1	1	1	1	1
APR 7	1	1	1	1	1
8	1	1	1	1	1
MAY 9	1	1	1	1	1
10	1	1	1	1	1
JUN 11	1	1	1	1	1
12	1	1	1	1	1
JUL 13	1	1	1	1	1
14	1	1	1	1	1
AUG 15	0.596247	1	1	1	1
16	0.607762	1	1	1	1
SEP 17	0.624061	0.712355	0.783436	1	1
18	0.639737	0.724022	0.796267	1	1
OCT 19	0.655808	0.735879	0.809308	0.862891	0.905856
20	0.672282	0.753957	0.822562	0.872116	0.908079
NOV 21	0.690310	0.774176	0.836940	0.882066	0.918439
22	0.715664	0.793623	0.850647	0.892512	0.928259
DEC 23	0.743301	0.813559	0.864579	0.907130	0.938183
24	0.772005	0.833996	0.883336	0.921986	0.948214

**DELTA PUMPING PLANT FISH PROTECTION AGREEMENT
\$15 MILLION ACCOUNT**

Anticipated Allocation of Remaining Funds

PROJECTS	AMOUNT FUNDED	COMPLETION DATE
Tuolumne River Salmon Restoration Center	\$4,500,000	JUN 2001
Deer Creek Water Exchange Project	\$1,650,000	JUN 1999
Suisun Marsh Wetland Diversion Screening	\$2,000,000	DEC 1997
San Joaquin Predator Isolation Projects	<u>\$1,000,000</u>	DEC 1999
TOTAL	\$9,150,000	