October 1989

EVALUATION OF THE CONTRIBUTION OF FALL CHINOOK SALMON REARED AT COLUMBIA RIVER HATCHERIES TO THE PACIFIC SALMON FISHERIES

Appendix

Final Report

DOE/BP-39638-5

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APPENDIX FOR

EVALUATION OF THE CONTRIBUTION OF FALL CHINOOK
SALMON REARED AT COLUMBIA RIVER HATCHERIES
TO THE PACIFIC SALMON FISHERIES

Final Report

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Appendix Table 1.--Proportions of tagged 1978-brood fall chinook from Columbia River rearing facilities recovered in Pacific coast fisheries by facility and area of catch.

Rearing facility	Recovery percentages						
	Marine			Fresh water			
	Alaska	Canada	Washington	Oregon	California	Foreign	Col. River
ABERNATHY HATCHERY	0.	0.519	0.263	0.085	0.009	0.	0.124
BIG CREEK HATCHERY	0.	0.552	0.276	0.041	0.	0.	0.131
BIG WHITE POND	0.	0.288	0.485	0.077	0.	0.	0.150
BONNEVILLE HATCHERY	0.	0.460	0.342	0.067	0.005	0.	0.126
COWLITZ HATCHERY	0.036	0.340	0.372	0.149	0.	0.	0.104
ELOKOMIN HATCHERY	0.	0.588	0.176	0.	0.	0.	0.235
GRAYS RIVER HATCHERY	0.127	0.113	0.239	0.183	0.	0.	0.338
KALAMA FALLS HATCHERY	0.044	0.516	0.154	0.033	0.	0.	0.253
KLASKANINE HATCHERY	0.	0.449	0.106	0.109	0.	0.	0.337
KLICKITAT HATCHERY	0.008	0.436	0.317	0.029	0.	0.	0.210
LITTLE WHITE HATCHERY	0.	0.348	0.333	0.076	0.	0.	0.242
PRIEST RAPIDS HATCHERY	0.382	0.429	0.026	0.016	0.021	0.	0.126
SEA RESOURCES HATCHERY	0.	0.200	0.120	0.480	0.	0.	0.200
SPEELYAI HATCHERY	0.077	0.338	0.314	0.062	0.	0.	0.209

Appendix Table 1.--(Continued)

Rearing facility	Recovery percentages						
	Marine					Fresh water	
	Alaska	Canada	Washington	Oregon	California	Foreign	Col. River
SPRING CREEK HATCHERY	0.	0.321	0.370	0.067	0.	0.0004	0.240
STAYTON POND	0.	0.517	0.335	0.064	0.004	0.0011	0.079
TOUTLE HATCHERY	0.037	0.548	0.089	0.111	0.	0.	0.215
WASHOUCAL HATCHERY	0.029	0.401	0.199	0.065	0.	0.	0.307
WEYCO POND	0.031	0.569	0.154	0.	0.	0.	0.246
Average	0.012	0.401	0.327	0.069	0.002	0.0004	0.189

Appendix Table 2.--Proportions of tagged 1979-brood fall chinook from Columbia River rearing facilities recovered in Pacific coast fisheries by facility and area of catch.

Rearing facility	Recovery percentages						
	Marine				Fresh water		
	Alaska	Canada	Washington	Oregon	California	Foreign	Col. River
ABERNATHY HATCHERY	0.	0.282	0.488	0.093	0.011	0.0070	0.119
BIG CREEK HATCHERY	0.	0.492	0.317	0.049	0.007	0.0033	0.132
BONNEVILLE HATCHERY	0.	0.540	0.273	0.	0.	0.	0.187
COWLITZ HATCHERY	0.046	0.265	0.522	0.046	0.	0.	0.120
ELOKOMIN HATCHERY	0.	0.359	0.234	0.188	0.	0.0313	0.188
GRAYS RIVER HATCHERY	0.108	0.569	0.185	0.031	0.	0.	0.108
KALAMA FALLS HATCHERY	0.057	0.505	0.310	0.043	0.	0.	0.086
KLASKANINE HATCHERY	0.	0.366	0.215	0.032	0.	0.	0.387
KLICKITAT HATCHERY	0.040	0.349	0.333	0.056	0.068	0.	0.153
LEWIS RIVER HATCHERY	0.046	0.369	0.237	0.081	0.	0.	0.266
LITTLE WHITE HATCHERY	0.	0.391	0.435	0.	0.	0.	0.174
LOWER KALAMA HATCHERY	0.043	0.465	0.173	0.043	0.	0.	0.276
OWBOW HATCHERY	0.	0.491	0.302	0.069	0.	0.	0.138
PRIEST RAPIDS HATCHERY	0.413	0.340	0.046	0.021	0.	0.	0.180

Appendix Table 2.--(Continued)

Rearing facility	Recovery percentages						
	Marine					Fresh water	
	Alaska	Canada	Washington	Oregon	California	Foreign	Col. River
SEARESOURCESHATCHERY	0.231	0.423	0.135	0.	0.	0.	0.212
SPRING CREEK HATCHERY	0.	0.215	0.392	0.049	0.006	0.0005	0.336
STAYTON POND	0.	0.339	0.479	0.061	0.002	0.0021	0.117
WASHOUGAL HATCHERY	0.079	0.425	0.306	0.021	0.013	0.	0.157
WEYCO POND	0.011	0.213	0.479	0.021	0.	0.	0.277
Average	0.031	0.326	0.373	0.051	0.006	0.0015	0.211

Appendix Table 3.--Proportions of tagged 1980-brood fall chinook from Columbia River rearing facilities recovered in Pacific coast fisheries by facility and area of catch.

Rearing facility	Recovery percentages						
	Marine					Fresh water	
	Alaska	Canada	Washington	Oregon	California	Foreign	Col. River
ABERNATHY HATCHERY	0.003	0.480	0.413	0.022	0.	0.	0.081
SIG CREEK HATCHERY	0.	0.586	0.266	0.030	0.	0.	0.118
BONNEVILLE HATCHERY	0.	0.601	0.263	0.036	0.	0.	0.101
CLATSOP COUNTY PONDS	0.	0.547	0.241	0.014	0.	0.	0.198
COWLITZ HATCHERY	0.054	0.537	0.165	0.050	0.005	0.	0.189
ELOKOMIN HATCHERY	0.057	0.529	0.105	0.052	0.	0.	0.257
GRAYS RIVER HATCHERY	0.079	0.614	0.079	0.014	0.	0.	0.214
KALAMA FALLS HATCHERY	0.133	0.582	0.153	0.005	0.	0.	0.128
KLASKANINE HATCHERY	0.	0.456	0.118	0.	0.	0.	0.426
Klickitat Hatchery	0.047	0.651	0.023	0.023	0.	0.	0.256
LITTLE WHITE HATCHERY	0.	0.429	0.304	0.	0.	0.	0.268
LOWER KALAMA HATCHERY	0.121	0.526	0.085	0.016	0.	0.	0.252
PRIEST RAPIDS HATCHERY	0.288	0.481	0.015	0.009	0.	0.0020	0.206
SEA RESOURCES HATCHERY	0.	0.393	0.268	0.	0.	0.	0.339

Appendix Table 3.--(Continued)

Rearing facility	Recovery percentages						
	Marine					Fresh water	
	Alaska	Canada	Washington	Oregon	California	Foreign	Col. River
SPRING CREEK HATCHERY	0.	0.440	0.267	0.023	0.	0.0021	0.268
STAYTON POND	0.	0.503	0.407	0.019	0.004	0.0029	0.064
WASHOUGAL HATCHERY	0.141	0.469	0.126	0.013	0.007	0.	0.244
WEYCO FOND	0.049	0.415	0.488	0.	0.	0.	0.049
Average	0.066	0.499	0.214	0.022	0.001	0.0010	0.196

Appendix Table 4.--Proportions of tagged 1981-brood fall chinook from Columbia River rearing facilities recovered in Pacific coast fisheries by facility and area of catch.

Rearing facility	Recovery percentages						
	Marine					Fresh water	
	Alaska	Canada	Washington	Oregon	California	Foreign	Col. River
ABERNATHY HATCHERY	0.	0.622	0.146	0.005	0.	0.	0.227
BIG CREEK HATCHERY	0.	0.702	0.082	0.030	0.010	0.0141	0.161
BONNEVILLE HATCHERY	0.	0.500	0.131	0.043	0.010	0.	0.316
CLATSOP COUNTY PONDS	0.	0.651	0.	0.036	0.	0.	0.313
COWLITZ HATCHERY	0.038	0.569	0.090	0.066	0.	0.	0.237
ELOKOMIN HATCHERY	0.	0.962	0.	0.038	0.	0.	0.
GRAYS RIVER HATCHERY	0.	0.450	0.250	0.	0.	0.	0.300
KALAMA FALLS HATCHERY	0.087	0.768	0.029	0.010	0.	0.	0.106
KLASKANINE HATCHERY	0.	0.733	0.067	0.111	0.	0.	0.089
KLICKITAT HATCHERY	0.	0.402	0.206	0.010	0.	0.	0.382
LITTLE WHITE HATCHERY	0.	0.706	0.059	0.	0.	0.	0.235
LOWER KALAMA HATCHERY	0.102	0.613	0.060	0.009	0.	0.	0.217
OXBOW HATCHERY	0.	0.800	0.	0.	0.	0.	0.200
PRIEST RAPIDS HATCHERY	0.180	0.349	0.009	0.002	0.003	0.0055	0.452

..

Appendix Table 4.--(Continued)

Rearing facility	Recovery percentages						
	Marine				Fresh water		
	Alaska	Canada	Washington	Oregon	California	Foreign Col.	River
SEA RESOURCES HATCHERY	0.	0.528	0.048	0.048	0.	0.	0.375
SPRING CREEK HATCHERY	0.	0.425	0.125	0.052	0.008	0.0026	0.387
STAYTON POND	0.	0.791	0.107	0.032	0.	0.0022	0.068
WASHOUGAL HATCHERY	0.076	0.464	0.055	0.013	0.	0.	0.392
WEYCO POND	0.145	0.566	0.039	0.013	0.	0.	0.237
Average	0.048	0.530	0.083	0.031	0.004	0.0029	0.302

Appendix Table 5.--Proportions of tagged 1978-brood fall chinook from Columbia River rearing facilities recovered in all Pacific coast fisheries combined by age of recovery.

Rearing facility	Total age				
	2	3	4	5	6
ABERNATHY HATCHERY	0.107	0.810	0.083	0	0
BIG CREEK HATCHERY	0.047	0.704	0.234	0.015	0
BIG WHITE POND	0.106	0.704	0.190	0	0
BONNEVILLE HATCHERY	0.081	0.694	0.225	0	0
COWLITZ HATCHERY	0.007	0.356	0.608	0.029	0
ELOKOMIN HATCHERY	0.177	0.471	0.176	0.176	0
GRAYS RIVER HATCHERY	0	0.465	0.352	0.183	0
KALAMA FALLS HATCHERY	0.011	0.165	0.769	0.022	0.033
KLASKANINE HATCHERY	0.035	0.596	0.369	0	0
KLICKITAT HATCHERY	0.058	0.531	0.411	0	0
LITTLE WHITE HATCHERY	0.030	0.652	0.318	0	0
PRIEST RAPIDS HATCHERY	0.058	0.183	0.644	0.115	0
SEA RESOURCES HATCHERY	0.680	0.080	0.240	0	0
SPEELYAI HATCHERY	0.055	0.320	0.535	0.089	0
SPRING CREEK HATCHERY	0.081	0.783	0.133	0.003	0
STAYTON POND	0.050	0.753	0.190	0.007	0
TOUTLE HATCHERY	0.007	0.326	0.667	0	0
WASHOUGAL HATCHERY.	0.050	0.462	6.459	0.029	0
WEYCO POND	0	0.646	0.354	0	0
Average	0.069	0.697	0.223	0.011	0

Appendix Table 6 --Proportions of tagged 1979-brood fall chinook from
Columbia River rearing facilities recovered in all
Pacific coast fisheries combined by age of recovery.

Rearing facility'	Total age				
	2	3	4	5	6
ABERNATHY HATCHERY	0.177	0.784	0.036	0.003	0
BIG CREEK HATCHERY	0.103	0.787	0.107	0.003	0
BONNEVILLE HATCHERY	0.007	0.799	0.194	0	0
COWLITZ HATCHERY	0.053	0.412	0.517	0.018	0
ELOKOMIN HATCHERY	0.031	0.516	0.453	0	0
GRAYS RIVER HATCHERY	0	0.569	0.292	0.139	0
KALAMA FALLS HATCHERY	0.057	0.352	0.553	0.038	0
KLASKANINE HATCHERY	0.086	0.699	0.215	0	0
KLICKITAT HATCHERY	0.072	0.687	0.229	0.012	0
LEWIS RIVER HATCHERY	0.055	0.376	0.554	0.015	0
LITTLE WHITE HATCHERY	0	1.0	0	0	0
LOWER KALAMA HATCHERY	0.032	0.557	0.276	0.135	0
OXBOW HATCHERY	0.013	0.767	0.220	0	0
PRIEST RAPIDS HATCHERY	0.043	0.279	0.514	0.164	0
SEA RESOURCES HATCHERY	0.211	0.462	0.327	0	0
SPRING CREEK HATCHERY	0.188	0.778	0.034	0	0
STAYTON POND	0.128	0.795	0.075	0.002	0
WASHOUGAL HATCHERY	0.012	0.489	0.474	0.025	0
WEYCO POND	0.032	0.638	0.298	0.032	0
Average	0.119	0.687	0.179	0.015	0

Appendix Table 7.--Proportions of tagged 1980-brood fall chinook from Columbia River rearing facilities recovered in all Pacific coast fisheries combined by age of recovery.

Rearing facility	Total age				
	2	3	4	5	6
ABERNATHY HATCHERY	0.242	0.711	0.047	0	0
BIG CREEK HATCHERY	0.059	0.842	0.099	0	0
BONNEVILLE HATCHERY	0.100	0.758	0.142	0	0
CLATSOP COUNTY PONDS	0.074	0.748	0.178	0	0
COWLITZ HATCHERY	0.019	0.363	0.576	0.042	0
ELOKOMIN HATCHERY	0	0.409	0.491	0.057	0.043
GRAYS RIVER HATCHERY	0.028	0.193	0.693	0.086	0
KALAMA FALLS HATCHERY	0.020	0.372	0.587	0.021	0
KLASKANINE HATCHERY	0.044	0.927	0.029	0	0
KLICKITAT HATCHERY	0.093	0.209	0.582	0.116	0
LITTLE WHITE HATCHERY	0	0.786	0.214	0	0
LOWER KALAMA HATCHERY	0.072	0.284	0.509	0.135	0
PRIEST RAPIDS HATCHERY	0.019	0.141	0.581	0.248	0.011
SEA RESOURCES HATCHERY	0.036	0.929	0.035	0	0
SPRING CREEK HATCHERY	0.075	0.767	0.151	0.007	0
STAYTON POND	0.138	0.772	0.090	0	0
WASHOUGAL HATCHERY	0.040	0.220	0.686	0.054	0
WEYCO POND	0	0.415	0.585	0	0
Average	0.075	0.547	0.321	0.055	0.002

Appendix Table 8.- Proportions of tagged 1981-brood fall chinook from Columbia River rearing facilities recovered in all Pacific coast fisheries combined by age of recovery.

Rearing facility	Total age				
	2	3	4	5	6
ABERNATHY HATCHERY	0.108	0.778	0.114	0	0
BIG GREEK HATCHERY	0.030	0.829	0.09	0.012	0
BONNEVILLE HATCHERY	0.087	0.793	0.107	0.013	0
CLATSOP COUNTY PONDS	0.096	0.434	0.349	0.121	0
COWLITZ HATCHERY	0.043	0.240	0.624	0.093	0
ELOKOMIN HATCHERY	0	0.615	0.385	0	0
GRAYS RIVER HATCHERY	0.100	0.850	0.050	0	0
KALAMA FALLS HATCHERY	0.043	0.266	0.551	0.140	0
KLASKANINE HATCHERY	0	0.733	0.267	0	0
KLICKITAT HATCHERY	0.039	0.726	0.235	0	0
LITTLE WHITE HATCHERY	0	0.618	0.382	0	0
LOWER KALAMA HATCHERY	0.051	0.315	0.545	0.089	0
OXBOW HATCHERY	0.200	0.771	0.029	0	0
PRIEST RAPIDS HATCHERY	0.027	0.258	0.591	0.124	0
SEA RESOURCES HATCHERY	0.030	0.706	0.216	0.048	0
SPRING CREEK HATCHERY	0.094	0.818	0.085	0.003	0
STAYTON POND	0.071	0.840	0.086	0.003	0
WASHOUGAL HATCHERY	0.059	0.198	0.502	0.241	0
WEYCO FOND	0.026	0.224	0.671	0.079	0
Average	0.061	0.605	0.282	0.052	0

Appendix Table 9.--Estimated recoveries of tagged 1978-brood fell chinook from Columbia River rearing facilities to Pacific coast fisheries by facility, tag code, and catch year.

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total
			Marine					Columbia River		All fish.	
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian		
ABERNATHY HATCHERY	05-04-50	1980	0	9	14	0	0	0	0	0	23
		1981	0	172	60	15	5	0	0	21	273
		1982	0	17	0	0	0	0	0	6	23
		1983	0	0	0	0	0	0	0	0	0
	Total		0	198	74	15	5	0	0	27	319
	05-04-51	1980	0	10	12	0	0	0	0	12	34
		1981	0	64	50	26	0	0	0	18	158
		1982	0	4	4	4	0	0	0	9	21
		1983	0	0	0	0	0	0	0	0	0
	Total		0	78	66	30	0	0	0	39	213
BIG CREEK HATCHERY	07-18-44	1980	0	12	19	0	0	0	0	0	31
		1981	0	277	143	27	0	0	0	17	464
		1982	0	65	20	0	0	0	0	69	154
		1983	0	10	0	0	0	0	0	0	10
	Total		0	364	182	27	0	0	0	86	659
BIG WHITE POND	05-04-43	1980	0	5	17	7	0	0	0	0	29
		1981	0	57	103	14	0	0	19	0	193
		1982	0	17	13	0	0	0	10	12	52
		1983	0	0	0	0	0	0	0	0	0
	Total		0	79	133	21	0	0	29	12	274

Appendix Table 9.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total All fish.	
			Marine				Columbia		River			
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian	Non-Indian		
BONNEVILLE HATCHERY	07-18-42	1980	0	13	49	0	0	0	2	5	69	
		1981	0	275	237	57	0	0	4	18	591	
		1982	0	105	6	0	0	0	9	68	188	
		1983	0	0	0	0	0	0	0	0	0	
	Total		0	393	292	57	0	0	15	91	848	
	07-18-43	1980	0	0	0	0	0	0	0	0	0	
		1981	0	0	0	0	0	0	0	2	2	
		1982	0	0	0	0	4	0	0	0	4	
		1983	0	0	0	0	0	0	0	0	0	
	Total		0	0	0	0	4	0	0	2	6	
	COWLITZ HATCHERY	63-19-42	1980	0	0	0	0	0	0	0	2	2
			1981	0	30	32	15	0	0	0	7	a4
			1982	6	55	49	25	0	0	0	18	153
			1983	2	4	2	0	0	0	0	0	8
Total		8	89	83	40	0	0	0	27	247		
63-19-51		1980	0	0	0	0	0	0	0	0	0	
		1981	0	5	19	2	0	0	0	0	26	
		1982	2	11	13	4	0	0	0	5	35	
		1983	1	0	0	0	0	0	0	0	1	
Total		3	16	32	6	0	0	0	5	62		

Appendix Table 9.--(Continued)

Rearing	facility	Tag code	Catch year	Numbers of Recoveries								Total	
				Marine				Columbia River					
				Alaska	Canada	Washington	Oregon	California	Foreign	Indian	Non-Indian		All fish.
ELOKOMIN HATCHERY	63-18-56	1980	0	0	0	0	0	0	0	0	0	0	
		1981	0	0	0	0	0	0	0	0	0	0	
		1982	0	0	0	0	0	0	0	3	3	3	
		1983	0	3	0	0	0	0	0	0	0	3	
		Total	0	3	0	0	0	0	0	3	6	6	
	63-19-56	1980	0	3	0	0	0	0	0	0	0	3	
		1981	0	4	3	0	0	0	0	0	1	8	
		1982	0	0	0	0	0	0	0	0	0	0	
		1983	0	0	0	0	0	0	0	0	0	0	
		Total	0	7	3	0	0	0	0	1	11	11	
	GRAYS RIVER HATCHERY	63-16-46	1980	0	0	0	0	0	0	0	0	0	0
			1981	0	0	0	2	0	0	0	0	4	6
			1982	1	4	0	0	0	0	0	7	12	12
			1983	5	0	0	0	0	0	0	0	0	5
Total			6	4	0	2	0	0	0	11	23	23	
63-18-33		1980	0	0	0	0	0	0	0	0	0	0	
		1981	0	0	0	0	0	0	0	0	0	0	
		1982	0	4	0	0	0	0	0	0	4	4	
		1983	1	0	0	0	0	0	0	0	0	1	
		Total	1	4	0	0	0	0	0	0	0	5	

Appendix Table 9.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total All fish.
			Marine					Columbia River			
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian	Non-Indian	
GRAYS RIVER HATCHERY	63-19-37	1980	0	0	0	0	0	0	0	0	0
		1981	0	0	7	11	0	0	0	9	27
		1982	1	0	4	0	0	0	0	4	9
		1983	1	0	6	0	0	0	0	0	7
		Total	2	0	17	11	0	0	0	13	43
KALAMA FALLS HATCHERY	63-19-57	1980	0	1	0	0	0	0	0	0	1
		1981	0	4	8	3	0	0	0	0	15
		1982	4	42	6	0	0	0	0	18	70
		1983	0	0	0	0	0	0	0	2	2
		1984	0	0	0	0	0	0	0	3	3
Total	4	47	14	3	0	0	0	23	91		
KLASKANINE HATCHERY	07-18-45	1980	0	11	0	0	0	0	0	0	11
		1981	0	102	32	34	0	0	0	18	186
		1982	0	27	1	0	0	0	0	87	115
		1983	0	0	0	0	0	0	0	0	0
		Total	0	140	33	34	0	0	0	105	312
KLICKITAT HATCHERY	63-19-49	1980	0	4	5	0	0	0	0	5	14
		1981	0	59	50	7	0	0	10	3	129
		1982	2	43	22	0	0	0	21	12	100
		1983	0	0	0	0	0	0	0	0	0
		Total	2	106	77	7	0	0	31	20	243

Appendix Table 9.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total	
			Marine					Columbia River				
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian	Non-Indian		All fish.
LITTLE WHITE HATCHERY	05-04-48	1980	0	0	0	0	0	0	0	0	0	
		1981	0	11	11	0	0	0	5	0	27	
		1982	0	0	0	0	0	0	3	0	3	
		1983	0	0	0	0	0	0	0	0	0	
		Total	0	11	11	0	0	0	8	0	30	
	05-04-49	1980	0	2	0	0	0	0	0	0	2	
		1981	0	0	11	5	0	0	0	0	16	
		1982	0	10	0	0	0	0	8	0	18	
		1983	0	0	0	0	0	0	0	0	0	
		Total	0	12	11	5	0	0	8	0	36	
	PRIEST RAPIDS HATCHERY	63-18-21	1980	0	8	0	0	0	0	0	3	11
			1981	0	15	2	3	0	0	2	0	22
			1982	49	33	3	0	0	0	a	4	97
			1983	12	5	0	0	0	0	0	0	17
			Total	61	61	5	3	0	0	10	7	147
		63-18-57	1980	0	0	0	0	0	0	0	0	0
1981			1	8	0	0	0	0	0	0	9	
1982			3	0	0	0	0	0	0	0	3	
1983			1	0	0	0	0	0	0	0	1	
Total			5	8	0	0	0	0	0	0	13	

Appendix Table 9.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total	
			Marine					Columbia River		All fish.		
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian			Non-Indian
PRIEST RAPIDS HATCHERY	63-19-58	1980	0	0	0	0	0	0	0	0	0	
		1981	0	0	0	0	4	0	0	0	4	
		1982	0	0	0	0	0	0	2	0	2	
		1983	0	0	0	0	0	0	0	0	0	
		Total	0	0	0	0	4	0	2	0	6	
	63-20-17	1980	0	0	0	0	0	0	0	0	0	
		1981	0	0	0	0	0	0	0	0	0	
		1982	7	10	0	0	0	0	4	0	21	
		1983	0	3	0	0	0	0	0	1	4	
		Total	7	13	0	0	0	0	4	1	25	
	SEA RESOURCES HATCHERY	63-19-18	1980	0	5	0	12	0	0	0	0	17
			1981	0	0	0	0	0	0	0	2	2
			1982	0	0	3	0	0	0	0	3	6
			1983	0	0	0	0	0	0	0	0	0
			Total	0	5	3	12	0	0	0	5	25
SPEELYAI HATCHERY	63-19-20	1980	0	7	0	0	0	0	0	3	10	
		1981	0	12	30	0	0	0	0	9	51	
		1982	8	27	17	11	0	0	0	16	79	
		1983	3	0	3	0	0	0	0	4	10	
		Total	11	46	50	11	0	0	0	32	150	

Appendix Table 9.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total
			Marine					Columbia River		All fish.	
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian		
SPEELYAI HATCHERY	63-19-50	1980	0	2	0	0	0	0	0	6	8
		1981	0	20	22	9	0	0	0	2	53
		1982	13	33	25	0	0	0	0	24	95
		1983	1	9	5	0	0	0	0	4	19
		Total	14	64	52	9	0	0	0	36	175
	SPRING CREEK HATCHERY	05-04-33	1980	0	11	80	0	0	0	11	6
1981			0	434	425	115	0	0	200	21	1195
1982			0	53	30	7	0	2	64	52	208
1983			0	0	0	0	0	0	4	0	4
Total			0	498	535	122	0	2	279	79	1515
05-04-44		1980	0	34	136	5	0	0	2	21	198
		1981	0	602	709	136	0	0	350	27	1824
		1982	0	93	45	6	0	0	75	78	297
		1983	0	0	0	0	0	0	0	0	0
		Total	0	729	890	147	0	0	427	126	2319
05-04-45		1980	0	0	0	0	0	0	0	0	0
		1981	0	0	2	0	0	0	0	0	2
		1982	0	0	0	0	0	0	0	0	0
		1983	0	0	0	0	0	0	0	0	0
		Total	0	0	2	0	0	0	0	0	2

Appendix Table 9.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total
			Marine					Columbia River		All fish.	
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian		
SPRING CREEK HATCHERY	05-04-46	1980	0	13	40	13	0	0	14	22	102
		1981	0	324	383	56	0	0	149	17	929
		1982	0	57	16	2	0	0	43	50	168
		1983	0	0	2	0	0	0	2	5	9
		Total	0	394	441	71	0	0	208	94	1208
STAYTON POND	07-18-41	1980	0	35	58	0	0	0	0	0	93
		1981	0	760	520	119	4	0	0	16	1419
		1982	0	174	47	2	3	2	0	130	358
		1983	0	5	6	0	0	0	0	3	14
		Total	0	974	631	121	7	2	0	149	1884
TOUTLE HATCHERY	63-18-54	1980	0	0	0	0	0	0	0	0	0
		1981	0	5	3	0	0	0	0	0	8
		1982	0	0	0	0	0	0	0	0	0
		1983	0	0	0	0	0	0	0	0	0
		Total	0	5	3	0	0	0	0	0	8
	63-19-41	1980	0	1	0	0	0	0	0	0	1
		1981	1	21	3	0	0	0	0	11	36
		1982	4	47	6	15	0	0	0	18	90
		1983	0	0	0	0	0	0	0	0	0
		Total	5	69	9	15	0	0	0	29	127

Appendix Table 9.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries						Columbia River		Total	
			Marine					Foreign	Indian	Non-Indian	All fish.	
			Alaska	Canada	Washington	Oregon	California					
WASHOUGAL HATCHERY	63-19-38	1980	0	0	0	0	0	0	0	11	11	
		1981	0	35	18	8	0	0	0	6	67	
		1982	0	12	8	0	0	0	0	29	49	
		1983	0	0	0	0	0	0	0	4	4	
		Total	0	47	26	8	0	0	0	50	131	
	63-19-46	1980	0	2	0	0	0	0	0	1	3	
		1981	0	20	26	10	0	0	0	5	61	
		1982	4	42	3	0	0	0	0	29	78	
		1983	4	0	0	0	0	0	0	0	4	
		Total	8	64	29	10	0	0	0	35	146	
	WEYCO POND	63-19-39	1980	0	0	0	0	0	0	0	0	0
			1981	0	33	2	0	0	0	0	7	42
			1982	2	4	8	0	0	0	0	9	23
			1983	0	0	0	0	0	0	0	0	0
		Total	2	37	10	0	0	0	0	16	65	
	Grand total		139	4565	3714	787	20	4	1021	1124	11,374	

Appendix Table 10.--Estimated recoveries of tagged 1979-brood fall chinook from Columbia Riverrearing facilities to Pacific coast fisheries by facility, tag code, and catch year.

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total All fish.
			Marine					Columbia River			
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian	Non-Indian	
ABERNATHY HATCHERY	05-06-44	1981	0	0	26	4	0	0	0	9	39
		1982	0	46	61	4	8	0	0	24	143
		1983	0	5	2	0	0	0	0	1	8
		1984	0	0	0	0	0	0	0	0	0
	Total		0	51	89	8	8	0	0	34	190
	05-06-46	1981	0	5	59	9	0	5	0	9	87
		1982	0	135	200	49	0	0	0	32	416
		1983	0	10	0	0	0	0	0	8	18
		1984	0	0	0	0	0	0	0	2	2
	Total		0	150	259	58	0	5	0	51	523
BIG CREEK HATCHERY	07-21-60	1981	0	86	29	4	0	0	0	5	124
		1982	0	435	342	55	8	4	0	108	952
		1983	0	70	13	0	0	0	0	47	130
		1984	0	4	0	0	0	0	0	0	4
	Total		0	595	384	59	8	4	0	160	1210
BONNEVILLE HATCHERY	07-21-57	1981	0	1	0	0	0	0	0	0	1
		1982	0	51	36	0	0	0	0	24	111
		1983	0	23	2	0	0	0	2	0	27
		1984	0	0	0	0	0	0	0	0	0
	Total		0	75	38	0	0	0	2	24	139

Appendix Table 10.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries					Columbia River		Total	
			Marine								
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian	Non-Indian	All fish.
COWLITZ HATCHERY	63-21-37	1981	0	0	2	0	0	0	0	14	16
		1982	0	4	69	10	0	0	0	10	93
		1983	0	59	89	6	0	0	0	8	162
		1984	0	0	0	0	0	0	0	0	0
	Total		0	63	160	16	0	0	0	32	271
	63-21-54	1981	0	8	0	0	0	0	0	8	16
		1982	2	15	74	6	0	0	0	16	113
		1983	22	49	39	0	0	0	0	14	124
		1984	0	11	0	0	0	0	0	0	11
	Total		24	83	113	6	0	0	0	38	264
	63-21-59	1981	0	0	0	0	0	0	0	0	0
		1982	0	12	26	3	0	0	0	3	44
		1983	4	3	18	3	0	0	0	0	28
		1984	0	0	0	0	0	0	0	0	0
	Total		4	15	44	6	0	0	0	3	72
ELOKOMIN HATCHERY	63-20-05	1981	0	0	0	0	0	0	0	2	2
		1982	0	7	11	12	0	0	0	3	33
		1983	0	16	4	0	0	2	0	7	29
		1984	0	0	0	0	0	0	0	0	0
	Total		0	23	15	12	0	2	0	12	64

Appendix Table 10.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total
			Marine					Columbia River		All fish.	
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian		
GRAYS RIVER HATCHERY	63-20-43	1981	0	0	0	0	0	0	0	0	0
		1982	4	18	9	2	0	0	0	4	37
		1983	3	10	3	0	0	0	0	3	19
		1984	0	9	0	0	0	0	0	0	9
		Total	7	37	12	2	0	0	0	7	65
KALAMA FALLS HATCHERY	63-21-05	1981	0	8	0	0	0	0	0	4	12
		1982	1	34	30	6	0	0	0	3	74
		1983	11	57	35	3	0	0	0	10	116
		1984	0	7	0	0	0	0	0	1	8
		Total	12	106	65	9	0	0	0	18	210
KLASKANINE HATCHERY	07-21-61	1981	0	4	4	0	0	0	0	0	8
		1982	0	25	14	1	0	0	0	25	65
		1983	0	5	2	2	0	0	0	11	20
		1984	0	0	0	0	0	0	0	0	0
		Total	0	34	20	3	0	0	0	36	93
KLICKITAT HATCHERY	63-19-47	1981	0	8	4	6	0	0	0	0	18
		1982	1	47	76	7	17	0	4	19	171
		1983	9	32	3	1	0	0	12	0	57
		1984	0	0	0	0	0	0	3	0	3
		Total	10	87	83	14	17	0	19	19	249

Appendix Table 10.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total
			Marine				Columbia River				
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian	Non-Indian	
LEWIS RIVER HATCHERY	63-21-60	1981	0	25	0	0	0	0	0	0	25
		1982	1	47	43	17	0	0	0	63	171
		1983	20	29	65	20	0	0	0	58	252
		1984	0	7	0	0	0	0	0	0	7
		Total	21	168	108	37	0	0	0	121	455
LITTLE WHITE HATCHERY	05-06-43	1981	0	0	0	0	0	0	0	0	0
		1982	0	18	20	0	0	0	2	6	46
		1983	0	0	0	0	0	0	0	0	0
		1984	0	0	0	0	0	0	0	0	0
		Total	0	18	20	0	0	0	2	6	46
LOWER KALAMA HATCHERY	63-20-06	1981	0	0	3	3	0	0	0	0	6
		1982	2	50	23	5	0	0	0	23	103
		1983	6	25	6	0	0	0	0	14	51
		1984	0	11	0	0	0	0	0	14	25
		Total	8	86	32	8	0	0	0	51	185
OXBOW HATCHERY	07-21-62	1981	0	0	0	0	0	0	0	0	0
		1982	0	16	14	2	0	0	0	6	38
		1983	0	13	0	0	0	0	0	3	16
		1984	0	0	0	0	0	0	0	0	0
		Total	0	29	14	2	0	0	0	9	54

Appendix Table 10.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total
			Marine					Columbia River		All fish.	
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian		
OXBOW HATCHERY	07-21-63	1981	0	0	2	0	0	0	0	0	2
		1982	0	40	25	9	0	0	0	10	84
		1983	0	9	7	0	0	0	0	3	19
		1984	0	0	0	0	0	0	0	0	0
		Total	0	49	34	9	0	0	0	13	105
PRIEST RAPIDS HATCHERY	63-19-48	1981	5	4	0	0	0	0	0	10	19
		1982	21	65	13	8	0	0	4	11	122
		1983	123	56	2	0	0	0	31	13	225
		1984	32	24	5	1	0	0	7	3	72
		Total	181	149	20	9	0	0	42	37	438
SEA RESOURCES HATCHERY	63-20-61	1981	1	8	2	0	0	0	0	0	11
		1982	2	6	5	0	0	0	0	11	24
		1983	9	8	0	0	0	0	0	0	17
		1984	0	0	0	0	0	0	0	0	0
		Total	12	22	7	0	0	0	0	11	52
SPRING CREEK HATCHERY	05-06-39	1981	0	35	114	23	0	0	41	3	216
		1982	0	213	325	40	10	0	153	142	883
		1983	0	11	5	0	0	0	9	3	28
		1984	0	0	0	0	0	0	0	0	0
		Total	0	259	444	63	10	0	203	148	1127

Appendix Table 10.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total
			Marine					Columbia River		All fish.	
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian		
SPRING CREEK HATCHERY	05-06-40	1981	0	22	110	11	0	0	52	8	203
		1982	0	229	366	59	0	0	165	168	987
		1983	0	19	3	0	0	0	12	7	41
		1984	0	0	0	0	0	0	0	0	0
	Total	0	270	479	70	0	0	229	183	1231	
	05-06-41	1981	0	54	148	5	0	0	59	1	267
		1982	0	161	325	35	8	0	206	161	896
		1983	0	9	0	0	0	0	12	4	25
		1984	0	0	0	0	0	0	0	0	0
	Total	0	224	473	40	8	0	277	166	1188	
	05-06-42	1981	0	0	0	0	0	0	0	0	0
		1982	0	11	31	6	5	2	9	6	70
		1983	0	21	4	0	0	0	5	0	30
		1984	0	0	0	0	0	0	0	0	0
	Total	0	32	35	6	5	2	14	6	100	
STAYTON POND	07-20-55	1981	0	45	187	7	0	0	0	2	241
		1982	0	495	691	109	3	4	0	201	1503
		1983	0	97	27	0	0	0	0	18	142
		1984	0	4	0	0	0	0	0	0	4
	Total	0	641	905	116	3	4	0	221	1890	

Appendix Table 10.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total	
			Marine					Columbia River				
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian	Non-Indian	All	fish.
WASHOUGAL HATCHERY	63-21-53	1981	0	9	0	0	0	0	0	1	10	
		1982	16	144	147	13	10	0	5	55	390	
		1983	45	174	97	4	0	0	13	45	378	
		1984	2	12	0	0	0	0	0	6	20	
		Total	63	339	244	17	10	0	18	107	798	
WEYCO POND	H1-02-03	1981	0	0	0	0	0	0	0	3	3	
		1982	1	12	26	2	0	0	0	19	60	
		1983	0	8	19	0	0	0	0	1	28	
		1984	0	0	0	0	0	0	0	3	3	
		Total	1	20	45	2	0	0	0	26	94	
Grand total			343	3625	4142	572	69	17	806	1539	11,113	

Appendix Table 11.--Estimated recoveries of tagged 1980-brood fall chinook from Columbia River rearing facilities to Pacific coast fisheries by facility, tag code, and catch year.

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total	
			Marine					Columbia River		All fish.		
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian			Non-Indian
ABERNATHY HATCHERY	05-07-44	1982	0	7	22	0	0	0	0	3	32	
		1983	0	90	30	2	0	0	2	6	130	
		1984	2	3	0	0	0	0	0	2	7	
		1985	0	0	0	0	0	0	0	0	0	
		Total	2	100	52	2	0	0	2	11	169	
	05-07-45	1982	0	37	70	4	0	0	0	12	123	
		1983	0	156	143	8	0	0	2	17	326	
		1984	0	15	0	0	0	0	0	8	23	
		1985	0	0	0	0	0	0	0	0	0	
		Total	0	208	213	12	0	0	2	37	472	
	BIG CREEK HATCHERY	07-23-31	1982	0	1	5	0	0	0	0	0	6
			1983	0	77	26	0	0	0	0	15	118
			1984	0	16	0	0	0	0	0	0	16
			1985	0	0	0	0	0	0	0	0	0
Total			0	94	31	0	0	0	0	15	140	
07-23-33		1982	0	8	4	0	0	0	0	0	12	
		1983	0	30	18	7	0	0	0	3	58	
		1984	0	8	0	0	0	0	0	6	14	
		1985	0	0	0	0	0	0	0	0	0	
		Total	0	46	22	7	0	0	0	9	84	

Appendix Table 11.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total fish.
			Marine				Columbia River		All		
			Alaska	Canada	Washington	Oregon	California	Foreign		Indian	
BIG CREEK HATCHERY	07-23-34	1982	0	0	0	0	0	0	0	0	0
		1983	0	38	28	2	0	0	0	12	80
		1984	0	0	0	0	0	0	0	0	0
		1985	0	0	0	0	0	0	0	0	0
		Total	0	38	28	2	0	0	0	12	80
BONNEVILLE HATCHERY	07-21-56	1982	0	5	24	3	0	0	2	0	34
		1983	0	99	54	5	0	0	2	12	172
		1984	0	24	0	0	0	0	0	8	32
		1985	0	0	0	0	0	0	0	0	0
		Total	0	128	78	8	0	0	4	20	238
	07-23-29	1982	0	0	3	2	0	0	0	0	5
		1983	0	90	21	4	0	0	2	5	122
		1984	0	15	0	0	0	0	3	5	23
		1985	0	0	0	0	0	0	0	0	0
		Total	0	105	24	6	0	0	5	10	150
CLATSOP COUNTY PONDS	07-21-58	1982	0	3	0	0	0	0	0	0	3
		1983	0	29	11	0	0	0	0	6	46
		1984	0	15	3	0	0	0	0	5	23
		1985	0	0	0	0	0	0	0	0	0
		Total	0	47	14	0	0	0	0	11	72

Appendix Table 11.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total	
			Marine					Columbia River				
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian	Non-Indian		All fish.
CLATSOP COUNTY PONDS	07-21-59	1982	0	3	20	0	0	0	0	0	23	
		1983	0	129	50	3	0	0	0	33	215	
		1984	0	12	0	2	0	0	0	25	39	
		1985	0	0	0	0	0	0	0	0	0	
		Total	0	144	70	5	0	0	0	58	277	
	COWLITZ HATCHERY	63-21-56	1982	0	5	0	0	0	0	0	4	9
1983			2	73	91	18	0	0	0	16	200	
1984			19	194	15	13	4	0	0	73	318	
1985			3	16	2	0	0	0	0	0	21	
Total			24	288	108	31	4	0	0	93	548	
63-22-55		1982	0	2	0	0	0	0	0	3	5	
		1983	1	48	13	2	0	0	0	5	69	
		1984	15	58	1	4	0	0	0	31	109	
		1985	0	2	0	0	0	0	0	8	10	
		Total	16	110	14	6	0	0	0	47	193	
ELOKOMIN HATCHERY		63-22-34	1982	0	0	0	0	0	0	0	0	0
			1983	0	55	17	4	0	0	0	1	77
	1984		9	21	0	3	0	0	0	29	62	
	1985		0	0	0	0	0	0	0	4	4	
	1986		0	0	0	0	0	0	0	4	4	
	Total	9	76	17	7	0	0	0	38	147		

Appendix Table 11.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total
			Marine					Columbia River		All fish.	
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian		
ELOKOMIN HATCHERY	63-23-17	1982	0	0	0	0	0	0	0	0	0
		1983	0	0	5	4	0	0	0	0	9
		1984	1	24	0	0	0	0	0	16	a
		1985	2	6	0	0	0	0	0	0	
		1986	0	5	0	0	0	0	0	0	5
		Total	3	35	5	4	0	0	0	16	63
	GRAYS RIVER HATCHERY	63-22-63	1982	0	4	0	0	0	0	0	0
1983			0	7	10	2	0	0	0	0	19
1984			9	42	1	0	0	0	0	24	76
1985			2	6	0	0	0	0	0	4	12
Total			11	59	11	2	0	0	0	28	111
63-23-40		1982	0	0	0	0	0	0	0	0	0
		1983	0	a	0	0	0	0	0	0	a
		1984	0	19	0	0	0	0	0	2	21
		1985	0	0	0	0	0	0	0	0	0
		Total	0	27	0	0	0	0	0	2	29
KALAMA FALLS HATCHERY	63-20-36	1982	0	4	0	0	0	0	0	0	4
		1983	4	44	22	0	0	0	0	3	73
		1984	18	66	8	1	0	0	0	22	115
		1985	4	0	0	0	0	0	0	0	4
		Total	26	114	30	1	0	0	0	25	196

Appendix Table 11.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total		
			Marine					Columbia River		All fish.			
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian			Non-Indian	
KLASKANINE HATCHERY	07-22-27	1982	0	0	0	0	0	0	0	0	1	1	
		1983	0	0	0	0	0	0	0	0	3	3	
		1984	0	0	0	0	0	0	0	0	2	2	
		1985	0	0	0	0	0	0	0	0	0	0	
		Total	0	0	0	0	0	0	0	0	6	6	
	07-23-32	1982	0	0	0	0	0	0	0	0	2	2	
		1983	0	31	a	0	0	0	0	0	21	60	
		1984	0	0	0	0	0	0	0	0	0	0	
		1985	0	0	0	0	0	0	0	0	0	0	
		Total	0	31	8	0	0	0	0	0	23	62	
	KLICKITAT HATCHERY	63-20-08	1982	0	4	0	0	0	0	0	0	0	4
			1983	0	9	0	0	0	0	0	0	0	9
			1984	0	15	1	1	0	0	8	0	0	25
			1985	2	0	0	0	0	0	3	0	0	5
			Total	2	28	1	1	0	0	11	0	0	43
LITTLE WHITE HATCHERY	05-07-47	1982	0	0	0	0	0	0	0	0	0	0	
		1983	0	20	17	0	0	0	0	0	5	42	
		1984	0	4	0	0	0	0	8	0	0	12	
		1985	0	0	0	0	0	0	0	0	0	0	
		Total	0	24	17	0	0	0	8	5	0	54	

Appendix Table 11.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total	
			Marine					Columbia River		All fish.		
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian			Non-Indian
LITTLE WHITE HATCHERY	05-08-49	1982	0	0	0	0	0	0	0	0	0	
		1983	0	0	0	0	0	0	0	0	0	
		1984	0	0	0	0	0	0	0	0	0	
		1985	0	0	0	0	0	0	0	0	0	
		Total	0	0	0	0	0	0	0	0	0	
	05-08-50	1982	0	0	0	0	0	0	0	0	0	
		1983	0	0	0	0	0	0	2	0	2	
		1984	0	0	0	0	0	0	0	0	0	
		1985	0	0	0	0	0	0	0	0	0	
		Total	0	0	0	0	0	0	2	0	2	
	LOWER KALAMA HATCHERY	63-22-54	1982	2	20	6	0	0	0	0	17	45
			1983	0	133	35	7	0	0	0	3	178
			1984	47	161	12	3	0	0	0	96	319
			1985	27	16	0	0	0	0	0	42	85
			Total	76	330	53	10	0	0	0	158	627
PRIEST RAPIDS HATCHERY	63-21-55	1982	2	12	0	0	0	0	0	0	14	
		1983	9	72	0	0	0	0	15	4	100	
		1984	144	180	8	0	0	0	62	13	407	
		1985	41	61	5	8	0	2	36	21	174	
		1986	0	6	0	0	0	0	5	0	11	
		Total	196	331	13	8	0	2	118	38	706	

Appendix Table 11.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total All fish.	
			Marine					Columbia River				
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian	Non-Indian		
PRIEST RAPIDS HATCHERY	63-22-61	1982	0	4	0	0	0	0	2	0	6	
		1983	5	35	2	0	0	0	2	0	44	
		1984	70	89	0	1	0	0	21	5	186	
		1985	23	32	0	0	0	0	11	13	79	
		Total	98	160	2	1	0	0	36	18	315	
SEA RESOURCES HATCHERY	63-22-01	1982	0	0	0	0	0	0	0	2	2	
		1983	0	22	15	0	0	0	0	15	52	
		1984	0	0	0	0	0	0	0	2	2	
		1985	0	0	0	0	0	0	0	0	0	
		Total	0	22	15	0	0	0	0	19	56	
SPRING CREEK HATCHERY	05-07-40	1982	0	1	0	0	0	0	0	0	1	
		1983	0	31	26	2	0	0	18	11	88	
		1984	0	18	0	0	0	0	3	2	23	
		1985	0	0	0	0	0	0	5	0	5	
	05-07-41	Total	0	50	26	2	0	0	26	13	117	
		05-07-41	1982	0	6	11	0	0	0	0	0	17
			1983	0	38	44	0	0	0	6	5	93
			1984	0	10	0	0	0	0	3	0	13
			1985	0	0	0	0	0	0	0	0	0
Total		0	54	55	0	0	0	9	5	123		

Appedix Table 11.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries									
			Marine				Columbia River		Total			
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian	Non-Indian	All fish.	
SPRING CREEK HATCHERY	05-07-42	1982	0	0	5	0	0	0	0	0	5	
		1983	0	70	27	0	0	0	11	8	116	
		1984	0	7	0	0	0	0	8	0	15	
		1985	0	0	0	0	0	0	0	0	0	
	<hr/>											
	05-07-43	Total	0	77	32	0	0	0	19	8	136	
		05-07-46	1982	0	0	22	0	0	0	2	0	24
			1983	0	95	48	3	0	0	23	3	172
			1984	0	11	0	0	0	0	11	7	29
	1985		0	0	0	0	0	0	0	0	0	
	<hr/>											
	05-07-48	Total	0	106	70	3	0	0	36	10	225	
		05-07-43	1982	0	13	58	2	0	2	9	1	85
			1983	0	419	248	30	0	2	190	43	932
			1984	0	64	6	3	0	0	97	23	193
	1985		0	5	0	0	0	0	4	0	9	
	<hr/>											
	05-07-46	Total	0	501	312	35	0	4	300	67	1219	
		05-07-48	1982	0	6	4	0	0	0	0	0	10
			1983	0	6	0	4	0	0	2	3	15
			1984	0	0	0	0	0	0	3	0	3
	1985		0	0	0	0	0	0	0	0	0	
	<hr/>											
	05-07-48	Total	0	12	4	4	0	0	5	3	28	

Appendix Table 11.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total
			Marine					Columbia River		All fish.	
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian		
SPRING CREEK HATCHERY	05-07-49	1982	0	0	0	0	0	0	0	3	3
		1983	0	40	16	0	0	0	2	0	58
		1984	0	5	0	0	0	0	7	0	12
		1985	0	0	0	0	0	0	0	0	0
		Total	0	45	16	0	0	0	9	3	73
	05-07-50	1982	0	0	0	0	0	0	0	0	0
		1983	0	0	0	0	0	0	0	0	0
		1984	0	0	0	0	0	0	0	0	0
		1985	0	0	0	0	0	0	0	0	0
		Total	0	0	0	0	0	0	0	0	0
	05-07-51	1982	0	0	0	0	0	0	2	0	2
		1983	0	5	2	0	0	0	2	3	12
		1984	0	0	0	0	0	0	0	0	0
		1985	0	0	0	0	0	0	0	0	0
		Total	0	5	2	0	0	0	4	3	14
	05-07-52	1982	0	0	0	0	0	0	0	0	0
		1983	0	5	4	0	0	0	0	0	9
		1984	0	3	0	0	0	0	3	0	6
		1985	0	0	0	0	0	0	0	0	0
		Total	0	8	4	0	0	0	3	0	15

Appendix Table 11.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total
			Marine					Columbia River		All fish.	
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian		
STAYTON POND	07-23-35	1982	0	14	76	0	3	2	0	0	95
		1983	0	284	200	13	0	0	0	34	531
		1984	0	48	4	0	0	0	0	10	62
		1985	0	0	0	0	0	0	0	0	0
		Total	0	346	280	13	3	2	0	44	688
WASHOUGAL HATCHERY	63-21-48	1982	0	3	0	0	0	0	0	0	3
		1983	0	6	15	0	0	0	0	0	21
		1984	5	37	0	1	0	0	0	9	52
		1985	2	5	0	0	0	0	0	0	7
	Total	7	51	15	1	0	0	0	9	83	
	63-22-51	1982	1	10	0	0	0	0	0	4	15
		1983	5	37	25	2	3	0	0	5	77
		1984	46	108	16	3	0	0	5	76	254
		1985	4	3	0	0	0	0	0	10	17
Total	56	158	41	5	3	0	5	95	363		
WEYCO POND	H1-03-01	1982	0	0	0	0	0	0	0	0	0
		1983	0	0	5	0	0	0	0	0	5
		1984	0	0	0	0	0	0	0	0	0
		1985	0	0	0	0	0	0	0	0	0
		Total	0	0	5	0	0	0	0	0	5

Appendix Table 11.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								
			Marine					Columbia River		Total	
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian	Non-Indian	All fish.
WEYCO POND	H1-03-02	1982	0	0	0	0	0	0	0	0	0
		1983	0	6	6	0	0	0	0	0	12
		1984	2	11	9	0	0	0	0	2	24
		1985	0	0	0	0	0	0	0	0	0
		Total	2	17	15	0	0	0	0	2	36
Grand total			528	3975	1703	176	10	8	604	961	7965

Appendix Table 12.--Estimated recoveries of tagged 1981-brood fall chinook from Columbia River rearing facilities to Pacific coast fisheries by facility, tag code, and catch year.

Rearing facility	Tag code	Catch year	Numbers of Recoveries									
			Marine					Columbia River		Total		
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian	Non-Indian	All fish.	
ABERNATHY HATCHERY	05-10-58	1983	0	2	13	0	0	0	0	3	18	
		1984	0	78	9	1	0	0	0	20	108	
		1985	0	17	0	0	0	0	0	0	17	
		1986	0	0	0	0	0	0	0	0	0	
		Total	0	97	22	1	0	0	0	23	143	
	05-10-59	1983	0	0	2	0	0	0	0	0	2	
		1984	0	18	3	0	0	0	0	15	36	
		1985	0	0	0	0	0	0	0	4	4	
		1986	0	0	0	0	0	0	0	0	0	
		Total	0	18	5	0	0	0	0	19	42	
	BIG CREEK HATCHERY	07-24-10	1983	0	11	2	0	0	2	0	0	15
			1984	0	305	29	15	5	5	0	53	412
			1985	0	33	10	0	0	0	0	21	64
			1986	0	0	0	0	0	0	0	6	6
			Total	0	349	41	15	5	7	0	80	497
BONNEVILLE HATCHERY	07-24-07	1983	0	8	19	0	5	0	2	0	34	
		1984	0	140	20	19	0	0	32	24	235	
		1985	0	25	0	0	0	0	0	0	25	
		1986	0	0	0	0	0	0	0	0	0	
		Total	0	173	39	19	5	0	34	24	294	

Appendix Table 12.--(Continued)

Rearing	facility	Tag code	Catch year	Numbers of Recoveries							Total	
				Marine				Columbia River			All fish.	
				Alaska	Canada	Washington	Oregon	California	Foreign	Indian	Non-Indian	
BONNEVILLE HATCHERY	07-24-08	1983	0	2	0	0	0	0	0	0	0	2
		1984	0	46	6	0	0	0	0	0	5	57
		1985	0	4	0	0	0	0	0	0	0	4
		1986	0	0	0	0	0	0	0	0	3	3
		Total	0	52	6	0	0	0	0	0	8	66
	07-26-63	1983	0	13	21	0	0	0	0	2	0	36
		1984	0	173	36	15	0	0	0	113	29	366
		1985	0	4	2	2	0	0	0	52	0	60
		1986	0	0	5	0	3	0	0	0	0	8
		Total	0	190	64	17	3	0	0	167	29	470
CLATSOP COUNTY PONDS	07-24-12	1983	0	4	0	0	0	0	0	0	0	4
		1984	0	24	0	3	0	0	0	0	7	34
		1985	0	4	0	0	0	0	0	0	11	15
		1986	0	4	0	0	0	0	0	0	6	10
		Total	0	36	0	3	0	0	0	0	24	63
	07-24-13	1983	0	4	0	0	0	0	0	0	0	4
		1984	0	0	0	0	0	0	0	0	2	2
		1985	0	14	0	0	0	0	0	0	0	14
		1986	0	0	0	0	0	0	0	0	0	0
		Total	0	18	0	0	0	0	0	0	2	20

Appendix Table 12.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total
			Marine				Columbia River		All fish.		
			Alaska	Canada	Washington	Oregon	California	Foreign		Indian	
COWLITZ HATCHERY	63-20-32	1983	0	0	0	0	0	0	0	0	0
		1984	0	9	0	0	0	0	0	0	9
		1985	0	0	0	0	0	0	0	4	4
		1986	0	0	0	0	0	0	0	0	0
	Total		0	9	0	0	0	0	0	4	13
	63-24-50	1983	1	3	0	0	0	0	0	0	4
		1984	0	0	0	0	0	0	0	3	3
		1985	0	0	0	0	0	0	0	0	0
		1986	2	0	0	2	0	0	0	0	4
	Total		3	3	0	2	0	0	0	3	11
	63-24-62	1983	0	2	0	0	0	0	0	6	8
		1984	0	31	5	4	0	0	0	14	54
		1985	10	105	10	7	0	0	0	13	145
		1986	0	12	0	0	0	0	0	13	25
	Total		10	150	15	11	0	0	0	46	232
	63-26-03	1983	0	3	0	0	0	0	0	0	3
		1984	0	6	0	0	0	0	0	11	17
		1985	0	26	16	10	0	0	0	15	67
		1986	0	0	0	0	0	0	0	3	3
	Total		0	35	16	10	0	0	0	29	90

Appendix Table 12.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total	
			Marine				Columbia River					
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian	Non-Indian		All fish.
ELOKOMIN HATCHERY	63-22-42	1983	0	0	0	0	0	0	0	0	0	
		1984	0	7	0	0	0	0	0	0	7	
		1985	0	7	0	0	0	0	0	0	7	
		1986	0	0	0	0	0	0	0	0	0	
		Total	0	14	0	0	0	0	0	0	14	
	63-22-60	1983	0	0	0	0	0	0	0	0	0	
		1984	0	8	0	1	0	0	0	0	9	
		1985	0	3	0	0	0	0	0	0	3	
		1986	0	0	0	0	0	0	0	0	0	
		Total	0	11	0	1	0	0	0	0	12	
	GRAYS RIVER HATCHERY	63-24-58	1983	0	0	0	0	0	0	0	0	0
			1984	0	3	3	0	0	0	0	0	6
			1985	0	0	0	0	0	0	0	0	0
			1986	0	0	0	0	0	0	0	0	0
Total			0	3	3	0	0	0	0	0	6	
63-24-59		1983	0	2	0	0	0	0	0	0	2	
		1984	0	3	2	0	0	0	0	6	11	
		1985	0	1	0	0	0	0	0	0	1	
		1986	0	0	0	0	0	0	0	0	0	
		Total	0	6	2	0	0	0	0	6	14	

Appendix Table 12.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								
			Marine					Columbia River		Total	
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian	Non-Indian	All fish.
KALAMA FALLS HATCHERY	63-24-60	1983	1	8	0	0	0	0	0	0	9
		1984	0	41	0	0	0	0	0	14	55
		1985	17	89	5	2	0	0	0	1	114
		1986	0	21	1	0	0	0	0	7	29
		Total	18	159	6	2	0	0	0	22	207
KLASKANINE HATCHERY	07-24-09	1983	0	0	0	0	0	0	0	0	0
		1984	0	26	1	2	0	0	0	4	33
		1985	0	7	2	3	0	0	0	0	12
		1986	0	0	0	0	0	0	0	0	0
		Total	0	33	3	5	0	0	0	4	45
KLICKITAT HATCHERY	63-21-57	1983	0	0	4	0	0	0	0	0	4
		1984	0	35	15	1	0	0	11	12	74
		1985	0	6	2	0	0	0	16	0	24
		1986	0	0	0	0	0	0	0	0	0
		Total	0	41	21	1	0	0	27	12	102
LITTLE WHITE HATCHERY	05-04-35	1983	0	0	0	0	0	0	0	0	0
		1984	0	10	0	0	0	0	3	5	18
		1985	0	11	2	0	0	0	0	0	13
		1986	0	0	0	0	0	0	0	0	0
		Total	0	21	2	0	0	0	3	5	31

Appendix Table 12.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total All fish.
			Marine				Columbia River				
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian	Non-Indian	
LITTLE WHITE HATCHERY	05-04-36	1983	0	0	0	0	0	0	0	0	0
		1984	0	3	0	0	0	0	0	0	3
		1985	0	0	0	0	0	0	0	0	0
		1986	0	0	0	0	0	0	0	0	0
		Total	0	3	0	0	0	0	0	0	3
LOWER KALAMA HATCHERY	63-24-63	1983	2	10	0	0	0	0	0	0	12
		1984	0	55	6	0	0	0	0	13	74
		1985	20	71	8	0	0	0	0	29	128
		1986	2	8	0	2	0	0	0	9	21
		Total	24	144	14	2	0	0	0	51	235
OXBOW HATCHERY	07-23-30	1983	0	7	0	0	0	0	0	0	7
		1984	0	16	0	0	0	0	0	2	18
		1985	0	1	0	0	0	0	0	0	1
		1986	0	0	0	0	0	0	0	0	0
		Total	0	24	0	0	0	0	0	2	26
	07-24-11	1983	0	0	0	0	0	0	0	0	0
		1984	0	4	0	0	0	0	0	5	9
		1985	0	0	0	0	0	0	0	0	0
		1986	0	0	0	0	0	0	0	0	0
		Total	0	4	0	0	0	0	0	5	9

Appendix Table 12.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total
			Marine				Columbia River				
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian	Non-Indian	
PRIEST RAPIDS HATCHERY	63-22-52	1983	3	20	0	0	0	0	2	0	25
		1984	6	138	5	1	0	5	71	61	287
		1985	155	192	8	2	4	0	207	87	655
		1986	25	27	0	0	0	0	63	16	131
		Total	189	377	13	3	4	5	343	164	1098
	63-24-56	1983	1	13	0	0	0	0	0	0	14
		1984	10	35	0	0	0	0	19	22	86
		1985	42	71	0	0	0	3	72	13	201
		1986	18	10	0	0	0	0	21	0	49
		Total	71	129	0	0	0	3	112	35	350
	63-24-57	1983	0	1	4	0	0	0	0	3	8
		1984	0	125	9	13	0	0	0	43	190
		1985	0	9	0	0	0	0	0	49	58
		1986	0	7	0	0	0	0	0	6	13
		Total	0	142	13	13	0	0	0	101	269
63-24-58	1983	0	0	0	0	0	0	0	0	0	
	1984	0	0	0	0	0	0	0	0	0	
	1985	0	0	0	0	0	0	0	0	0	
	1986	0	0	0	0	0	0	0	0	0	
	Total	0	0	0	0	0	0	0	0	0	
SPRING CREEK HATCHERY	05-07-53	1983	0	0	0	0	0	0	0	0	0
		1984	0	0	0	0	0	0	0	0	0
		1985	0	0	0	0	0	0	0	0	0
		1986	0	0	0	0	0	0	0	0	0
		Total	0	0	0	0	0	0	0	0	0

Appendix Table 12.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total
			Marine					Columbia River		All fish.	
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian		
SPRING CREEK HATCHERY	05-07-54	1983	0	0	0	0	0	0	0	0	0
		1984	0	0	0	0	0	0	0	0	0
		1985	0	0	0	0	0	0	0	0	0
		1986	0	0	0	0	0	0	0	0	0
		Total	0	0	0	0	0	0	0	0	0
	05-08-51	1983	0	0	7	2	0	0	10	0	19
		1984	0	90	13	10	0	0	50	24	187
		1985	0	4	0	0	0	0	16	0	20
		1986	0	0	0	0	0	0	0	0	0
		Total	0	94	20	12	0	0	76	24	226
	05-10-50	1983	0	2	15	2	0	0	15	3	37
		1984	0	109	27	14	13	0	52	40	255
		1985	0	12	0	0	0	0	9	0	21
		1986	0	0	0	0	0	0	0	0	0
		Total	0	123	42	16	13	0	76	43	313
	05-10-51	1983	0	0	2	5	0	2	0	0	9
		1984	0	16	5	3	0	0	11	7	42
		1985	0	8	2	0	0	0	0	0	10
		1986	0	0	0	0	0	0	0	0	0
		Total	0	24	9	8	0	2	11	7	61

Appendix Table 12.--(Continued)

Rearing facility	Tag code	Catch year	Numbers of Recoveries								Total	
			Marine				Columbia River		All fish.			
			Alaska	Canada	Washington	Oregon	California	Foreign		Indian		Non-Indian
SPRING CREEK HATCHERY	05-10-52	1983	0	5	10	6	0	0	5	1	27	
		1984	0	167	16	10	0	0	58	44	295	
		1985	0	12	0	0	0	0	17	0	29	
		1986	0	0	0	0	0	0	0	0	0	
		Total	0	184	26	16	0	0	80	45	351	
	05-10-57	1983	0	11	34	0	0	0	8	0	53	
		1984	0	218	56	28	0	2	162	21	487	
		1985	0	4	6	0	0	0	39	2	51	
		1986	0	0	0	0	0	0	5	0	5	
		Total	0	233	96	28	0	2	214	23	596	
	STAYTON POND	07-26-62	1983	0	37	27	0	0	2	0	0	66
			1984	0	636	57	24	0	0	0	63	780
			1985	0	62	15	3	0	0	0	0	80
			1986	0	0	0	3	0	0	0	0	3
			Total	0	735	99	30	0	2	0	63	929
WASHOUGAL HATCHERY	63-24-61	1983	0	10	0	0	0	0	0	4	14	
		1984	1	26	0	0	0	0	5	15	47	
		1985	15	55	13	3	0	0	3	30	119	
		1986	2	19	0	0	0	0	0	36	57	
		Total	18	110	13	3	0	0	8	85	237	

Appendix Table 12.--(Continued)

Rearing facility	Tog code	Catch year	Numbers of Recoveries								Total All fish.
			Marine				Columbia River				
			Alaska	Canada	Washington	Oregon	California	Foreign	Indian	Non-Indian	
WEYCO POND	H1-04-06	1983	0	2	0	0	0	0	0	0	2
		1984	0	10	3	1	0	0	0	3	17
		1985	11	31	0	0	0	0	0	9	51
		1986	0	0	0	0	0	0	0	6	6
		Total	11	43	3	1	0	0	0	18	76
Grand total			344	3787	593	219	30	21	1151	1006	7151

Appendix Table 13.-Contribution of 1978-brood fall chinook salmon to all Pacific coast fisheries by hatchery and tag code.

Rearing facility	Tag code	Total contribution	Contribution per 1000 releases
ABERNATHY HATCHERY	05-04-50	4,578	5.04
	05-04-51	3,057	4.36
		-----	-----
		7,635	4.74
BIG CREEK HATCHERY	07-18-44	15,378	2.93
BIG WHITE POND	05-04-43	5,872	1.94
BONNEVILLE HATCHERY	07-18-42	37,052	2.95
	07-18-43 ,	334	0.40
		-----	-----
		37,386	2.79
COWLITZ HATCHERY	63-19-42	7,971	1.72
	63-19-51	62	5.59
		-----	-----
		8,033	1.73
ELOKOMIN HATCHERY	63-18-56	6	0.28
	63-19-56	267	0.09
		-----	-----
		273	0.09
GRAYS RIVER HATCHERY	63-16-46	404	0.31
	63-18-33	5	0.66
	63-19-37	43	0.63
		-----	-----
		452	0.33
KALAMA FALLS HATCHERY	63-19-57	1,782	0.43
KLASKANINE HATCHERY	07-18-45	7,019	1.28
KLICKITAT HATCHERY	63-19-49	3,880	1.08
LITTLE WHITE HATCHERY	05-04-48	987	0.17
	05-04-49	758	0.14
		-----	-----
		1,745	0.15

Appendix Table 13.-(continued)

Rearing facility	Tag Code	Total contribution	Contribution per 1000 releases
PRIEST RAPIDS HATCHERY	63-18-21	2,549	3.09
	63-18-57	214	0.75
	63-19-58	6	1.14
	63-20-17	25	0.31
		-----	-----
		2,794	2.33
SEA RESOURCES HATCHERY	63-19-18	1,014	1.03
SPEELYAI HATCHERY	63-19-20	151	2.90
	63-19-50	313	1.69
		-----	-----
		464	1.95
SPRING CREEK HATCHERY	05-04-33	40,062	10.76
	05-04-44	77,390	17.15
	05-04-45	43	0.04
	05-04-46	49,742	4.92
		-----	-----
		167,237	8.55
STAYTON POND	07-18-41	31,179	6.65
TOUTLE HATCHERY	63-18-54	8	0.67
	63-19-41	2,667	0.97
		-----	-----
		2,675	0.97
WASHOUGAL HATCHERY	63-19-38	6,655	1.35
	63-19-46	146	0.95
		-----	-----
		6,801	1.34
WEYCO POND	63-19-39	258	0.70
All facilities		301,878	3.29

Appendix Table 14. Contribution of 1979-brood fall chinook salmon to all Pacific coast fisheries by hatchery and tag code.

Rearing facility	Tag code	Total contribution	Contribution per 1000 releases
ABERNATHY HATCHERY	05-06-44	2,716	5.40
	05-06-46	6,859	4.65
		-mm--e--e-- 9,575	----- 4.84
BIG CREEK HATCHERY	07-21-60	54,289	8.44
BONNEVILLE HATCHERY	07-21-57	5,826	1.15
COWLITZ HATCHERY	63-21-37	7,388	13.09
	63-21-54,	6,406	1.08
	63-21-59	1,676	1.02
		---m-mm-m-- 15,470	----- 1.90
ELOKOMIN HATCHERY	63-20-05	1,569	0.65
GRAYS RIVER HATCHERY	63-20-43	1,399	1.73
KALAMA FALLS HATCHERY	63-21-05	5,031	2.09
KLASKANINE HATCHERY	07-21-61	3,139	1.40
Klickitat Hatchery	63-19-47	5,010	1.60
LEWIS RIVER HATCHERY	63-21-60	1,877	4.40
LITTLE WHITE HATCHERY	05-06-43	2,485	0.28
LOWER KALAMA HATCHERY	63-20-06	4,205	1.28
OXBOW HATCHERY	07-21-62	1,275	1.09
	07-21-63	2,475	2.02
		----- 3,750	----- 1.57
PRIEST RAPIDS HATCHERY	63-19-48	9,485	3.98
SEA RESOURCES HATCHERY	63-20-61	2,160	2.83

Appendix Table 14.-(continued)

Rearing facility	Tag Code	Total contribution	Contribution per 1000 releases
SPRING CREEK HATCHERY	05-06-39	65,980	8.99
	05-06-40	64,163	16.39
	05-06-41	62,719	19.66
	05-06-42	4,818	4.33
		-----	-----
		197,680	12.71
STAYTON POND	07-20-55	42,561	6.70
WASHOUGAL HATCHERY	63-21-53	15,487	2.54
WEYCO POND	H1-02-03	1,876	0.96
All facilities		382,873	4.71

Appendix Table 15. -Contribution of 1980-brood fall chinook salmon to all Pacific coast fisheries by hatchery and tag code.

Rearing facility	Tag code	Total contribution	Contribution per 1000 releases
ABERNATHY HATCHERY	05-07-44	2,659	8.85
	05-07-45	6,700	7.44
		-----e-em----- 9,359	7.79
BIG CREEK HATCHERY	07-23-31	5,320	2.79
	07-23-33	3,191	1.64
	07-23-34	3,036	1.74
		----- 11,547	2.06
BONNEVILLE HATCHERY	07-21-56	9,425	1.83
	07-23-29	6,328	1.98
		----- 15,753	e_m----- 1.89
CLATSOP COUNTY PONDS	07-21-58	1,771	0.98
	07-21-59	7,691	5.66
		----- 9,462	3.00
COWLITZ HATCHERY	63-21-56	11,776	3.59
	63-22-55	4,616	1.59
		----- 16,392	2.65
ELOKOMIN HATCHERY	63-22-34	2,744	0.94
	63-23-17	63	6.70
		----- 2,807	0.96
GRAYS RIVER HATCHERY	63-22-63	2,096	1.73
	63-23-40	29	2.84
		----- 2,125	1.74
KALAMA FALLS HATCHERY	63-20-36	4,039	1.12
KLASKANINE HATCHERY	07-22-27	234	0.32
	07-23-32	2,421	0.76
		----- 2,655	0.67
KLICKITAT HATCHERY	63-20-08	820	0.33

Appendix Table 15.-(continued)

Rearing facility	Tag code	Total contribution	Contribution per 100 releases
LITTLE WHITE HATCHERY	05-07-47	1,996	0.29
	05-08-49	0	0.00
	05-08-50	76	0.15
		-----	-----
		2,072	0.22
LOWER KALAMA HATCHERY	63-22-54	12,120	4.04
PRIEST RAPIDS HATCHERY	63-21-55	14,475	3.63
	63-22-61	6,213	7.48
		-----	-----
		20,688	4.52
SEA RESOURCES HATCHERY	63-22-01	1,075	1.29
SPRING CREEK HATCHERY	05-07-40	5,421	1.12
	05-07-41	5,129	1.61
	05-07-42	6,919	2.16
	05-07-43	1,311	8.76
	05-07-46	7,097	8.10
	05-07-48	1,337	0.97
	05-07-49	3,042	2.37
	05-07-50	0	0.00
	05-07-51	694	0.91
	05-07-52	606	2.08
		-----	-----
		31,556	1.90
STAYTON POND	07-23-35	16,553	2.80
WASHOUGAL HATCHERY	63-21-48	1,482	2.89
	63-22-51	7,184	1.30
		-----	-----
		8,666	1.44
WEYCO POND	H1-03-01	103	0.03
	H1-03-02	713	0.56
		-----	-----
		816	0.17
All facilities		168,509	1.88

Appendix Table 16.-**Contribution** of 1981-brood fall chinook salmon to all Pacific coast fisheries by hatchery and tag code.

Rearing facility	Tag code	Total contribution	Contribution per 1000 releases
ABERNATHY HATCHERY	05-10-58	1,726	1.58
	05-10-59	514	1.41
		----- 2,240	----- 1.54
BIG CREEK HATCHERY	07-24-10	17,184	3.79
BONNEVILLE HATCHERY	07-24-07	3,319	2.78
	07-24-08	1,498	0.68
	07-26-63	13,001	4.60
		----- 17,818	----- 2.87
CLATSOP COUNTY PONDS	07-24-12	1,517	0.79
	07-24-13	485	0.59
		----- 2,002	----- 0.73
COWLITZ HATCHERY	63-20-32	13	0.32
	63-24-50	212	1.33
	63-24-62	8,051	1.17
	63-26-03	1,599	1.90
		----- 9,875	----- 1.24
ELOKOMIN HATCHERY	63-22-42	349	0.27
	63-22-60	308	0.24
		----- 657	----- 0.25
GRAYS RIVER HATCHERY	63-24-58	67	0.22
	63-24-59	160	0.31
		----- 227	----- 0.27
KALAMA FALLS HATCHERY	63-24-60	4,157	1.17
KLASKANINE HATCHERY	07-24-09	910	0.45
KLICKITAT HATCHERY	63-21-57	1,841	0.50

Appendix Table 16. - (continued)

Rearing facility	Tag code	Total contribution	Contribution per 100 releases
LITTLE WHITE HATCHERY	05-04-35	1,237	0.31
	05-04-36	122	0.03
		-----De-----	-----
		1,359	0.17
LOWER KALAMA HATCHERY	63-24-63	5,348	1.69
OXBOW HATCHERY	07-23-30	1,063	0.50
	07-24-11	368	0.17
		-----	-----
		1,431	0.33
PRIEST RAPIDS HATCHERY	63-22-52	19,367	4.19
	63-24-56	6,372	7.19
		-----e-m-----	-----em-----
		25,739	4.69
SEA RESOURCES HATCHERY	63-24-57	4,965	5.98
SPRING CREEK HATCHERY	05-07-53	0	0.00
	05-07-54	0	0.00
	05-08-51	1,484	4.84
	05-10-50	14,896	2.07
	05-10-51	3,410	1.57
	05-10-52	18,032	6.03
	05-10-57	3,919	5.83
		-----	-----
		41,741	3.11
STAYTON POND	07-26-62	23,612	3.50
WASHOUGAL HATCHERY	63-24-61	4,874	1.39
WEYCO POND	H1-04-06	1,574	0.35
All facilities		167,552	1.96

Appendix Table 17.--Tagged returns of **1978-brood** fall chinook salmon in **1980** to Columbia River rearing facilities and adjacent streams (only evaluation study tag codes).

Rearing facility	Tag code	Return site	Number of returns
ABERNATHY HATCHERY	05-04-50	Abernathy Creek	1
		Abernathy Hatchery	2

		Tag code total	3
	05-04-51	Abernathy Hatchery	1

		Facility total	4
BIG CREEK HATCHERY	07-18-44	Big Creek Hatchery	3
BIG WHITE POND	05-04-43	Bonneville Hatchery	1
		Spring Creek Hatchery	4

		Facility total	5
BONNEVILLE HATCHERY	07-18-42	Bonneville Hatchery	12
COWLITZ HATCHERY	63-19-42	Kalama Falls Hatchery	2
		Lewis River	3

		Facility total	5
GRAYS RIVER HATCHERY	63-16-46	Grays River Hatchery	1
KALAMA FALLS HATCHERY	63-19-57	Kalama Falls Hatchery	1
LITTLE WHITE HATCHERY	05-04-48	Bonneville Hatchery	1
PRIEST RAPIDS HATCHERY	63-18-21	Priest Rapids Hatchery	2
		Wells Dam	1

		Facility total	3
SPEELYAI HATCHERY	63-19-50	Kalama Falls Hatchery	1
		Lewis River	3

		Facility total	4
SPRING CREEK HATCHERY	05-04-33	Bonneville Hatchery	1
		Spring Creek Hatchery	25

		Tag code total	26

Appendix Table 17.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
SPRING CREEK HATCHERY	05-04-44	Bonneville Hatchery	2
		Spring Creek Hatchery	32

		Tag code total	34
	05-04-45	Bonneville Hatchery	1
	05-04-46	Bonneville Hatchery	2
		Spring Creek Hatchery	15

		Tag code total	17

		Facility total	78
STAYTON POND	07-18-41	Willamette River	1
TOUTLE HATCHERY	63-19-41	Kalama Falls Hatchery	2
Total all facilities			120

Appendix Table 18.--Tagged returns of **1978-brood** fall chinook salmon in **1981** to Columbia River rearing facilities and adjacent streams (only evaluation study tag codes).

Rearing facility	Tag code	Return site	Number of returns
ABERNATHY HATCHERY	05-04-50	Abernathy Creek	5
		Abernathy Hatchery	25
		Kalama Falls Hatchery	2
		Kalama River	2
		Lower Kalama Hatchery	1

		Tag code total	35
	05-04-51	Abernathy Creek	4
		Abernathy Hatchery	17
		Little White Hatchery	1
		Lower Kalama Hatchery	1
		Spring Creek Hatchery	1

		Tag code total	24

		Facility total	59
BIG CREEK HATCHERY	07-18-44	Abernathy Creek	2
		Abernathy Hatchery	2
		Big Creek Hatchery	41
		Elokomin Hatchery	3
		Gnat Creek	1
		Kalama Falls Hatchery	1
		Skamokawa Creek	2

		Facility total	52
BIG WHITE POND	05-04-43	Bonneville Hatchery	10
		Little White Hatchery	6
		Spring Creek Hatchery	12

		Facility total	28
BONNEVILLE HATCHERY	07-18-42	Bonneville Hatchery	196
		Spring Creek Hatchery	1

		Tag code total	197
	07-18-43	Bonneville Hatchery	3

		Facility total	200

Appendix Table 18.--(Continued)

Rearing facility	Tag code	Return site	Number of returns	
COWLITZ HATCHERY	63-19-42	Cowlitz Hatchery	24	
		Speelyai Hatchery	1	
		m-----		
		Tag code total	25	
	63-19-51	Cowlitz Hatchery	8	

		Facility total	33	
GRAYS RIVER HATCHERY	63-16-46	Big Creek Hatchery	2	
		Grays River Hatchery	1	
		a-----		
		Tag code total	3	
	63-19-37	Big Creek Hatchery	1	
		Grays River Hatchery	4	

	Tag code total	5		

		Facility total	8	
KALAMA FALLS HATCHERY	63-19-57	Kalama Falls Hatchery	2	
KLASKANINE HATCHERY	07-18-45	Big Creek	1	
		Big Creek Hatchery	3	
		Lewis & Clark River	1	

		Facility total	5	
LITTLE WHITE HATCHERY	05-04-48	Bonneville Hatchery	2	
		Little White Hatchery	3	
		Little White Salmon R.	1	

		Tag code total	6	
	05-04-49	Little White Hatchery	3	
Spring Creek Hatchery		1		

		Tag code total	4	

		Facility total	10	

Appendix Table 18.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
PRIEST RAPIDS HATCHERY	63-18-21	Priest Rapids Area	2
		Priest Rapids Hatchery	11
		Wells Dam	2

		Tag code total	15
	63-19-58	Priest Rapids Hatchery	1
	63-20-17	Priest Rapids Hatchery	5

		Facility total	21
SPEELYAI HATCHERY	63-19-20	Cedar Creek	1
		Kalama Falls Hatchery	1
		Lewis River	1
		Lower Kalama Hatchery	1

		Tag code total	4
	63-19-50	Cowlitz Hatchery	2
		Kalama Falls Hatchery	1

		Tag code total	3

		Facility total	7
SPRING CREEK HATCHERY	05-04-33	Big White Salmon River	2
		Bonneville Hatchery	36
		Spring Creek Hatchery	136

		Tag code total	174
	05-04-44	Bonneville Hatchery	52
		Spring Creek Hatchery	190

		Tag code total	242
	05-04-46	Abernathy Hatchery	1
		Bonneville Hatchery	33
		Little White Hatchery	1
		Spring Creek Hatchery	87

		Tag code total	122

		Facility total	538

Appendix Table 18.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
STAYTON POND	07-18-41	Willamette Falls	75
		Willamette River	18

		Facility total	93
TOUTLE HATCHERY	63-19-41	Cowlitz Hatchery	4
		Kalama Falls Hatchery	1

		Facility total	5
WASHOUGAL HATCHERY	63-19-38	Bonneville Hatchery	1
		Washougal Hatchery	1

		Tag code total	2
	63-19-46	Cedar Creek	1
		Kalama Falls Hatchery	1
		Washougal Hatchery	7
		Washougal River	3

		Tag code total	12

		Facility total	14
Total all facilities			1075

Appendix Table 19.--Tagged returns of **1978-brood** fall chinook salmon in **1982** to Columbia River rearing facilities and adjacent streams (only evaluation study tag codes).

Rearing facility	Tag code	Return site	Number of returns	
ABERNATHY HATCHERY	05-04-50	Abernathy Creek	5	
		Abernathy Hatchery	7	
		Germany Creek	1	

		Tag code total	13	
	05-04-51	Abernathy Creek	3	
		Abernathy Hatchery	10	
		Germany Creek	2	
		Lower Kalama Hatchery	1	

		Tag code total	16	

		Facility total	29	
BIG CREEK HATCHERY	07-18-44	Abernathy Creek	1	
		Abernathy Hatchery	1	
		Big Creek	14	
		Big Creek Hatchery	68	
		Elokomin Hatchery	17	
		Gnat Creek	1	
		Plympton Creek	21	
		Skamokawa Creek	2	

		Facility total	125	
	BIG WHITE POND	05-04-43	Big White Salmon River	5
Bonneville Hatchery			4	
Little White Hatchery			6	
Spring Creek Hatchery			9	

		Facility total	24	
BONNEVILLE HATCHERY	07-18-42	Bonneville Hatchery	91	
		Cascade Hatchery	4	

		Tag code total	95	
	07-18-43	Cascade Hatchery	1	

	Facility total	96		

Appendix Table 19.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
COWLITZ HATCHERY	63-19-42	Cowlitz Hatchery	57
		Cowlitz River	1
		Lewis River	1

		Tag code total	59
	63-19-51	Cowlitz Hatchery	13
		Lewis River	1

		Tag code total	14

		Facility total	73
ELOKOMIN HATCHERY	63-19-56	Elokomin Hatchery	1
GRAYS RIVER HATCHERY	63-16-46	Big Creek Hatchery	1
		Grays River Hatchery	2
		Skamokawa Creek	1

		Tag code total	4
	63-18-33	Grays River Hatchery	2
	63-19-37	Elokomin Hatchery	1
		Grays River Hatchery	2

		Tag code total	3

		Facility total	9
KALAMA FALLS HATCHERY	63-19-57	Hanford Reach	1
		Kalama Falls Hatchery	2
		Kalama River	9
		Lewis River	1
		Lewis River Hatchery	1
		Lower Kalama Hatchery	3

		Facility total	17
	07-18-45	Big Creek Hatchery	3
		Klaskanine Hatchery	3
		Lewis & Clark River	3

		Facility total	9

Appendix Table 19.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
LITTLE WHITE HATCHERY	05-04-48	Bonneville Hatchery	1
		Little White Hatchery	1
		Tag code total	2
	05-04-49	Little White Hatchery	5
		Facility total	7
PRIEST RAPIDS HATCHERY	63-18-21	Hanford Reach	8
		Priest Rapids Hatchery	18
		Tag code total	26
	63-18-57	Hanford Reach	1
		Priest Rapids Hatchery	1
		Tag code total	2
	63-20-17	Priest Rapids Hatchery	9
		Facility total	37
SPEELYAI HATCHERY	63-19-20	Cowlitz Hatchery	1
		Kalama Falls Hatchery	1
		Lewis River	7
		Lewis River Hatchery	1
		Lower Kalama Hatchery	2
		Tag code total	12
	63-19-50	Cowlitz Hatchery	2
		Lewis River	13
		Lewis River Hatchery	1
		Lower Kalama Hatchery	3
		Tag code total	19
		Facility total	31
SPRING CREEK HATCHERY	05-04-33	Bonneville Hatchery	5
		Spring Creek Hatchery	37
		Tag code total	42

Appendix Table 19.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
SPRING CREEK HATCHERY	05-04-44	Bonneville Hatchery	6
		Spring Creek Hatchery	77

		Tag code total	83
	05-04-46	Bonneville Hatchery	2
		Cascade Hatchery	1
		Spring Creek Hatchery	47

		Tag code total	50
		Facility total	----- 175
STAYTON POND	07-18-41	Bonneville Hatchery	1
		Willamette Falls	136
		Willamette River	8
			----- Facility total 145
TOUTLE HATCHERY	63-18-54	Cowlitz Hatchery	3
	63-19-41	Cowlitz Hatchery	12
		Kalama Falls Hatchery	9
		Kalama River	4
		Lewis River Hatchery	1
		Lower Kalama Hatchery	2

		Tag code total	28
		Facility total	----- 31
WASHOUGAL HATCHERY	63-19-38	Bonneville Hatchery	2
		Cedar Creek	1
		Washougal Hatchery	14

		Tag code total	17
	63-19-46	Kalama River	2
		Lower Kalama Hatchery	1
		Washougal Hatchery	22
		Washougal River	1

		Tag code total	26
		Facility total	----- 43

Appendix Table 19.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
WEYCO POND	63-19-39	Big Creek Hatchery	3
		Clatskanie River	1
		Elokomin Hatchery	3
		Grays River Hatchery	2

		Facility total	9
Total all facilities			861

Appendix Table 20.--Tagged returns of **1978-brood** fall chinook salmon in **1983** to Columbia River rearing facilities and adjacent streams (only evaluation study tag codes).

Rearing facility	Tag code	Return site	Number of returns
BIG CREEK HATCHERY	07-18-44	Big Creek	1
		Big Creek Hatchery	4
		Skamokawa Creek	1

		Facility total	6
BIG WHITE POND	05-04-43	Little White Hatchery	1
BONNEVILLE HATCHERY	07-18-42	Bonneville Hatchery	3
COWLITZ HATCHERY	63-19-42	Cowlitz Hatchery	7
	63-19-51	Cowlitz Hatchery	2

		Facility total	9
ELOKOMIN HATCHERY	63-18-56	Abernathy Hatchery	1
GRAYS RIVER HATCHERY	63-16-46	Elokom Hatchery	1
		Grays River Hatchery	1

		Facility total	2
KALAMA FALLS HATCHERY	63-19-57	Kalama Falls Hatchery	13
		Lewis River	2

		Facility total	15
KLASKANINE HATCHERY	07-18-45	Bear Creek	1
LITTLE WHITE HATCHERY	05-04-48	Little White Hatchery	1
	05-04-49	Little White Hatchery	1

		Facility total	2
PRIEST RAPIDS HATCHERY	63-18-21	Priest Rapids Area	2
		Priest Rapids Hatchery	1
		Wells Dam	1

		Tag code total	4

Appendix Table 20.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
PRIEST RAPIDS HATCHERY	63-20-17	Bonneville Dam	1
		Priest Rapids Hatchery	1

		Tag code total	2

		Facility total	6
SPEELYAI HATCHERY	63-19-20	Lewis River	2
	63-19-50	Cowlitz River	1
		Lewis River	3

		Tag code total	4

		Facility total	6
SPRING CREEK HATCHERY	05-04-44	Spring Creek Hatchery	3
	05-04-46	Spring Creek Hatchery	1

		Facility total	4
STAYTON POND	07-18-41	Willamette Falls	4
TOUTLE HATCHERY	63-19-41	Cowlitz Hatchery	3
WASHOUGAL HATCHERY	63-19-38	Washougal Hatchery	3
		Washougal River	1

		Tag code total	4
	63-19-46	Washougal Hatchery	2

		Facility total	6
Total all facilities			69

Appendix Table 21.--Tagged returns of **1979-brood** fall chinook salmon in **1981** to Columbia River rearing facilities and adjacent streams (only evaluation study tag codes).

Rearing facility	Tag code	Return site	Number of returns
ABERNATHY HATCHERY	05-06-44	Abernathy Creek	4
		Abernathy Hatchery	4
		Big Creek Hatchery	1

		Tag code total	9
	05-06-46	Abernathy Creek	6
		Abernathy Hatchery	19
		Spring Creek Hatchery	1

		Tag code total	26
BIG CREEK HATCHERY	07-21-60	-----	
		Facility total	35

		Facility total	8
BONNEVILLE HATCHERY	07-21-57	Big Creek Hatchery	1
		Plympton Creek	1

		Facility total	9
COWLITZ HATCHERY	63-21-37	Bonneville Hatchery	3
		Cowlitz Hatchery	9
		63-21-54	2

Klickitat Hatchery	63-19-47	Facility total	11

		Facility total	1

Lewis River Hatchery	63-21-60	Little White Hatchery	1
		Skamokawa Creek	1

		Facility total	3
Oxbow Hatchery	07-21-62	Bonneville Hatchery	2
		07-21-63	1

		Facility total	3
PRIEST RAPIDS HATCHERY	63-19-48	Priest Rapids Hatchery	22
SEA RESOURCES HATCHERY	63-20-61	Sea Resources Hatchery	3

Appendix Table 21.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
SPRING CREEK HATCHERY	05-06-39	Bonneville Hatchery	17
		Little White Hatchery	1
		Spring Creek Hatchery	27

		Tag code total	45
	05-06-40	Bonneville Hatchery	6
		Spring Creek Hatchery	39

		Tag code total	45
	05-06-41	Bonneville Hatchery	4
		Spring Creek Hatchery	28

		Tag code total	32

		Facility total	122
STAYTON POND	07-20-55	Willamette Falls	8
		Willamette River	1

		Facility total	9
WASHOUGAL HATCHERY	63-21-53	Washougal Hatchery	5
Total all facilities			224

Appendix Table 22.--Tagged returns of **1979-brood** fall chinook salmon in **1982** to Columbia River rearing facilities and adjacent streams (only evaluation study tag codes).

Rearing facility	Tag code	Return site	Number of returns
ABERNATHY HATCHERY	05-06-44	Abernathy Creek	4
		Abernathy Hatchery	13
		Lower Kalama Hatchery	3

		Tag code total	20
	05-06-46	Abernathy Creek	22
		Abernathy Hatchery	41
		Big Creek Hatchery	1
		Bonneville Hatchery	1
		Germany Creek	1
		Kalama River	2
		Lower Kalama Hatchery	1
		Spring Creek Hatchery	2

		Tag code total	71

		Facility total	91
BIG CREEK HATCHERY	07-21-60	Abernathy Creek	2
		Abernathy Hatchery	6
		Big Creek	19
		Big Creek Hatchery	100
		Bonneville Hatchery	1
		Cedar Creek	4
		Elokomin Hatchery	18
		Germany Creek	1
		Plympton Creek	19
		Willamette Falls	1

		Facility total	171
BONNEVILLE HATCHERY	07-21-57	Bonneville Hatchery	17
COWLITZ HATCHERY	63-21-37	Cowlitz Hatchery	20
	63-21-54	Cowlitz Hatchery	19
		Cowlitz River	1
		Grays River Hatchery	1
		Kalama River	1

		Tag code total	22

Appendix Table 22.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
COWLITZ HATCHERY	63-21-59	Cowlitz Hatchery	4
		Cowlitz River	1
		Elokomin Hatchery	1

		Tag code total	6
ELOKOMIN HATCHERY	63-20-05		-----
		Big Creek Hatchery	1
		Elokomin Hatchery	3

		Facility total	4
GRAYS RIVER HATCHERY	63-20-43	Big Creek Hatchery	3
		Grays River Hatchery	2

		Facility total	5
KALAMA FALLS HATCHERY	63-21-05	Cowlitz Hatchery	1
		Kalama Falls Hatchery	4
		Kalama River	2
		Lower Kalama Hatchery	2

		Facility total	9
KLASKANINE HATCHERY	07-21-61	Big Creek	1
		Elokomin Hatchery	1

		Facility total	2
KLICKITAT HATCHERY	63-19-47	Klickitat Hatchery	5
		Sea Resources Hatchery	1

		Facility total	6
LEWIS RIVER HATCHERY	63-21-60	Kalama River	1
		Lewis River	4
		Lewis River Hatchery	1
		Lower Kalama Hatchery	1
		Skamokawa Creek	3
			m-w----
		Facility total	10
LITTLE WHITE HATCHERY	05-06-43	Little White Hatchery	1

Appendix Table 22.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
LOWER KALAMA HATCHERY	63-20-06	Kalama River	1
		Lower Kalama Hatchery	3

		Facility total	4
OXBOW HATCHERY	07-21-62	Bonneville Hatchery	1
	07-21-63	Bonneville Hatchery	4
		Cascade Hatchery	1

		Tag code total	5

		Facility total	6
PRIEST RAPIDS HATCHERY	63-19-48	Hanford Reach	4
		Lewis River	1
		Priest Rapids Hatchery	54
		Ringold Pond	1
		Wells Dam	5

		Facility total	65
SEA RESOURCES HATCHERY	63-20-61	Sea Resources Hatchery	15
SPRING CREEK HATCHERY	05-06-39	Big White Salmon River	1
		Bonneville Hatchery	21
		Cascade Hatchery	1
		Little White Hatchery	1
		Plympton Creek	1
		Spring Creek Hatchery	109

		Tag code total	134
	05-06-40	Big White Salmon River	2
		Bonneville Hatchery	9
		Cascade Hatchery	1
		Little White Hatchery	2
		Spring Creek Hatchery	95

		Tag code total	109
	05-06-41	Bonneville Hatchery	13
		Cascade Hatchery	2
		Kalama River	1
		Spring Creek Hatchery	77

		Tag code total	93

Appendix Table 22.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
SPRING CREEK HATCHERY	05-06-42	Spring Creek Hatchery	8
		Facility total	----- 344
STAYTON POND	07-20-55	Willamette Falls	155
		Willamette River	4
		Facility total	----- 159
WASHOUGAL HATCHERY	63-21-53	Bonneville Hatchery	1
		Cascade Hatchery	4
		Kalama Falls Hatchery	4
		Kalama River	2
		Lewis River	1
		Lower Kalama Hatchery	4
		Washougal Hatchery	68
		Facility total	m-v--- 84
WEYCO POND	H1-02-03	Big Creek Hatchery	7
		Elokomin Hatchery	3
		Grays River Hatchery	12
		Skamokawa Creek	1
		Facility total	----- 23
Total all facilities			1064

Appendix Table 23. --Tagged returns of 1979-brood fall chinook salmon in 1983 to Columbia River rearing facilities and adjacent streams (only evaluation study tag codes).

Rearing facility	Tag code	Return site	Number of returns
ABERNATHY HATCHERY	05-06-44	Abernathy Creek	1
		Abernathy Hatchery	2

		Tag code total	3
	05-06-46	Abernathy Creek	6
		Abernathy Hatchery	6
		Germany Creek	1
		Kalama Falls Hatchery	3
		Spring Creek Hatchery	1

		Tag code total	17

	Facility total		20
BIG CREEK HATCHERY	07-21-60	Abernathy Creek	2
		Abernathy Hatchery	3
		Bear Creek	5
		Big Creek	10
		Big Creek Hatchery	36
		Elokomin Hatchery	21
		Elokomin River	2
		Plympton Creek	10
		Skamokawa Creek	7
		Willamette Falls	2

		Facility total	98
BONNEVILLE HATCHERY	07-21-57	Bonneville Hatchery	11
		Cascade Hatchery	1

	Facility total		12
COWLITZ HATCHERY	63-21-37	Cowlitz Hatchery	48
	63-21-54	Cowlitz Hatchery	20
		Cowlitz River	3
		Elokomin Hatchery	9
		Kalama Falls Hatchery	2
		Lewis River	3
		Lewis River Hatchery	1
		Lower Kalama Hatchery	1

	Tag code total		39

Appendix Table 23.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
COWLITZ HATCHERY	63-21-59	Cowlitz Hatchery	4
		Elokomin Hatchery	3
		Kalama Falls Hatchery	3
		Lewis River Hatchery	1
		Lower Kalama Hatchery	2

		Tag code total	13

		Facility total	100
ELOKOMIN HATCHERY	63-20-05	Elokomin Hatchery	7
		Elokomin River	1

		Facility total	8
GRAYS RIVER HATCHERY	63-20-43	Grays River	1
		Grays River Hatchery	3
		Plympton Creek	1

		Facility total	5
KALAMA FALLS HATCHERY	63-21-05	Cowlitz River	1
		Kalama Falls Hatchery	58
		Kalama River	1
		Lower Kalama Hatchery	7
		Deschutes Hatchery WA	1

		Facility total	68
KLICKITAT HATCHERY	63-19-47	Klickitat Hatchery	3
LEWIS RIVER HATCHERY	63-21-60	Cowlitz Hatchery	2
		Elokomin Hatchery	2
		Kalama Falls Hatchery	4
		Lewis River	12
		Lewis River Hatchery	3

		Facility total	23
LITTLE WHITE HATCHERY	05-06-43	Little White Hatchery	1
LOWER KALAMA HATCHERY	63-20-06	Cowlitz Hatchery	1
		Kalama Falls Hatchery	31
		Kalama River	1
		Lower Kalama Hatchery	1

		Facility total	34

Appendix Table 23.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
OXBOW HATCHERY	07-21-62	Bonneville Hatchery	5
		Cascade Hatchery	1

		Tag code total	6
	07-21-63	Bonneville Hatchery	6

		Facility total	12
PRIEST RAPIDS HATCHERY	63-19-48	Bonneville Dam	13
		Priest Rapids Area	6
		Priest Rapids Hatchery	52
		Ringold Pond	1
		Wells Dam	2
			-I----
		Facility total	74
SEA RESOURCES HATCHERY	63-20-61	Sea Resources Hatchery	3
SPRING CREEK HATCHERY	05-06-39	Bonneville Hatchery	2
		Little White Hatchery	1
		Spring Creek Hatchery	15
			mm----
		Tag code total	18
	05-06-40	Bonneville Hatchery	1
		Spring Creek Hatchery	24
			-mm---
		Tag code total	25
	05-06-41	Bonneville Hatchery	1
		Little White Hatchery	1
		Spring Creek Hatchery	18
			mm----
		Tag code total	20
	05-06-42	Spring Creek Hatchery	7

		Facility total	70
.STAYTON POND	07-20-55	Willamette Falls	28

Appendix Table 23.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
WASHOUGAL HATCHERY	63-21-53	Kalama Falls Hatchery	10
		Lewis River	2
		Lewis River Hatchery	1
		Lower Kalama Hatchery	1
		Washougal Hatchery	129
		Washougal River	14
		----- Facility total	157
WEYCO POND	H1-02-03	Big Creek Hatchery	4
		Elokomin Hatchery	3
		Skamokawa Creek	1
		----- Facility total	8
Total all facilities			724

Appendix Table 24.--Tagged returns of **1979-brood** fall chinook salmon in **1984** to Columbia River rearing facilities and adjacent streams (only evaluation study tag codes).

Rearing facility	Tag code	Return site	Number of returns
BIG CREEK HATCHERY	07-21-60	Plympton Creek	1
COWLITZ HATCHERY	63-21-37	Cowlitz Hatchery	2
	63-21-54	Cowlitz River	1
		Kalama Falls Hatchery	1

		Tag code total	2
	63-21-59	Cowlitz Hatchery	2

		Facility total	6
ELOKOMIN HATCHERY	63-20-05	Elokomin Hatchery	1
KALAMA FALLS HATCHERY	63-21-05	Kalama Falls Hatchery	5
		Kalama River	3
		Lower Kalama Hatchery	1

		Facility total	9
LEWIS RIVER HATCHERY	63-21-60	Cowlitz Hatchery	1
		Lewis River	6

		Facility total	7
LOWER KALAMA HATCHERY	63-20-06	Kalama Falls Hatchery	9
		Kalama River	1

		Facility total	10
PRIEST RAPIDS HATCHERY	63-19-48	Bonneville Dam	9
		Bonneville Hatchery	1
		Priest Rapids Area	2
		Priest Rapids Hatchery	6
		Ringold Pond Area	1

		Facility total	19
SEA RESOURCES HATCHERY	63-20-61	Sea Resources Hatchery	
WASHOUGAL HATCHERY	63-21-53	Kalama Falls Hatchery	3
		Lower Kalama Hatchery	2
		Washougal Hatchery	4

		Facility total	9

Appendix Table 24.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
WEYCO POND	H1-02-03	Skamokawa Creek	1
Total all facilities			64

Appendix Table 25.--Tagged returns of **1979-brood** fall chinook salmon in **1985** to Columbia River rearing facilities and adjacent streams (only evaluation study tag codes).

Rearing facility	Tag code	Return site	Number of returns
COWLITZ HATCHERY	63-21-54	Cowlitz Hatchery	1
PRIEST RAPIDS HATCHERY	63-19-48	Priest Rapids Hatchery	1
Total all facilities			2

Appendix Table 26.--Tagged returns of 1980-brood fall chinook salmon in 1982 to Columbia River rearing facilities and adjacent streams (only evaluation study tag codes).

Rearing facility	Tag code	Return site	Number of returns
ABERNATHY HATCHERY	05-07-44	Abernathy Creek	3
		Abernathy Hatchery	14

		Tag code total	17
	05-07-45	Abernathy Creek	6
		Abernathy Hatchery	33
		Lower Kalama Hatchery	5
			em----
		Tag code total	44

		Facility total	61
BIG CREEK HATCHERY	07-23-31	Big Creek Hatchery	1
		Elokomin River	1

		Tag code total	2
	07-23-33	Big Creek Hatchery	4

		Facility total	6
BONNEVILLE HATCHERY	07-21-56	Bonneville Hatchery	12
	07-23-29	Bonneville Hatchery	6

		Facility total	18
CLATSOP COUNTY PONDS	07-21-59	Big Creek Hatchery	1
COWLITZ HATCHERY	63-21-56	Cowlitz Hatchery	25
		Lewis River Hatchery	1
			-mm---
		Tag code total	26
	63-22-55	Cowlitz Hatchery	4

		Facility total	30
ELOKOMIN HATCHERY	63-22-34	Lower Kalama Hatchery	1
GRAYS RIVER HATCHERY	63-22-63	Big Creek Hatchery	1

Appendix Table 26.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
KLICKITAT HATCHERY	63-20-08	Klickitat Hatchery	1
PRIEST RAPIDS HATCHERY	63-21-55	Priest Rapids Hatchery	9
	63-22-61	Priest Rapids Area	2
		Priest Rapids Hatchery	1
			em----
		Tag code total	3
			
		Facility total	12
SPRING CREEK HATCHERY	05-07-40	Spring Creek Hatchery	1
	05-07-41	Spring Creek Hatchery	4
	05-07-46	Rock Creek	1
	05-07-52	Spring Creek Hatchery	1
			
		Facility total	7
STAYTON POND	07-23-35	Willamette Falls	4
WASHOUGAL HATCHERY	63-21-48	Washougal Hatchery	1
	63-22-51	Bonneville Hatchery	1
		Kalama River	1
			
		Tag code total	2
			
		Facility total	3
WEYCO POND	H1-03-01	Grays River Hatchery	1
Total all facilities			146

Appendix Table 27.--Tagged returns of 1980-brood fall chinook salmon in 1983 to Columbia River rearing facilities and adjacent streams (only evaluation study tag codes).

Rearing facility	Tag code	Return site	Number of returns
ABERNATHY HATCHERY	05-07-44	Abernathy Creek	5
		Abernathy Hatchery	16
		Elokomin Hatchery	1
		Kalama Falls Hatchery	2
			--mm--
		Tag code total	24
	05-07-45	Abernathy Creek	15
		Abernathy Hatchery	63
		Big Creek	1
		Big Creek Hatchery	1
		Elokomin Hatchery	2
		Elokomin River	1
		Kalama Falls Hatchery	10
		Kalama River	1
		Lower Kalama Hatchery	1
		Skamokawa Creek	3
		Washougal Hatchery	1

		Tag code total	99

		Facility total	123
BIG CREEK HATCHERY	07-23-31	Bear Creek	1
		Big Creek	1
		Big Creek Hatchery	6
		Elokomin Hatchery	7
		Skamokawa Creek	1
			--mm--
		Tag code total	16
	07-23-33	Abernathy Creek	1
		Abernathy Hatchery	1
		Bear Creek	3
		Big Creek	4
		Big Creek Hatchery	4
		Elokomin Hatchery	7
		Plympton Creek	1

		Tag code total	21

Appendix Table 27.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
BIG CREEK HATCHERY	07-23-34	Bear Creek	1
		Big Creek Hatchery	8
		Elokomín Hatchery	1
		Elokomín River	1
		Skamokawa Creek	3
			--mm--
		Tag code total	14

		Facility total	51
BONNEVILLE HATCHERY	07-21-56	Bonneville Hatchery	80
		Cascade Hatchery	1
		Washougal River	1
			--mm--
	07-23-29	Tag code total	8 2
		Bonneville Hatchery	46
		Spring Creek Hatchery	1

		Tag code total	47

		Facility total	129
CLATSOP COUNTY PONDS	07-21-58	Grays River	1
		Lewis & Clark River	3

	07-21-59	Tag code total	4
		Big Creek	1
		Big Creek Hatchery	1
		Lewis & Clark River	1

		Tag code total	3

		Facility total	7
COWLITZ HATCHERY	63-21-56	Cowlitz Hatchery	90
		Cowlitz River	2
		Lewis River Hatchery	1

		Tag code total	93

Appendix Table 27.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
COWLITZ HATCHERY	63-22-55	Cowlitz Hatchery	15
		Cowlitz River	1
			mm-m--
		Tag code total	16
		Facility total	----- 109
ELOKOMIN HATCHERY	63-22-34	Abernathy Hatchery	1
		Big Creek Hatchery	1
		Elokomin Hatchery	5

		Tag code total	7
	63-23-17	Elokomin Hatchery	2

		Facility total	9
GRAYS RIVER HATCHERY	63-22-63	Grays River Hatchery	2
KALAMA FALLS HATCHERY	63-20-36	Cowlitz Hatchery	1
		Kalama Falls Hatchery	16
		Kalama River	2
		Lower Kalama Hatchery	2

		Facility total	21
	07-22-27	Lewis & Clark River	2
	07-23-32	Bear Creek	1
		Lewis & Clark River	2

		Tag code total	3
		Facility total	----- 5
LITTLE WHITE HATCHERY	05-07-47	Bonneville Hatchery	1
		Little White Hatchery	2

		Tag code total	3
	05-08-49	Little White Hatchery	1

		Facility total	4

Appendix Table 27.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
LOWER KALAMA HATCHERY	63-22-54	Cowlitz Hatchery	1
		Kalama Falls Hatchery	16
		Lower Kalama Hatchery	17

		Facility total	34
PRIEST RAPIDS HATCHERY	63-21-55	Priest Rapids Hatchery	36
	63-22-61	Priest Rapids Hatchery	17

		Facility total	53
SEA RESOURCES HATCHERY	63-22-01	Sea Resources Hatchery	3
SPRING CREEK HATCHERY	05-07-40	Bonneville Hatchery	1
		Spring Creek Hatchery	13

		Tag code total	14
	05-07-41	Spring Creek Hatchery	22
	05-07-42	Bonneville Hatchery	1
		Spring Creek Hatchery	16

		Tag code total	17
	05-07-43	Rock Creek	1
		Spring Creek Hatchery	1

		Tag code total	2
	05-07-46	Rock Creek	1
		Spring Creek Hatchery	5

		Tag code total	6
	05-07-48	Spring Creek Hatchery	1
	05-07-49	Bonneville Hatchery	1
		Spring Creek Hatchery	9

		Tag code total	10
	05-07-50	Spring Creek Hatchery	3

Appendix Table 27.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
SPRING CREEK HATCHERY	05-07-52	Spring Creek Hatchery	2
		Facility total	----- 77
STAYTON POND	07-23-35	Willamette Falls	56
WASHOUGAL HATCHERY	63-21-48	Washougal Hatchery	19
		Washougal River	1
		Tag code total	----- 20
	63-22-51	Bonneville Hatchery	1
		Kalama Falls Hatchery	1
		Kalama River	1
		Lower Kalama Hatchery	2
		Washougal Hatchery	39
		Washougal River	1
		Tag code total	----- 45
		Facility total	----- 65
WEYCO POND	H1-03-01	Big Creek Hatchery	1
		Grays River Hatchery	1
		Tag code total	----- 2
	H1-03-02	Elokomin Hatchery	1
		Facility total	----- 3
Total all facilities			751

Appendix Table 28.--Tagged returns of **1980-brood** fall chinook salmon in **1984** to Columbia River rearing facilities and adjacent streams (only evaluation study tag codes).

Rearing facility	Tag code	Return site	Number of returns
ABERNATHY HATCHERY	05-07-44	Abernathy Creek	1
	05-07-45	Abernathy Hatchery	2
		Elokomin Hatchery	1

		Tag code total	3

		Facility total	4
BIG CREEK HATCHERY	07-23-31	Big Creek	3
		Big Creek Hatchery	10
		Elokomin Hatchery	1

		Tag code total	14
	07-23-33	Bear Creek	1
		Big Creek	1
		Big Creek Hatchery	5
		Elokomin Hatchery	3
		Plympton Creek	2

		Tag code total	12
	07-23-34	Bear Creek	2
		Big Creek	1
		Big Creek Hatchery	6
		Elokomin Hatchery	1
		Elokomin River	1

		Tag code total	11

		Facility total	37
BONNEVILLE HATCHERY	07-21-56	Bonneville Hatchery	8
	07-23-29	Bonneville Hatchery	5

		Facility total	13
CLATSOP COUNTY PONDS	07-21-58	Elokomin Hatchery	1
		Grays River	1
		Lewis & Clark River	1

		Tag code total	3

Appendix Table 28.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
CLATSOP COUNTY PONDS	07-21-59	Big Creek	2
		Big Creek Hatchery	1
		Klaskanine River	1
		Lewis & Clark River	2

		Tag code total	6
COWLITZ HATCHERY	63-21-56		-----
		Facility total	9
		Abernathy Hatchery	1
		Cowlitz Hatchery	116
		Cowlitz River	11
	63-22-55	-----	
		Tag code total	128
		Cowlitz Hatchery	49
		Cowlitz River	11
		Lewis River	1
ELOKOMIN HATCHERY	63-22-34	-----	
		Tag code total	61
		Facility total	189
		Abernathy Hatchery	2
		Big Creek Hatchery	4
	63-23-17	Elokomin Hatchery	8
		Kalama Falls Hatchery	1
		Skamokawa Creek	1

		Tag code total	16
GRAYS RIVER HATCHERY	63-22-63	Facility total	21
		Big Creek Hatchery	6
		Elokomin Hatchery	2
		Grays River Hatchery	10

		Tag code total	18

Appendix Table 28.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
GRAYS RIVER HATCHERY	63-23-40	Big Creek Hatchery	1
		Grays River Hatchery	1

		Tag code total	2

		Facility total	20
KALAMA FALLS HATCHERY	63-20-36	Cowlitz Hatchery	1
		Cowlitz River	4
		Kalama Falls Hatchery	35
		Kalama River	4
		Lower Kalama Hatchery	10

		Facility total	54
KLASKANINE HATCHERY	07-22-27	Klaskanine River	1
	07-23-32	Big Creek Hatchery	1

		Facility total	2
KLICKITAT HATCHERY	63-20-08	Klickitat Hatchery	3
LITTLE WHITE HATCHERY	05-07-47	Little White Hatchery	5
		Spring Creek Hatchery	1

		Tag code total	6
	05-08-49	Little White Hatchery	2

		Facility total	8
LOWER KALAMA HATCHERY	63-22-54	Cowlitz Hatchery	4
		Kalama Falls Hatchery	76
		Kalama River	11
		Lower Kalama Hatchery	35

		Facility total	126

Appendix Table 28.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
PRIEST RAPIDS HATCHERY	63-21-55	Bonneville Dam	6
		Priest Rapids Area	3
		Priest Rapids Hatchery	64
		Wells Dam	2

		Tag code total	75
	63-22-61	Bonneville Dam	5
		Priest Rapids Area	3
		Priest Rapids Hatchery	35

		Tag code total	43

		Facility total	118
SEA RESOURCES HATCHERY	63-22-01	Sea Resources Hatchery	2
SPRING CREEK HATCHERY	05-07-40	Spring Creek Hatchery	8
	05-07-41	Spring Creek Hatchery	11
	05-07-42	Spring Creek Hatchery	5
	05-07-49	Bonneville Hatchery	1
		Spring Creek Hatchery	3

		Tag code total	4
	05-07-52	Spring Creek Hatchery	2

		Facility total	30
STAYTON POND	07-23-35	Willamette Falls	28
WASHOUGAL HATCHERY	63-21-48	Kalama Falls Hatchery	2
		Washougal Hatchery	26

		Tag code total	28

Appendix Table 28.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
WASHOUGAL HATCHERY	63-22-51	Kalama Falls Hatchery	13
		Kalama River	3
		Lower Kalama Hatchery	7
		Sandy River	1
		Washougal Hatchery	44
		Washougal River	7
		Willamette Falls	1
		me----	
		Tag code total	76

		Facility total	104
WEYCO POND	H1-03-01	Big Creek	1
		Big Creek Hatchery	1

		Tag code total	2
	H1-03-02	Big Creek Hatchery	3
		Elokomin Hatchery	3
		Skamokawa Creek	2

		Tag code total	a

		Facility total	10
Total all facilities			778

Appendix Table 29.--Tagged returns of **1980-brood** fall chinook salmon in **1985** to Columbia River rearing facilities and adjacent streams (only evaluation study tag codes).

Rearing facility	Tag code	Return site	Number of returns
BIG CREEK HATCHERY	07-23-31	Skamokawa Creek	1
COWLITZ HATCHERY	63-21-56	Cowlitz Hatchery	22
		Cowlitz River	3
		mm-m--	
		Tag code total	25
	63-22-55	Cowlitz Hatchery	9
		Cowlitz River	5

		Tag code total	14

		Facility total	39
ELOKOMIN HATCHERY	63-22-34	Abernathy Hatchery	1
		Big Creek	1
		Cowlitz River	1
		Kalama Falls Hatchery	2
		m-w---	
		Facility total	5
GRAYS RIVER HATCHERY	63-22-63	Big Creek	1
		Grays River Hatchery	2
		Skamokawa Creek	1

		Tag code total	4
	63-23-40	Elokomin Hatchery	1

		Facility total	5
KALAMA FALLS HATCHERY	63-20-36	Cowlitz Hatchery	1
		Kalama Falls Hatchery	8
		Lower Kalama Hatchery	2

		Facility total	11
LOWER KALAMA HATCHERY	63-22-54	Cowlitz Hatchery	1
		Kalama Falls Hatchery	24
		Kalama River	1
		Lower Kalama Hatchery	4

		Facility total	30

Appendix Table 29.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
PRIEST RAPIDS HATCHERY	63-21-55	Priest Rapids Area	1
		Priest Rapids Hatchery	34
		Wells Dam	1

		Tag code total	36
	63-22-61	Nemah Hatchery	1
		Priest Rapids Hatchery	25

		Tag code total	26

		Facility total	62
WASHOUGAL HATCHERY	63-21-48	Kalama Falls Hatchery	1
		Washougal Hatchery	7

		Tag code total	8
	63-22-51	Kalama Falls Hatchery	5
		Washougal Hatchery	10

		Tag code total	15

		Facility total	23
WEYCO POND	H1-03-02	Big Creek Hatchery	1
		Skamokawa Creek	1

		Facility total	2
Total all facilities			178

Appendix Table 30.--Tagged returns of **1980-brood** fall chinook salmon in **1986** to Columbia River rearing facilities and adjacent streams (only evaluation study tag codes).

Rearing facility	Tag code	Return site	Number of returns
COWLITZ HATCHERY	63-21-56	Cowlitz Hatchery	1
		Cowlitz River	1

		Facility total	2
LOWER KALAMA HATCHERY	63-22-54	Kalama Falls Hatchery	1
PRIEST RAPIDS HATCHERY	63-21-55	Priest Rapids Hatchery	3
	63-22-61	Wells Dam	1

		Facility total	4
WASHOUGAL HATCHERY	63-21-48	Washougal Hatchery	1
Total all facilities			8

Appendix Table 31.--Tagged returns of **1981-brood** fall chinook salmon in **1982** to Columbia River rearing facilities and adjacent streams (only evaluation study tag codes).

Rearing facility	Tag code	Return site	Number of returns
SPRING CREEK HATCHERY	05-10-52	Spring Creek Hatchery	1
Total all facilities		.	1

Appendix Table 32.--Tagged returns of **1981-brood** fall chinook salmon in **1983** to Columbia River rearing facilities and adjacent streams (only evaluation study tag codes).

Rearing facility	Tag code	Return site	Number of returns
ABERNATHY HATCHERY	05-10-58	Abernathy Creek	3
		Abernathy Hatchery	2

		Tag code total	5
	05-10-59	Abernathy Creek	1
		Abernathy Hatchery	2

		Tag code total	3

		Facility total	8
BIG CREEK HATCHERY	07-24-10	Big Creek Hatchery	1
		Skamokawa Creek	1

		Facility total	2
BONNEVILLE HATCHERY	07-24-07	Bonneville Hatchery	3
COWLITZ HATCHERY	63-24-62	Cowlitz Hatchery	4
LOWER KALAMA HATCHERY	63-24-63	Lower Kalama Hatchery	1
PRIEST RAPIDS HATCHERY	63-22-52	Priest Rapids Hatchery	4
	63-24-56	Priest Rapids Hatchery	2

		Facility total	6
SEA RESOURCES HATCHERY	63-24-57	Sea Resources Hatchery	1
SPRING CREEK HATCHERY	05-10-50	Bonneville Hatchery	3
		Spring Creek Hatchery	9

		Tag code total	12
	05-10-51	Bonneville Hatchery	1
		Spring Creek Hatchery	1

		Tag code total	2

Appendix Table 32.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
SPRING CREEK HATCHERY	05-10-52	Spring Creek Hatchery	6
		Facility total	20
STAYTON POND	07-26-62	Willamette Falls	4
WASHOUGAL HATCHERY	63-24-61	Washougal Hatchery	1
Total all facilities			50

Appendix Table 33.--Tagged returns of **1981-brood** fall chinook salmon in **1984** to Columbia River rearing facilities and adjacent streams (only evaluation study tag codes).

Rearing facility	Tag code	Return site	Number of returns
ABERNATHY HATCHERY	05-10-58	Abernathy Creek	2
		Abernathy Hatchery	18
		Elokomin Hatchery	1
		Kalama Falls Hatchery	2
		Kalama River	1
		Lower Kalama Hatchery	2

		Tag code total	26
	05-10-59	Abernathy Creek	4
		Abernathy Hatchery	5
		Big Creek Hatchery	1

		Tag code total	10

		Facility total	36
BIG CREEK HATCHERY	07-24-10	Abernathy Hatchery	1
		Bear Creek	4
		Big Creek	9
		Big Creek Hatchery	56
		Elokomin Hatchery	11
		Plympton Creek	1
		Skamokawa Creek	4

		Facility total	86
BONNEVILLE HATCHERY	07-24-07	Bonneville Hatchery	69
		Cascade Hatchery	3
		Little White Hatchery	1
		Spring Creek Hatchery	1

		Tag code total	74
	07-24-08	Bonneville Hatchery	7
		Little White Hatchery	1

		Tag code total	8

Appendix Table 33.--(Continued)

Rearing facility	Tag code	Return site	Number of returns				
BONNEVILLE HATCHERY	07-26-63	Lyons Ferry Hatchery	1				
		Priest Rapids Hatchery	1				
		Spring Creek Hatchery	1				

		Tag code total	3				

			Facility total	85			
			CLATSOP COUNTY PONDS	07-24-12	Big Creek Hatchery	2	
					07-24-13	Lewis & Clark River	1

		Facility total	3				
			COWLITZ HATCHERY	63-24-62	Cowlitz Hatchery	16	
					Cowlitz River	2	

					Tag code total	18	
	63-26-03	Cowlitz Hatchery				1	

						Facility total	19
ELOKOMIN HATCHERY	63-22-60						Big Creek Hatchery
GRAYS RIVER HATCHERY	63-24-59		Big Creek Hatchery	1			
KALAMA FALLS HATCHERY	63-24-60	Kalama Falls Hatchery	3				
		Kalama River	1				
		Lower Kalama Hatchery	1				

			Facility total	5			
KLASKANINE HATCHERY	07-24-09			Bear Creek	1		
LITTLE WHITE HATCHERY	05-04-35			Bonneville Hatchery	1		
LOWER KALAMA HATCHERY	63-24-63	Kalama Falls Hatchery	2				
		Lower Kalama Hatchery	5				

		Facility total	7				
			OXBOW HATCHERY	07-23-30	Bonneville Hatchery	1	

Appendix Table 33.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
OXBOW HATCHERY	07-24-11	Abernathy Hatchery	1
		Facility total	----- 2
PRIEST RAPIDS HATCHERY	63-22-52	Priest Rapids Area	2
		Priest Rapids Hatchery	62
		Ringold Pond Area	1
		Tag code total	----- 65
	63-24-56	Bonneville Dam	1
		Priest Rapids Area	1
		Priest Rapids Hatchery	24
		Tag code total	----- 26
		Facility total	----- 91
SEA RESOURCES HATCHERY	63-24-57	Sea Resources Hatchery	36
SPRING CREEK HATCHERY	05-10-50	Bonneville Hatchery	10
		Spring Creek Hatchery	34
		Tag code total	mm----- 44
	05-10-51	Bonneville Hatchery	3
		Spring Creek Hatchery	15
		Tag code total	----- 18
	05-10-52	Bonneville Hatchery	2
		Cascade Hatchery	1
		Spring Creek Hatchery	41
		Tag code total	----- 44
	05-10-57	Spring Creek Hatchery	1
		Facility total	----- 107
STAYTON POND	07-26-62	Willamette Falls	169
WASHOUGAL HATCHERY	63-24-61	Washougal Hatchery	7

Appendix Table 33.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
WEYCO POND	H1-04-06	Big Creek Hatchery	2
		Skamokawa Creek	1

		Facility total	3
Total all facilities			660

Appendix Table 34.--Tagged returns of 1981-brood fall chinook salmon in 1985 to Columbia River rearing facilities and adjacent streams (only evaluation study tag codes).

Rearing facility	Tag code	Return site	Number of returns
ABERNATHY HATCHERY	05-10-58	Abernathy Hatchery	12
		Kalama Falls Hatchery	1
		Skamokawa Creek	1

		Tag code total	14
	05-10-59	Abernathy Creek	1
		Abernathy Hatchery	2

		Tag code total	3

		Facility total	17
BIG CREEK HATCHERY	07-24-10	Abernathy Creek	2
		Abernathy Hatchery	4
		Bear Creek	5
		Big Creek	15
		Big Creek Hatchery	48
		Elokomin Hatchery	10
		Grays River Hatchery	1
		Kalama Falls Hatchery	2
		Plympton Creek	9
		Salmon River (OR)	1
		Skamokawa Creek	16
		Willamette Falls	2

		Facility total	115
BONNEVILLE HATCHERY	07-24-07	Bonneville Hatchery	27
	07-24-08	Bonneville Hatchery	9
	07-26-63	Bonneville Hatchery	1
		Lyons Ferry Hatchery	2

		Tag code total	3

		Facility total	39
CLATSOP COUNTY PONDS	07-24-12	Bear Creek	1
		Big Creek Hatchery	2
		Klaskanine River	1

		Tag code total	4

Appendix Table 34.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
CLATSOP COUNTY PONDS	07-24-13	Big Creek Hatchery	1
		Willamette Falls	1

		Tag code total	2

		Facility total	6
COWLITZ HATCHERY	63-20-32	Cowlitz Hatchery	8
	63-24-50	Cowlitz Hatchery	5
	63-24-62	Cowlitz Hatchery	63
		Cowlitz River	16
		Lewis River	1
		Lower Kalama Hatchery	1

		Tag code total	81
	63-26-03	Cowlitz Hatchery	22
		Cowlitz River	1

		Tag code total	23

		Facility total	117
ELOKOMIN HATCHERY	63-22-42	Abernathy Creek	1
		Elokomin Hatchery	2

	63-22-60	Tag code total	3
	63-22-60	Elokomin Hatchery	2
		Skamokawa Creek	1

		Tag code total	3

		Facility total	6
GRAYS RIVER HATCHERY	63-24-59	Skamokawa Creek	6

Appendix Table 34.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
KALAMA FALLS HATCHERY	63-24-60	Coweeman River	1
		Cowlitz Hatchery	3
		Kalama Falls Hatchery	51
		Lewis River	2
		Lower Kalama Hatchery	17
		Speelyai Hatchery	1
		Washougal Hatchery	2

	Facility total	77	
KLASKANINE HATCHERY	07-24-09	Big Creek	1
		Big Creek Hatchery	1

	Facility total	2	
LITTLE WHITE HATCHERY	05-04-35	Bonneville Hatchery	1
		Little White Hatchery	1

	Facility total	2	
, LOWER KALAMA HATCHERY	63-24-63	Cowlitz Hatchery	2
		Kalama Falls Hatchery	41
		Lewis River	3
		Lower Kalama Hatchery	10
		Speelyai Hatchery	3

	Facility total	59	
OXBOW HATCHERY	07-23-30	Bonneville Hatchery	7
	07-24-11	Bonneville Hatchery	1

	Facility total	8	
PRIEST RAPIDS HATCHERY	63-22-52	Bonneville Dam	19
		Hanford Reach	1
		Priest Rapids Hatchery	109
		Wells Dam	4

	Tag code total	133	

Appendix Table 34.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
PRIEST RAPIDS HATCHERY	63-24-56	Bonneville Dam	3
		Priest Rapids Hatchery	44

		Tag code total	47

		Facility total	180
SEA RESOURCES HATCHERY	63-24-57	Sea Resources Hatchery	7
SPRING CREEK HATCHERY	05-10-50	Bonneville Hatchery	2
		Spring Creek Hatchery	2

		Tag code total	4
	05-10-51	Little White Hatchery	1
		Spring Creek Hatchery	4

		Tag code total	5
	05-10-52	Bonneville Hatchery	1
		Spring Creek Hatchery	18

		Tag code total	19

		Facility total	28
STAYTON POND	07-26-62	Elokomin Hatchery	1
		Willamette Falls	103

		Facility total	104
WASHOUGAL HATCHERY	63-24-61	Kalama Falls Hatchery	6
		Lewis River	2
		Little White Hatchery	1
		Lower Kalama Hatchery	1
		Washougal Hatchery	48
		Washougal River	3

		Facility total	61

Appendix Table 34.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
WEYCO POND	H1-04-06	Big Creek Hatchery	3
		Elokomin Hatchery	1

		Facility total	4
Total all facilities			838

Appendix Table 35.--Tagged returns of 1981-brood fall chinook salmon in 1986 to Columbia River rearing facilities and adjacent streams (only evaluation study tag codes).

Rearing facility	Tag code	Return site	Number of returns
BIG CREEK HATCHERY	07-24-10	Big Creek Hatchery	3
		Elokomin Hatchery	1

		Facility total	4
BONNEVILLE HATCHERY	07-24-07	Bonneville Hatchery	1
	07-24-08	Bonneville Hatchery	3

		Facility total	4
COWLITZ HATCHERY	63-20-32	Cowlitz Hatchery	1
	63-24-50	Cowlitz Hatchery	2
	63-24-62	Cowlitz Hatchery	14
		Cowlitz River	4
		Lewis River	1

		Tag code total	19
	63-26-03	Cowlitz Hatchery	5

		Facility total	27
ELOKOMIN HATCHERY	63-22-60	Abernathy Hatchery	1
KALAMA FALLS HATCHERY	63-24-60	Cowlitz Hatchery	1
		Kalama Falls Hatchery	15
		Lewis River	1
		Lower Kalama Hatchery	5

		Facility total	22
KLICKITAT HATCHERY	63-21-57	Lyons Ferry Hatchery	1
LITTLE WHITE HATCHERY	05-04-35	Bonneville Hatchery	1
LOWER KALAMA HATCHERY	63-24-63	Kalama Falls Hatchery	4
		Lower Kalama Hatchery	7

		Facility total	11

Appendix Table 35.--(Continued)

Rearing facility	Tag code	Return site	Number of returns
PRIEST RAPIDS HATCHERY	63-22-52	Bonneville Dam	2
		Hanford Reach	2
		Priest Rapids Hatchery	26
		Wells Dam	2

		Tag code total	32
	63-24-56	Priest Rapids Hatchery	3
		Wells Dam	3

		Tag code total	6

		Facility total	38
SPRING CREEK HATCHERY	05-10-51	Spring Creek Hatchery	1
	05-10-57	Spring Creek Hatchery	1

		Facility total	2
STAYTON POND	07-26-62	Willamette Falls	1
WASHOUGAL HATCHERY	63-24-61	Bonneville Hatchery	1
		Kalama River	1
		Lewis River	2
		Little White Hatchery	1
		Lower Kalama Hatchery	1
		Washougal Hatchery	8

		Facility total	14
WEYCO POND	H1-04-06	Big Creek Hatchery	1
		Grays River Hatchery	1
		Skamokawa Creek	1

		Facility total	3
Total all facilities			129

Appendix Table 36.-- Tagged returns of **1978-brood** fall chinook salmon to Columbia River rearing facilities and adjacent streams (only evaluation study tag codes).

Rearing facility	Tag code	Number of Returns				Total
		1980	1981	1982	1983	
ABERNATHY HATCHERY	05-04-50	3	35	13	0	51
	05-04-51	1	24	16	0	41
BIG CREEK HATCHERY	07-18-44	3	52	125	6	186
BIG WHITE POND	05-04-43	5	28	24	1	58
BONNEVILLE HATCHERY	07-18-42	12	197	95	3	307
	07-18-43	0	3	1	0	4
COWLITZ HATCHERY	63-19-42	5	25	59	7	96
	63-19-51	0	8	14	2	24
ELOKOMIN HATCHERY	63-18-56	0	0	0	1	1
	63-19-56	0	0	1	0	1
GRAYS RIVER HATCHERY	63-16-46	1	3	4	2	10
	63-18-33	0	0	2	0	2
	63-19-37	0	5	3	0	8
KALAMA FALLS HATCHERY	63-19-57	1	2	17	15	35
KLASKANINE HATCHERY	07-18-45	0	5	9	1	15
KLICKITAT HATCHERY	63-19-49	0	0	0	0	0
LITTLE WHITE HATCHERY	05-04-48	1	6	2	1	10
	05-04-49	0	4	5	1	10
PRIEST RAPIDS HATCHERY	63-18-21	3	15	26	4	48
	63-18-57	0	0	2	0	2
	63-19-58	0	1	0	0	1
	63-20-17	0	5	9	2	16
SEA RESOURCES HATCHERY	63-19-18	0	0	0	0	0
SPEELYAI HATCHERY	63-19-20	4	4	12	2	22
	63-19-50	0	3	19	4	26
SPRING CREEK HATCHERY	05-04-33	26	174	42	0	242
	05-04-44	34	242	83	3	362
	05-04-45	1	0	0	0	1
	05-04-46	17	122	50	1	190

Appendix Table 36.-- (Continued)

Rearing facility	Tag code	Number of Returns				Total
		1980	1981	1982	1983	
STAYTON POND	07-18-41	1	93	145	4	243
TOUTLE HATCHERY	63-18-54	0	0	3	0	3
	63-19-41	2	5	28	3	38
WASHOUGAL HATCHERY	63-19-38	0	2	17	4	23
	63-19-46	0	12	26	2	40
WEYCO POND	63-19-39	0	0	9	0	9
Total		120	1075	861	69	2125

Appendix Table 37.-- Tagged returns of 1979-brood fall chinook salmon to Columbia River rearing facilities and adjacent streams (only evaluation study tag codes).

Rearing Facility	Tag Code	Number of returns					Total
		1981	1982	1983	1984	1985	
ABERNATHY HATCHERY	05-06-44	9	20	3	0	0	32
	05-06-46	26	71	17	0	0	114
BIG CREEK HATCHERY	07-21-60	9	171	98	1	0	279
BONNEVILLE HATCHERY	07-21-57	3	17	12	0	0	32
COWLITZ HATCHERY	63-21-37	9	20	48	2	0	79
	63-21-54	2	22	39	2	1	66
	63-21-59	0	6	13	2	0	21
ELOKOMIN HATCHERY	63-20-05	0	4	8	1	0	13
GRAYS RIVER HATCHERY	63-20-43	0	5	5	0	0	10
KALAMA FALLS HATCHERY	63-21-05	0	9	68	9	0	86
KLASKANINE HATCHERY	07-21-61	0	2	0	0	0	2
KLICKITAT HATCHERY	63-19-47	1	6	3	0	0	10
LEWIS RIVER HATCHERY	63-21-60	1	10	23	7	0	41
LITTLE WHITE HATCHERY	05-06-43	0	1	1	0	0	2
LOWER KALAMA HATCHERY	63-20-06	0	4	34	10	0	48
OXBOW HATCHERY	07-21-62	2	1	6	0	0	9
	07-21-63	1	5	6	0	0	12
PRIEST RAPIDS HATCHERY	63-19-48	22	65	74	19	1	181
SEA RESOURCES HATCHERY	63-20-61	3	15	3	1	0	22
SPRING CREEK HATCHERY	05-06-39	45	134	18	0	0	197
	05-06-40	45	109	25	0	0	179
	05-06-41	32	93	20	0	0	145
	05-06-42	0	8	7	0	0	15

Appendix Table 37.-- (Continued)

Rearing Facility	Tag code	Number of returns					Total
		1981	1982	1983	1984	1985	
STAYTON POND	07-20-55	9	159	28	0	0	196
WASHOUGAL HATCHERY	63-21-53	5	84	157	9	0	255
WEYCO POND	H1-02-03	0	23	8	1	0	32
Total		224	1064	724	64	2	2078

Appendix Table 38.-- Tagged returns of 1980-brood fall chinook salmon to Columbia River rearing facilities and adjacent streams (only evaluation study tag codes).

Rearing facility	Tag code	Number of returns					Total
		1982	1983	1984	1985	1986	
ABERNATHY HATCHERY	05-07-44	17	24	1	0	0	42
	05-07-45	44	99	3	0	0	146
BIG CREEK HATCHERY	07-23-31	2	16	14	1	0	33
	07-23-33	4	21	12	0	0	37
	07-23-34	0	14	11	0	0	25
BONNEVILLE HATCHERY	07-21-56	12	82	8	0	0	102
	07-23-29	6	47	5	0	0	58
CLATSOP COUNTY PONDS	07-21-58	0	4	3	0	0	7
	07-21-59	1	3	6	0	0	10
COWLITZ HATCHERY	63-21-56	26	93	128	25	2	274
	63-22-55	4	16	61	14	0	95
ELOKOMIN HATCHERY	63-22-34	1	7	16	5	0	29
	63-23-17	0	2	5	0	0	7
GRAYS RIVER HATCHERY	63-22-63	1	2	18	4	0	25
	63-23-40	0	0	2	1	0	3
KALAMA FALLS HATCHERY	63-20-36	0	21	54	11	0	86
KLASKANINE HATCHERY	07-22-27	0	2	1	0	0	3
	07-23-32	0	3	1	0	0	4
KLICKITAT HATCHERY	63-20-08	1	0	3	0	0	4
LITTLE WHITE HATCHERY	05-07-47	0	3	6	0	0	9
	05-08-49	0	1	2	0	0	3
	05-08-50	0	0	0	0	0	0
LOWER KALAMA HATCHERY	63-22-54	0	34	126	30	1	191
PRIEST RAPIDS HATCHERY	63-21-55	9	36	75	36	3	159
	63-22-61	3	17	43	26	1	90
SEA RESOURCES HATCHERY	63-22-01	0	3	2	0	0	5

Appendix Table 38.-- (Continued)

Rearing facility	Tag code	Number of returns					Total
		1982	1983	1984	1985	1986	
SPRING CREEK HATCHERY	05-07-40	1	14	8	0	0	23
	05-07-41	4	22	11	0	0	37
	05-07-42	0	17	5	0	0	22
	05-07-43	0	2	0	0	0	2
	05-07-46	1	6	0	0	0	7
	05-07-48	0	1	0	0	0	1
	05-07-49	0	10	4	0	0	14
	05-07-50	0	3	0	0	0	3
	05-07-51	0	0	0	0	0	0
	05-07-52	1	2	2	0	0	5
STAYTON POND	07-23-35	4	56	28	0	0	88
WASHOUGAL HATCHERY	63-21-48	1	20	28	8	1	58
	63-22-51	2	45	76	15	0	138
WEYCO POND	H1-03-01	1	2	2	0	0	5
	H1-03-02	0	1	8	2	0	11
Total		146	751	778	178	8	1861

Appendix Table 39.-- Tagged returns of **1981-brood** fall chinook salmon to Columbia river rearing facilities and adjacent streams (only evaluation study tag codes),

Rearing Facility	Tag code	Number of returns				Total
		1983	1984	1985	1986	
ABERNATHY HATCHERY	05-10-58	5	26	14	0	45
	05-10-59	3	10	3	0	16
BIG CREEK HATCHERY	07-24-10	2	86	115	4	207
BONNEVILLE HATCHERY	07-24-07	3	74	27	1	105
	07-24-08	0	8	9	3	20
	07-26-63	0	3	3	0	6
CLATSOP COUNTY PONDS	07-24-12	0	2	4	0	6
	07-24-13	0	1	2	0	3
COWLITZ HATCHERY	63-20-32	0	0	8	1	9
	63-24-50	0	0	5	2	7
	63-24-62	4	18	81	19	122
	63-26-03	0	1	23	5	29
ELOKOMIN HATCHERY	63-22-42	0	0	3	0	3
	63-22-60	0	1	3	1	5
GRAYS RIVER HATCHERY	63-24-58	0	0	0	0	0
	63-24-59	0	1	6	0	7
KALAMA FALLS HATCHERY	63-24-60	0	5	77	22	104
KLASKANINE HATCHERY	07-24-09	0	1	2	0	3
KLICKITAT HATCHERY	63-21-57	0	0	0	1	1
LITTLE WHITE HATCHERY	05-04-35	0	1	2	1	4
	05-04-36	0	0	0	0	0
LOWER KALAMA HATCHERY	63-24-63	1	7	59	11	78
OXBOW HATCHERY	07-23-30	0	1	7	0	8
	07-24-11	0	1	1	0	2
PRIEST RAPIDS HATCHERY	63-22-52	4	65	133	32	234
	63-24-56	2	26	47	6	81
SEA RESOURCES HATCHERY	63-24-57	1	36	7	0	44

Appendix Table 39.-- (Continued)

Rearing facility	Tag code	Number of returns				Total
		1983	1984	1985	1986	
SPRING CREEK HATCHERY	05-07-53	0	0	0	0	0
	05-07-54	0	0	0	0	0
	05-08-51	0	0	0	0	0
	05-10-50	12	44	4	0	60
	05-10-51	2	18	5	1	26
	05-10-52	7 ¹	44	19	0	70
	05-10-57	0	1	0	1	2
STAYTON POND	07-26-62	4	169	104	1	278
WASHOUGAL HATCHERY	63-24-61	1	7	61	14	83
WEYCO POND	H1-04-06	0	3	4	3	10
Total		51	660	838	129	1678

¹ One return in 1982.

Appendix Table 40.--Proportions of tagged 1978-brood fall chinook from Columbia River rearing facilities returning to the facilities and adjacent streams by age of recovery.

Rearing facility	Total age				
	2	3	4	5	6
ABERNATHY HATCHERY	0.044	0.641	0.315	0	0
BIG CREEK HATCHERY	0.016	0.280	0.672	0.032	0
BIG WHITE POND	0.086	0.483	0.414	0.017	0
BONNEVILLE HATCHERY	0.039	0.643	0.309	0.009	0
COWLITZ HATCHERY	0.042	0.275	0.608	0.075	0
ELOKOMIN HATCHERY	0	0	0.500	0.500	0
GRAYS RIVER HATCHERY	0.050	0.400	0.450	0.100	0
KALAMA FALLS HATCHERY	0.028	0.057	0.486	0.429	0
KLASKANINE HATCHERY	0	0.333	0.600	0.067	0
KLICKITAT HATCHERY	0	0	0	0	0
LITTLE WHITE HATCHERY	0.050	0.500	0.350	0.100	0
PRIEST RAPIDS HATCHERY	0.045	0.313	0.552	0.090	0
SEA RESOURCES HATCHERY	0	0	0	0	0
SPEELYAI HATCHERY	0.083	0.146	0.646	0.125	0
SPRING CREEK HATCHERY	0.098	0.677	0.220	0.005	0
STAYTON POND	0.004	0.383	0.597	0.016	0
TOUTLE HATCHERY	0.049	0.122	0.756	0.073	0
WASHOUGAL HATCHERY	0	0.222	0.683	0.095	0
WEYCO POND	0	0	1.000	0	0
Average	0.057	0.506	0.405	0.032	0

Appendix Table 41.--Proportions of tagged 1979-brood fall chinook from Columbia River rearing facilities returning to the facilities and adjacent streams by age of recovery.

Rearing facility	Total age				
	2	3	4	5	6
ABERNATHY HATCHERY	0.240	0.623	0.137	0	0
BIG CREEK HATCHERY	0.032	0.613	0.351	0.004	0
BONNEVILLE HATCHERY	0.094	0.531	0.375	0	0
COWLITZ HATCHERY	0.066	0.289	0.603	0.036	0.006
ELOKOMIN HATCHERY	0	0.308	0.615	0.077	0
GRAYS RIVER HATCHERY	0	0.500	0.500	0	0
KALAMA FALLS HATCHERY	0	0.105	0.790	0.105	0
KLASKANINE HATCHERY	0	0	1.000	0	0
KLICKITAT HATCHERY	0.100	0.600	0.300	0	0
LEWIS RIVER HATCHERY	0.024	0.244	0.561	0.171	0
LITTLE WHITE HATCHERY	0	0.500	0.500	0	0
LOWER KALAMA HATCHERY	0	0.083	0.709	0.208	0
OXBOW HATCHERY	0.143	0.286	0.571	0	0
PRIEST RAPIDS HATCHERY	0.122	0.359	0.414	0.105	0.006
SEA RESOURCES HATCHERY	0.136	0.682	0.136	0.046	0
SPRING CREEK HATCHERY	0.228	0.642	0.130	0	0
STAYTON POND	0.046	0.811	0.143	0	0
WASHOUGAL HATCHERY	0.020	0.329	0.616	0.035	0
WEYCO POND	0	0.719	0.250	0.031	0
Average	0.108	0.512	0.348	0.031	0.001

Appendix Table 42.--Proportions of tagged 1980-brood fall chinook from Columbia River rearing facilities returning to the facilities and adjacent streams by age of recovery.

Rearing facility	Total age				
	2	3	4	5	6
ABERNATHY HATCHERY	0.325	0.654	0.021	0	0
BIG CREEK HATCHERY	0.063	0.537	0.390	0.010	0
BONNEVILLE HATCHERY	0.113	0.806	0.081	0	0
CLATSOP COUNTY PONDS	0.059	0.412	0.529	0	0
COWLITZ HATCHERY	0.081	0.296	0.512	0.106	0.005
ELOKOMIN HATCHERY	0.028	0.250	0.583	0.139	0
GRAYS RIVER HATCHERY	0.036	0.071	0.714	0.179	0
KALAMA FALLS HATCHERY	0	0.244	0.628	0.128	0
KLASKANINE HATCHERY	0	0.714	0.286	0	0
KLICKITAT HATCHERY	0.250	0	0.750	0	0
LITTLE WHITE HATCHERY	0	0.333	0.667	0	0
LOWER KALAMA HATCHERY	0	0.178	0.660	0.157	0.005
PRIEST RAPIDS HATCHERY	0.048	0.213	0.474	0.249	0.016
SEA RESOURCES HATCHERY	0	0.600	0.400	0	0
SPRING CREEK HATCHERY	0.061	0.676	0.263	0	0
STAYTON POND	0.046	0.636	0.318	0	0
WASHOUGAL HATCHERY	0.015	0.332	0.531	0.117	0.005
WEYCO POND	0.062	0.188	0.625	0.125	0
Average	0.078	0.404	0.418	0.096	0.004

Appendix Table 43.--Proportions of tagged **1981-brood** fall chinook from Columbia River rearing facilities returning to the facilities and adjacent streams by age of recovery.

Rearing facility	Total age				
	2	3	4	5	6
ABERNATHY HATCHERY	0.131	0.590	0.279	0	0
BIG CREEK HATCHERY	0.010	0.415	0.556	0.019	0
BONNEVILLE HATCHERY	0.023	0.649	0.298	0.030	0
CLATSOP COUNTY PONDS	0	0.333	0.667	0	0
COWLITZ HATCHERY	0.024	0.114	0.700	0.162	0
ELOKOMIN HATCHERY	0	0.125	0.750	0.125	0
GRAYS RIVER HATCHERY	0	0.143	0.857	0	0
KALAMA FALLS HATCHERY	0	0.048	0.740	0.212	0
KLASKANINE HATCHERY	0	0.333	0.667	0	0
KLICKITAT HATCHERY	0	0	0	1.000	0
LITTLE WHITE HATCHERY	0	0.250	0.500	0.250	0
LOWER KALAMA HATCHERY	0.013	0.090	0.756	0.141	0
OXBOW HATCHERY	0	0.200	0.800	0	0
PRIEST RAPIDS HATCHERY	0.019	0.289	0.571	0.121	0
SEA RESOURCES HATCHERY	0.023	0.818	0.159	0	0
SPRING CREEK HATCHERY	0.133	0.677	0.177	0.013	0
STAYTON POND	0.014	0.608	0.374	0.004	0
WASHOUGAL HATCHERY	0.012	0.084	0.735	0.169	0
WEYCO POND	0	0.300	0.400	0.300	0
Average	0.030	0.393	0.500	0.077	0

APPENDIX A

Rearing and Release Data for Fall Chinook Salmon Tagged as Part of the
Contribution Study of Fall Chinook Reared at Columbia River Facilities

1978 BROOD

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Abernathy

Brood: 1978

Tag Code: 5-4-50

Purpose: Hatchery contribution

Stock: Abernathy & Bonneville

Sampling Method: Entire pond weighed and 2.2 lbs removed from every
50 lbs, for tagging

Beginning Sampling Date: 03/28/79

Ending Sampling Date: 04/06/79

Sampling Comment: High number of pinhead chinook in creek water
ponds due to low temperature (41 F) and turbid
water

Beginning Tagging Date: 03/28/79

Ending Tagging Date: 04/06/79

Tagging Size: 153 & 112/lb

Tagging Comment: Creek water reared fish 153/lb & fish in reuse
well water 112/lb. High number of pinhead fish in
creek water reduced tag retention, Tagged &
untagged fish held together. Two tag codes
(5-4-50 & 5-4-51) applied to both reuse & creek
water reared fish.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
04/17/79	35800	7800	452400	95/lb	Abernathy Creek
05/15/79	27600	7200	378200	61/lb	Abernathy Creek

Release Comment: Both tag codes (5-4-50 & 5-4-51) released on both
release dates. Both releases made over several
days: 4/17-25 and 5/15-18. Release sampling
accomplished by weighing entire pond & removing
2.2 lbs of every 50 lbs to determine fish per
pound. Percent tagged varied little for both
releases (6.8 1st release & 6.9 2nd release).

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Abernathy

Brood: 1978

Tag Code: 5-4-50

Disease History:

Starting date	Ending date -----	Disease _____	Treatment -----
03/16/79	03/21/79	Bacterial gill disease	Hyamine
03/30/79	-0-	Bacterial gill disease	One pond affected. Treated with Barquat. Treatment caused stress & 5% loss.
04/03/79	-0-	tail rot	All ponds treated with terramycin
12/04/78	05/18/79	White spot	No treatment

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Abernathy

Brood: 1978

Tag Code: 5-4-51

Purpose: Hatchery contribution

Stock: Abernathy & Bonneville

Sampling Method: See code 5-4-50

Beginning Sampling Date: 03/28/79

Ending Sampling Date: 04/06/79

Sampling Comment: See code 5-4-50

Beginning Tagging Date: 03/28/79

Ending Tagging Date: 04/06/79

Tagging Size: 153 & 112/1b

Tagging Comment: See code 5-4-50

Release Date -----	Tagged -----	Ad-only -----	Untagged -----	Size -----	Location -----
04/17/79	27600	6100	349000	95/1b	Abernathy Creek
05/15/79	21300	5500	291700	61/1b	Abernathy Creek

Release Comment: See code 5-4-50

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Abernathy

Brood: 1978

Tag Code: 5-4-51

Disease History:

Starting date	Ending date me-m----	Disease --_--	Treatment -----
-0-	-0-	See code 5-4-50	See code 5-4-50

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Big Creek

Brood: 1978

Tag Code: 7-18-44

Purpose: Hatchery contribution

Stock: Big Creek & Bonneville

Sampling Method: All fish in ponds passed over NMFS sampling table
& 5% removed for tagging

Beginning Sampling Date: 03/21/79

Ending Sampling Date: 03/23/79

Sampling Comment: Fish to be tagged held separate from those not
destined for tagging

Beginning Tagging Date: 04/23/79

Ending Tagging Date: 05/01/79

Tagging Size: 147/1b

Tagging Comment: Tagged and untagged fish held **separatly**

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/21/79	224900	26400	4996000	81/1b	Big Creek

Release Comment: Tag retention check not made, retention assumed to
be same as at **Klaskanine**. According to hatchery
manager fish slow to leave ponds and move
downstream. Fish seen in hatchery area for 1
week. Release numbers based on hatchery records.

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Big Creek

Brood: 1978

Tag Code: 7-18-44

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
01/01/79	01/31/79	"Air bubble" problem in fry after ponding	None, 1.7% fry loss
02/01/79	02/28/79	Gray tail & fin rot in some fish	None, 1.5% loss

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Big White Pond

Brood: 1978

Tag Code: 5-4-43

Purpose: Hatchery contribution

Stock: Spring Creek

Sampling Method: All fish in ponds passed over NMFS sampling table
& 5% removed for tagging

Beginning Sampling Date: 01/22/79

Ending Sampling Date: 01/26/79

Sampling Comment: Fish to be tagged held separate at Spring Creek
from those not destined for tagging

Beginning Tagging Date: 02/12/79

Ending Tagging Date: 02/20/79

Tagging Size: 200/lb

Tagging Comment: Fish tagged at Spring Creek Hatchery, then
transported to Big White Pond in 3/79

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/21/79	141400	3200	2884100	69/lb	Big White Salmon River

Release Comment: Release numbers based on hatchery records

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Big White Pond

Brood: 1978

Tag Code: 5-4-43

Disease History:

Starting date _--se---	Ending date _--se--	Disease	Treatment
10/01/78	12/31/78	Fungus in eggs	Formaline 3 times weekly until hatch
05/02/79	05/04/79	Gill ameoba	Formalin
01/03/79	02/01/79	White spot in fry	None
02/18/79	03/03/79	ERM	Reduced water temperature at Spring Creek
03/03/79	03/24/79	ERM	Terramycin in feed at Big White Pond

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Bonneville

Brood: 1978

Tag Code: 7-18-42

Purpose: Hatchery contribution

Stock: Bonneville

Sampling Method: All fall chinook were passed over the NMFS
sampling table & 2.5% removed for tagging

Beginning Sampling Date: 03/28/79

Ending Sampling Date: 04/12/79

Sampling Comment: All fish could not be removed from the Burroughs
ponds during sampling operation. Some fish
always escaped the sampler by hiding in the pond
vanes.

Beginning Tagging Date: 03/28/79

Ending Tagging Date: 04/12/79

Tagging Size: 175/lb

Tagging Comment: Tagged fish held **separatly** from untagged fish
after tagging. Same tag code used for two
different rearing environments; well water
Burroughs ponds and creek water standard 8 X 80
raceways.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/21/79	4300	100	286200	89.1b	Tanner Creek
05/01/79	116700	2700	2806200	75/lb	Tanner Creek
05/29/79	166900	2700	6650600	74/lb	Tanner Creek
05/02/79	-0-	-0-	2519400	66/lb	Tanner Creek

Release Comment: -0-

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Bonneville

Brood: 1978

Tag Code: 7-18-42

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
04/01/79	05/20/79	External parasites	Formalin & malachite green
09/01/78	10/31/78	Egg fungus	Prophylactic treatment with malachite green

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Bonneville

Brood: 1978

Tag Code: 7-18-43

Purpose: Hatchery contribution & diet study

Stock: Bonneville

Sampling Method: Fish passed over the NMFS sampling table & 2.5% removed for tagging

Beginning Sampling Date: 03/28/79

Ending Sampling Date: 04/12/79

Sampling Comment: Sample came from 4 ponds which were part of a diet study. Untagged fish in 2 ponds marked with an LV or RV fin clip.

Beginning Tagging Date: 04/11/79

Ending Tagging Date: 04/12/79

Tagging Size: 130/1b

Tagging Comment: Tagged fish returned to ponds of untagged fish from which they came

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/21/79	15100	200	824000	80/1b	Tanner Creek

Release Comment: A pipe plugged during the release of these fish causing an estimated mortality of 157,000 fish. Release numbers based on hatchery records.

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Bonneville

Brood: 1978

Tag Code: 7-18-43

Disease History:

Starting date	Ending date	Disease	Treatment
-0-	-0-	-0-	-0-

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Cowlitz

Brood: 1978

Tag Code: 63-19-42

Purpose: Hatchery contribution

Stock: Cowlitz

Sampling Method: All fish in ponds passed through WDF incremental sampler and 5% removed for tagging

Beginning Sampling Date: 06/19/79

Ending Sampling Date: 06/27/79

Sampling Comment: -0-

Beginning Tagging Date: 06/19/79

Ending Tagging Date: 06/27/79

Tagging Size: 130

Tagging Comment: Tagged fish returned to ponds of untagged fish from which they came. Wide range of size of fish tagged, 200-75/lb.

Release Date _m-v---	Tagged	Ad-only	Untagged -----	Size	Location -----
05/08/79	-0-	-0-	947500	215/lb	S. Fork Toutle River
06/27/79	120500	2000	3857900	85/lb	Cowlitz River
10/16/79	23100	500	620900	19/lb	Cowlitz River
02/05/79	-0-	-0-	832000	1100/l	Coweeman River
01/30/79	-0-	-0-	343000	1000/l	Coweeman River

Release Comment: -0-

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Cowlitz

Brood: 1978

Tag Code: 63-19-42

DiseaseHistory:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
06/28/79	-0-	Costia	Formalin
05/31/79	-0-	Costia	Formalin
06/15/79	-0-	Costia	Formalin
04/01/79	-0-	Costia	Formalin
03/13/79	-0-	Light costia	None
02/27/79	-0-	Coagulated yolk & fin rot	None
04/30/79	-0-	Costia	Formalin

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Cowlitz

Brood: 1978

Tag Code: 63-19-51

Purpose: Hatchery contribution

Stock: Cowlitz

Sampling Method: All fish in ponds passed through WDF incremental
sampler & 5% removed for tagging

Beginning Sampling Date: 06/27/79

Ending Sampling Date: 06/27/79

Sampling Comment: -0-

Beginning Tagging Date: 06/27/79

Ending Tagging Date: 06/27/79

Tagging Size: 130/1b

Tagging Comment: Make up code used for part of fish sampled from
ponds 1 & 13. Combine with code 63-19-42

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/27/79	3300	-0-	-0-	156/1b	Cowlitz River
10/16/79	7800	-0-	-0-	19/1b	Cowlitz River

Release Comment: See code 63-19-42

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Cowlitz

Brood: 1978

Tag Code: 63-19-51

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
-0-	-0-	See code 63-19-42	-0-

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Elokomin

Brood: 1978

Tag Code: 63-18-56

Purpose: Hatchery contribution

Stock: Elokomin

Sampling Method: Make up group removed from lower dirt pond with
sein at time of tagging

Beginning Sampling Date: 05/31/79

Ending Sampling Date: 05/31/79

Sampling Comment: -0-

Beginning Tagging Date: 05/31/79

Ending Tagging Date: 06/01/79

Tagging Size: 100/1b

Tagging Comment: Fish removed from dirt pond were noticeably larger
& healthier than those held in concrete pond for
tagging

Release Date	Tagged	Ad-only	Untagged	Size	Location
.....			-----	-----	
06/15/79	21100	-0-	-0-	99/1b	Elochoman R.

Release Comment: Make up group for code 63-19-56

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Elokomin

Brood: 1978

Tag Code: 63-18-56

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
-0-	-0-	See code 63-19-56	-0-

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Grays River

Brood: 1978

Tag Code: 63-19-37

Disease History:

Starting date	Ending date	Disease	Treatment
.....	-----	-----	-----
-0-	-0-	See code 63-16-46	-0-

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Elokomin**

Brood: 1978

Tag Code: 63-19-56

Purpose: Hatchery contribution

Stock: **Elokomin**

Sampling Method: All fish passed through WDF incremental sampler during transfer from concrete to dirt ponds. 5% removed for tagging.

Beginning Sampling Date: 05/03/79

Ending Sampling Date: 05/04/79

Sampling Comment: 5% sample held in concrete pond until tagging

Beginning Tagging Date: 05/24/79

Ending Tagging Date: 05/29/79

Tagging Size: 150/1b

Tagging Comment: Fish mixed with untagged fish in adult holding ponds & dirt pond after tagging. 2639 fish with flag tail sorted during tagging & not tagged.

Release Date _mm-S--	Tagged _____	Ad-only -----	Untagged -----	Size -----	Location -----
02/27/79	-0-	-0-	294400	1150	Alger Creek
06/15/79	117800	5800	2730700	99/1b	Elochoman River
03/29/79	-0-	-0-	74500	1150	North Fork Elochoman River
03/20/79	-0-	-0-	147000	1150	West Fork Elochoman River
03/05/79	-0-	-0-	343000	1150	Elochoman River

Release Comment: -0-

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Elokomin

Brood: 1978

Tag Code: 63-19-56

Disease History:

Starting date -----	Ending date	Disease -----	Treatment -----
05/17/79	-0-	Septicemia, tail rot, gill fungus	Continued TM-50 treatment
03/16/79	-0-	Coagulated yolk & tail erosion	None
05/01/79	-0-	Costia, bacterial gill, bacterial hemorrhagic septicemia	Formalin & TM-50

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Grays River

Brood: 1978

Tag Code: 63-16-46

Purpose: Hatchery contribution

Stock: Grays River & Elokomin

Sampling Method: Random dip net sampling at time of splitting fish
from standard ponds to release pond

Beginning Sampling Date: 05/02/79

Ending Sampling Date: 05/02/79

Sampling Comment: Sampling attempted on 4/30 but delayed due to
lack o proper equipment. Sample fish held in
concrete raceway until tagging.

Beginning Tagging Date: 05/08/79

Ending Tagging Date: 05/16/79

Tagging Size: 180/1b

Tagging Comment: Fish size range 120-287/1b at end of April.
Tagged fish placed in release ponds with untagged
fish after marking but not into specific
populations from which they came. 4-5% were
tagged pinheads, died soon after tagging

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/09/79	73900	2600	1220800	92/1b	Grays River

Release Comment: Released from 6/9-12/79. Combine with codes
63-18-33 & 63-19-37 released as part of
contribution study. Peterson release estimates
generally agreed with hatchery records but was too
high for gravel bottomed release pond. Hatchery
records used for release numbers.

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Grays River

Brood: 1978

Tag Code: 63-16-46

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
05/24/79	-0-	Frunculosis & septicemia	Sulmet
03/26/79	-0-	Costia	Formalin
05/08/79	-0-	Septicemia	TM-50 & sulmet

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Grays River

Brood: 1978

Tag Code: 63-18-33

Purpose: Hatchery contribution

Stock: Grays River & Elokomin

Sampling Method: See code 63-16-46

Beginning Sampling Date: 05/02/79

Ending Sampling Date: 05/02/79

Sampling Comment: See code 63-16-46

Beginning Tagging Date: 05/08/79

Ending Tagging Date: 05/16/79

Tagging Size: 180/lb

Tagging Comment: See code 63-16-46

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/09/79	7600	-0-	-0-	92/lb	Grays River

Release Comment: See code 63-16-46

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Grays River

Brood: 1978

Tag Code: 63-18-33

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
-0-	-0-	See code 63-16-46	-0-

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Grays River

Brood: 1978

Tag Code: 63-19-37

Purpose: Hatchery contribution

Stock: Grays River & Elokomin

Sampling Method: See code 63-16-46

Beginning Sampling Date: 05/02/79

Ending Sampling Date: 05/02/79

Sampling Comment: See code 63-16-46

Beginning Tagging Date: 05/08/79

Ending Tagging Date: 05/16/79

Tagging Size: 180/1b

Tagging Comment: See code 63-16-46

Release Date	Tagged	Ad-only	Untagged	Size	Location
06/09/79	68100	-o-	-o-	92/1b	Grays River

Release Comment: See code 63-16-46

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Kalama Falls**

Brood: 1978

Tag Code: 63-19-57

Purpose: Hatchery contribution

Stock: **Kalama Falls & Toutle**

Sampling Method: All fall chinook in hatchery passed through WDF incremental sampler during transfer from standard ponds to release ponds. 5% removed for tagging.

Beginning Sampling Date: 05/16/79

Ending Sampling Date: 05/17/79

Sampling Comment: Fish to be tagged held **seperate** from fish not destined for tagging.

Beginning Tagging Date: 06/14/79

Ending Tagging Date: 06/26/79

Tagging Size: 170/lb

Tagging Comment: Tagged fish returned to untagged groups in release ponds from which they came

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
07/13/79	166500	2600	3065500	182/lb	Kalama River
06/22/79	48000	700	874800	160/lb	Kalama River
06/15/79	-0-	-0-	1236300	204/lb	Kalama River

Release Comment: -0-

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Kalama Falls**

Brood: **1978**

Tag Code: **63-19-57**

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
07/12/79	-0-	Septicemia	TM-50 & sulmet
06/27/79	-0-	Bacterial gill	Diquat
05/25/79	-0-	Costia & septicemia	Formalin & TM-50
05/03/79	-0-	Costia	Formalin
06/15/79	-0-	Septicemia	TM-50 & sulmet
06/04/79	-0-	Costia	Formalin

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Klaskanine

Brood: 1978

Tag Code: 7-18-45

Purpose: Hatchery contribution

Stock: Bonneville, Big Creek, Klaskanine

Sampling Method: All fish in ponds passed over NMFS sampling table
& 5% removed for tagging

Beginning Sampling Date: 05/08/79

Ending Sampling Date: 05/17/79

Sampling Comment: -0-

Beginning Tagging Date: 05/08/79

Ending Tagging Date: 05/17/79

Tagging Size: 71/lb

Tagging Comment: Tagged fish returned to ponds from which they came. Large variation in fish size due to differences in stocks reared. Large number of pin heads in some ponds. High tag loss (10.5%) due to size variation in fish

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/29/79	244100	28600	5218100	71/lb	Klaskanine River

Release Comment: 250,300 fish removed from production (5/15-16/79) during tagging for branding study at Bonneville. Replaced with 150,000 fish with poor brand transported from Bonneville & released in Klaskanine River. Release numbers based on hatchery records.

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Klaskanine

Brood: 1978

Tag Code: 7-18-45

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
11/01/78	12/31/78	Egg fungus	Prophylactic treatment with formalin
01/18/79	02/06/79	Cold water disease and graytail	Malachite green pond 14, terramycin feed ponds 15 & 16, 13% loss

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Klickitat

Brood: 1978

Tag Code: 63-19-49

Purpose: Hatchery contribution

Stock: Klickitat & Cascade

Sampling Method: All fish dip netted from ponds during transfer to dirt release pond and standard raceways. 5 lbs systematically removed for tagging from every 100 lbs.

Beginning Sampling Date: 02/22/79

Ending Sampling Date: 02/23/79

Sampling Comment: Fish to be tagged held **separatly** from fish not destined for tagging. Half of untagged fish split to dirt release pond & other half held in raceways.

Beginning Tagging Date: 04/10/84

Ending Tagging Date: 04/25/84

Tagging Size: 200/lb

Tagging Comment: Untagged fish in raceways moved to Wonder Springs pond in April. Tagged group moved to Wonder Springs pond 5/3/79.

Release Date -----	Tagged -----	Ad-only -----	Untagged -----	Size -----	Location -----
05/14/79	-0-	-0-	1560100	114/lb	Klickitat River
06/01/79	114200	1900	1780700	80/lb	Klickitat River
06/13/79	-0-	-0-	25600	75/lb	Columbia River
05/21/79	111200	1800	-0-	98/lb	Klickitat R.

Release Comment: -0-

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Klickitat

Brood: 1978

Tag Code: 63-19-49

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
04/24/79	-0-	Bacterial gill in Cascade stock	Diquat, mortality 1,295,700 fish
05/15/79	-0-	Fungused tails	None
01/01/79	03/01/79	Coagulated yolk throughout fry stage of Cascade stock	None, mortality 370,600 fish

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Little White Salmon

Brood: 1978

Tag Code: 5-4-48

Purpose: Hatchery contribution

Stock: Little White

Sampling Method: Entire pond weighed, 5 lbs of every 100 lbs put in separate pond for marking

Beginning Sampling Date: 03/01/79

Ending Sampling Date: 03/09/79

Sampling Comment: Fish to be tagged held separate from those not destined for tagging

Beginning Tagging Date: 05/29/79

Ending Tagging Date: 06/04/79

Tagging Size: 209/lb

Tagging Comment: Tagged fish held separate from untagged. Two groups of equal number (275,000) were to be marked with different tag codes. This code group was 80,000 fish short due to leak in pond screen allowing fish to escape.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/22/79	177800	8900	5655500	111/lb	Little White Salmon River

Release Comment: Release numbers estimated from grab samples to determine fish/lb figures which were then applied to hatchery book weight of fish on hand. Mortalities during rearing considered high by hatchery crew due to gill problems. Combine with tag code 5-4-49. Marked fish estimated to be 105/lb at release, unmarked fish 111/lb. Release includes 13,000 branded fish released upstream of Jones Beach on the Lower Columbia.

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Little White Salmon

Brood: 1978

Tag Code: 5-4-48

Disease History:

Starting date	Ending date	Disease	Treatment
03/12/79	-0-	Costia in all ponds	Formalin
05/11/79	05/13/79	Hexamita & White spot in ponds 22-33	3% Epsom salts in diet
05/22/79	06/15/79	Bacterial gill in marked fish in ponds 3 & 4	Roccal
03/20/79	03/27/79	Bacterial gill disease	Roccal in all ponds
09/26/78	10/10/78	Fungus in eggs	Formalin twice weekly

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Little White Salmon

Brood: 1978

Tag Code: 5-4-49

Purpose: Hatchery Contribution

Stock: Little White, Cascade, Bonneville

Sampling Method: See code 5-4-48

Beginning Sampling Date: 03/01/79

Ending Sampling Date: 03/09/79

Sampling Comment: See code 5-4-48

Beginning Tagging Date: 05/17/79

Ending Tagging Date: 05/29/79

Tagging Size: 209/1b

Tagging Comment: Tagged fish held separate from untagged fish after tagging

Release Date	Tagged	Ad-only	Untagged	Size	Location
.....					
06/22/79	264800	12700	5291100	111/1b	Little White Salmon River

Release Comment: See code 5-4-48

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Little White Salmon

Brood: 1978

Tag Code: 5-4-49

Disease History:

Starting date	Ending date	Disease	Treatment
.....			
-0-	-0-	See code 5-4-48	See code 5-4-48

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Priest Rapids

Brood: 1978

Tag Code: 63-18-21

Purpose: Hatchery contribution

Stock: Priest Rapids

Sampling Method: 5% systematically dip netted during splitting

Beginning Sampling Date: 04/05/79

Ending Sampling Date: 04/05/79

Sampling Comment: Fish to be tagged held in vinyl pond. Fish not
destined for tagging held in adult holding pond

Beginning Tagging Date: 04/24/79

Ending Tagging Date: 04/26/79

Tagging Size: 164/1b

Tagging Comment: Tagged fish placed in adult holding pond with
untagged fish after tagging

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/23/79	48100	2000	776400	74/1b	Columbia River

Release Comment: WPPSS mitigation contract fish reared entirely at
Priest Rapids. Eggs came from adults trapped at
Priest Rapids Dam. Release numbers based on
Peterson estimate of tagged to untagged ratio.

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Priest Rapids

Brood: 1978

Tag Code: 63-18-21

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
03/21/79	-0-	Soft shell, eggs; coagulated yolk, fry	None

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Priest Rapids

Brood: 1978

Tag Code: 63-18-57

Purpose: Hatchery contribution

Stock: Priest Rapids & Ringold

Sampling Method: 5% systematically dip netted

Beginning Sampling Date: 05/08/79

Ending Sampling Date: 05/08/79

Sampling Comment: Fish sampled at Ringold Hatchery

Beginning Tagging Date: 05/12/79

Ending Tagging Date: 05/17/79

Tagging Size: 108/1b

Tagging Comment: Tagged fish held at Ringold until 6/21, untagged fish transferred to Priest Rapids 5/22. Tag codes 63-20-17 & 63-19-58 also applied to these fish.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
03/26/80	-0-	-0-	275000	10/1b	Springs Creek
06/28/79	17500	700	267700	77/1b	Columbia River

Release Comment: -0-

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Priest Rapids

Brood: 1978

Tag Code: 63-18-57

Disease History:

Starting date	Ending date	Disease	Treatment
06/21/79	-0-	Ichthyophthirius	Salt

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Priest Rapids

Brood: 1978

Tag Code: 63-19-58

Purpose: Hatchery contribution

Stock: Priest Rapids & Ringold

Sampling Method: see code 63-18-57

Beginning Sampling Date: 05/08/79

Ending Sampling Date: 05/08/79

Sampling Comment: See code 63-18-57

Beginning Tagging Date: 06/13/79

Ending Tagging Date: 06/17/79

Tagging Size: 108/1b

Tagging Comment: See code 63-18-57

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	- - - - -	-----	-----
06/28/79	5300	-o-	-o-	77/1b	Columbia River

Release Comment: See code 63-18-57

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Priest Rapids

Brood: 1978

Tag Code: 63-19-58

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
-0-	-0-	See code 63-18-57	-0-

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Priest Rapids

Brood: 1978

Tag Code: 63-20-17

Purpose: Hatchery contribution

Stock: Priest Rapids & Ringold

Sampling Method: See code 63-18-57

Beginning Sampling Date: 05/08/79

Ending Sampling Date: 05/08/79

Sampling Comment: See code 63-18-57

Beginning Tagging Date: 06/13/79

Ending Tagging Date: 06/17/79

Tagging Size: 108/1b

Tagging Comment: See code 63-18-57

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/28/79	82200	-0-	-0-	77/1b	Columbia River

Release Comment: See code 63-18-57

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Priest Rapids

Brood: 1978

Tag Code: 63-20-17

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
-0-	-0-	See code 63-18-57	-0-

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Sea Resources

Brood: 1978

Tag Code: 63-19-18

Purpose: Hatchery contribution

Stock: Toutle, Big Creek, Chinook River

Sampling Method: Grab dip net

Beginning Sampling Date: 05/01/79

Ending Sampling Date: 05/02/79

Sampling Comment: -0-

Beginning Tagging Date: 05/01/79

Ending Tagging Date: 05/02/79

Tagging Size: 145/lb

Tagging Comment: Size of fish at tagging ranged from 100 - 166 fish/lb.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/09/84	24200	300	957500	112/lb	Chinook River

Release Comment: Releases made on 5/9, 18, 30, & 31. Tagged fish released on 5/9, 18, 30. 257,000 untagged fish released on 5/31 with no corresponding tagged group. Release sizes of fish range: 85-230/lb. Release numbers based on hatchery records.

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Sea Resources

Brood: 1978

Tag Code: 63-19-18

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
04/26/79	-0 -	Ichthyophthirius	Formalin
04/09/79	-0-	Costia	Hyamine 1622 & formalin

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Speelyai

Brood: 1978

Tag Code: 63-19-20

Purpose: Rearing & release strategy

Stock: Lewis River

Sampling Method: Fish not sampled, all fish in pond tagged

Beginning Sampling Date: 07/05/79

Ending Sampling Date: 07/10/79

Sampling Comment: -0-

Beginning Tagging Date: 07/05/79

Ending Tagging Date: 07/10/79

Tagging Size: 120/lb

Tagging Comment: All fish in release group tagged

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
09/05/79	51700	400	-0-	28/lb	Lewis River

Release Comment: See code 63-19-50

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Speelyai

Brood: 1978

Tag Code: 63-19-20

Disease History:

Starting date	Ending date m---m---	Disease _____	Treatment _____
-0-	-0-	See code 63-19-50	-0-

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Speelyai**

Brood: **1978**

Tag Code: **63-19-50**

Purpose: Rearing & release strategy

Stock: Lewis River

Sampling Method: Fish for tagging were grab dipnetted from pond

Beginning Sampling Date: 06/25/79

Ending Sampling Date: 06/29/79

Sampling Comment: -0-

Beginning Tagging Date: 06/25/79

Ending Tagging Date: 06/29/79

Tagging Size: 120/lb

Tagging Comment: Fish sorted into 3 size ranges for tagging: 30/lb,
120/lb, < 200/lb

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
07/19/79	104500	3500	78500	86/lb	Lewis River

Release Comment: Part of Lewis River wild stock study of fall chinook life history. Data will be used for management and enhancement. Eggs collected from trapped fall chinook & reared in hatchery environment.

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Speelyai

Brood: 1978

Tag Code: 63-19-50

Disease History:

Starting date -----	Ending date	Disease -----	Treatment -----
02/28/79	-0-	Saprolegnia	None

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1978

Tag Code: 5-4-33

Purpose: Contribution

Stock: Spring Creek

Sampling Method: All fish in ponds passed over NMFS sampling table
and 5% removed for tagging

Beginning Sampling Date: 01/29/79

Ending Sampling Date: 02/23/79

Sampling Comment: Fish to be tagged held **separatly** from those not
destined for tagging

Beginning Tagging Date: 03/14/79

Ending Tagging Date: 03/21/79

Tagging Size: 150/lb

Tagging Comment: Tagged fish held **separatly** from untagged fish
after tagging

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/18/79	140900	13600	3568600	54/lb	Columbia River at hatchery

Release Comment: Release numbers based on hatchery records

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1978

Tag Code: 5-4-33

Disease History:

Starting date	Ending date -----	Disease	Treatment
01/03/79	02/01/79	White spot in fry	No treatment
05/07/79	-0-	Gill amoeba	No treatment
10/01/78	12/31/78	Fungus	Treated 3 times weekly with formalin
02/18/79	05/18/79	ERM and tail rot	Reduced water temperature

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1978

Tag Code: 5-4-44

Purpose: Contribution

Stock: Spring Creek

Sampling Method: All fish in ponds passed over NMFS sampling table
and 2.5% for tagging

Beginning Sampling Date: 01/29/79

Ending Sampling Date: 02/23/79

Sampling Comment: Fish to be tagged held **separatly** from those not
destined for tagging

Beginning Tagging Date: 03/07/79

Ending Tagging Date: 03/14/79

Tagging Size: 150/1b

Tagging Comment: Tagged fish held **separatly** from untagged fish
after tagging

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
04/20/79	135500	19400	4357400	87/1b	Columbia River at hatchery

Release Comment: Hatchery biologist reported release size of tagged
fish was 78/1b and untagged fish 87/1b. Release
numbers based on hatchery records.

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1978

Tag Code: 5-4-44

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
10/01/78	12/31/78	fungus	Treated 3 times weekly with formalin
02/18/79	04/20/79	ERM and tail rot	Reduced water temperature
01/03/79	02/01/79	White spot in fry	No treatment

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1978

Tag Code: 5-4-45

Purpose: Hatchery Contribution

Stock: Spring Creek

Sampling Method: All fish in ponds passed over NMFS sampling table
& 5% removed for tagging

Beginning Sampling Date: 01/29/79

Ending Sampling Date: 02/23/79

Sampling Comment: Fish to be tagged held **separatly** from those not
destined for tagging.

Beginning Tagging Date: 03/21/79

Ending Tagging Date: 03/23/79

Tagging Size: 135/lb

Tagging Comment: Tagged fish held **separatly** from untagged fish
after tagging

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
08/13/79	55600	6300	1141600	19/lb	Columbia River at hatchery

Release Comment: Hatchery biologist estimated marked fish size at
release was 14/lb and unmarked fish size at 19/lb.
Release numbers based on hatchery records.

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1978

Tag Code: 5-4-45

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
01/03/79	02/01/79	White spot in fry	none
10/01/78	12/31/78	Fungus in eggs	Formalin 3 times weekly
06/01/79	-0-	Gill ameoba	Roccal
06/15/79	06/18/79	Gill ameoba	Formalin, Terramycin, Sulfamerazine
02/18/79	08/13/79	ERM	Reduced water temperature

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1978

Tag Code: 5-4-46

Purpose: Hatchery contribution

Stock: Spring Creek

Sampling Method: All fish in ponds passed over NMFS sampling table
& 2.5% removed for tagging

Beginning Sampling Date: 01/29/79

Ending Sampling Date: 02/23/79

Sampling Comment: Fish to be tagged held **separatly** from those not
destined for tagging

Beginning Tagging Date: 02/20/79

Ending Tagging Date: 03/02/79

Tagging Size: 150/1b

Tagging Comment: Tagged fish held separate from untagged fish after
tagging

Release Date	Tagged	Ad-only	Untagged	Size	Location
.....	-----	-----	-----	-----	-----
03/20/79	246000	13000	9861000	125/1b	Columbia River at hatchery

Release Comment: Release numbers based on hatchery records.
Hatchery biologist reported release size of marked
fish was 153/1b & unmarked fish 125/1b.

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1978

Tag Code: 5-4-46

Disease History:

Starting date	Ending date	Disease	Treatment
.....			-----
10/01/78	12/31/78	Fungus in eggs	Formalin 3 times weekly until hatch
02/18/79	03/20/79	ERM & tail rot	Reduced Water temp., 2 ponds dipped into ERM bacterin
01/03/79	02/01/79	White spot in fry	None

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Stayton** Pond

Brood: **1978**

Tag Code: **7-18-41**

Purpose: Hatchery contribution

Stock: Bonneville

Sampling Method: Fish seined from periphery of pond

Beginning Sampling Date: **04/18/79**

Ending Sampling Date: **05/01/79**

Sampling Comment: **-0-**

Beginning Tagging Date: **04/18/79**

Ending Tagging Date: **05/01/79**

Tagging Size: **90/lb**

Tagging Comment: tagged fish returned to **20** acre pond with untagged fish

Release Date	Tagged -----	Ad-only -----	Untagged	Size	Location
05/07/79	283500	9400	4398800	67/lb	Wallamette River System

Release Comment: Fish transported from pond to various sites on **Willamette, Santiam, and Molalla** rivers for release from **5/7-21/79**. Release numbers based on systematic dip net sample for marked to unmarked ratio and fish per pound during truck loading at release. Sample data applied to total weight determined by displacement.

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Stayton Pond**

Brood: **1978**

Tag Code: **7-18-41**

Disease History:

Starting date	Ending date	Disease	Treatment -----
12/01/78	01/31/79	Fin rot & coagulated yolk	None, 4% mortality in fry
02/01/79	02/09/79	cold water disease	Terramycin feed, mortalities 4%

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Toutle

Brood: 1978

Tag Code: 63-18-54

Purpose: Hatchery contribution

Stock: Toutle

Sampling Method: See code 63-19-41

Beginning Sampling Date: 04/04/79

Ending Sampling Date: 04/26/79

Sampling Comment: See code 63-19-41 .

Beginning Tagging Date: 05/31/79

Ending Tagging Date: 06/12/79

Tagging Size: 180/1b

Tagging Comment: Made up group for code 63-19-41

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/17/79	12000	-o-	-o-	160/1b	Green River

Release Comment: See code 63-19-41

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Toutle

Brood: 1978

Tag Code: 63-18-54

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
-0-	-0-	See code 63-19-41	-0-

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Toutle

Brood: 1978

Tag Code: 63-19-41

Purpose: Hatchery contribution

Stock: Toutle

Sampling Method: 5% sample remove by systematic dipnet method at
time of splitting to release ponds

Beginning Sampling Date: 04/04/79

Ending Sampling Date: 04/26/79

Sampling Comment: 4/4, 2 raceways split to adult holding pond.
4/25, raceways split to Beaver Slough pond.
4/26, 4 raceways split to 6 raceways. 5% to be
tagged held in partitioned raceways.

Beginning Tagging Date: 05/31/79

Ending Tagging Date: 06/12/79

Tagging Size: 180.1b

Tagging Comment: Tagged fish returned to group of untagged fish
from which they came. Fish ranged in size from
165 - 200/1b. Some pinheads sorted & not tagged.
Some coho found in ponds.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
04/04/79	-0-	-0-	275000	700/1b	Green River
03/21/79	-0-	-0-	550000	750/1b	Toutle River system
06/17/79	132100	6000	2619500	160/1b	Green River

Release Comment: Prerelease sampling of **standard raceways** & Beaver
Slough pond on 6/6-7 & of adult holding pond on
6/14. Peterson estimates from sampling used for
final release figured.

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Toutle

Brood: 1978

Tag Code: 63-19-41

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
03/27/79	-0-	Tail fungus	None
03/06/79	-0-	Stomach fungus, light costia	Cleaned ponds

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Washougal**

Brood: **1978**

Tag Code: **63-19-38**

Purpose: Hatchery contribution

Stock: **Washougal & Toutle**

Sampling Method: **5%** sample **systematiclly** dip netted during
splitting

Beginning Sampling Date: **03/09/79**

Ending Sampling Date: **05/02/79**

Sampling Comment: **3/8 & 3/15 Washougal** stock split to **Boyles** Creek
ponds. **4/5 Toutle & Washougal** stocks split to
standard raceways. **5/2 Toutle** stock split to
lagoon pond. **5%** to be tagged held in partitioned
raceways.

Beginning Tagging Date: **06/04/79**

Ending Tagging Date: **06/14/79**

Tagging Size: **110/1b**

Tagging Comment: Tagged fish returned to untagged group from which
they came. Some coho in ponds: as many as **200** may
have been tagged as fall chinook. About **400** coho
sorted during tagging.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/14/79	91000	7800	4430400	100/1b	Washougal River
09/02/79	6400	500	396400	23/1b	Washougal River

Release Comment: All rearing environments sampled before release
but population estimates seemed **too high**. Figures
from displacement enumeration used for releases.
Combine with code 63-19-46. 6/14 release ranged
from 95-110/1b.

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Washougal

Brood: 1978

Tag Code: 63-19-38

Disease History:

Starting date	Ending date	Disease	Treatment
03/01/79	-0-	Costia, 2 ponds: coagulated yolk, 1 pond	Formalin, for costia
03/30/79	-0-	Costia, 3 ponds; stomach fungus, coag. yolk, deformities, 1	Formalin for costia
07/31/79	-0-	Furunculosis, columnaris, Ichthyophthirius	TM-50
08/14/79	-0-	Ichthyophthirius	Formalin

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Washougal**

Brood: 1978

Tag Code: 63-19-46

Purpose: Hatchery contribution

Stock: **Washougal & Toutle**

Sampling Method: See code 63-19-38

Beginning Sampling Date: 03/09/79

Ending Sampling Date: 05/02/79

Sampling Comment: See code 63-19-53

Beginning Tagging Date: 06/04/79

Ending Tagging Date: 06/14/79

Tagging Size: 110/1b

Tagging Comment: See code 63-19-53

Release Date -----	Tagged -----	Ad-only -----	Untagged -----	Size -----	Location -----
06/14/79	144300	-o-	-o-	100/1b	Washougal River
09/02/79	10200	-o-	-o-	23/1b	Washougal River

Release Comment: See code 63-19-38

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Washougal

Brood: 1978

Tag Code: 63-19-46

Disease History:

Starting date	Ending date	Disease	Treatment
.....			
-0-	-0-	See code 63-19-38	-0-

HATCHERY RELEASE DATA FOR 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Weyco** Pond

Brood: 1978

Tag Code: 63-19-39

Purpose: Hatchery contribution

Stock: Grays River & Elokomin

Sampling Method: Pond was not sampled

Beginning Sampling Date: -0-

Ending Sampling Date: -0-

Sampling Comment: 5% of book figure population was held for tagging
at Grays River Hatchery

Beginning Tagging Date: 05/16/79

Ending Tagging Date: 05/24/79

Tagging Size: 234/1b

Tagging Comment: Fish tagged at Grays River Hatchery & moved to
Weyco Pond in May.

Release Date	Tagged	Ad-only	Untagged	Size -----	Location
06/05/79	92400	2500	271600	58/1b	Grays River

Release Comment: Over 2,000,000 fry & fingerling transfered from
Grays River to **Weyco**. Reason for massive shortage
in pond **unknown**. Peterson population estimate made
at time of release by trapping at pond outlet.
Sampling estimates used for final release figures.

DISEASE HISTORY OF 1978 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Weyco** Pond

Brood: 1978

Tag Code: 63-19-39

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
-0-	-0-	No examination for disease while fish in pond	See code 63-16-46 for disease at Grays River Hatchery

1979 BROOD

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Abernathy

Brood: 1979

Tag Code: 5-6-44

Purpose: Contribution

Stock: Abernathy & Bonneville

Sampling Method: All fish in ponds passed over NMFS sampling table
and 10% removed for tagging.

Beginning Sampling Date: 03/26/80

Ending Sampling Date: 04/04/80

Sampling Comment: Sampler set to remove a 2.5% and a 7.5% sample.

Beginning Tagging Date: 03/28/80

Ending Tagging Date: 04/03/80

Tagging Size: 80/1b

Tagging Comment: Fish on reuse water 80/1b & those on creek water
150/1b. Two tag codes applied: this was 2.5%
group.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/14/80	15300	500	203300	27/1b	Abernathy Creek
04/09/80	19900	600	263200	59/1b	Abernathy Creek

Release Comment: -0-

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Abernathy

Brood: 1979

Tag Code: 5-6-44

Disease History:

Starting date	Ending date -----	Disease	Treatment -----
05/13/80	-0-	Myxobacterial tail-rot & BKD diagnosed	None

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Abernathy

Brood: 1979

Tag Code: 5-6-46

Purpose: Contribution

Stock: Abernathy & Bonneville

Sampling Method: See code 5-6-44

Beginning Sampling Date: 03/26/80

Ending Sampling Date: 04/04/80

Sampling Comment: See code 5-6-44

Beginning Tagging Date: 03/26/80

Ending Tagging Date: 04/04/80

Tagging Size: 80/1b

Tagging Comment: Fish on reuse water 80/1b and those on creek water 150/1b. Two tag codes applies: this was 7.5% group.

Release Date --- -----	Tagged -- -----	Ad-only -----	Untagged -----	Size -----	Location -----
05/14/80	55600	1200	672500	27/1b	Abernathy Creek
04/09/80	56900	1200	687500	59/1b	Abernathy Creek

Release Comment: -0-

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Abernathy

Brood: 1979

Tag Code: 5-6-46

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
-0-	-0-	See code 5-6-44	-0-

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Big Creek

Brood: 1979

Tag Code: 7-21-60

Purpose: Contribution

Stock: Big Creek & Bonneville

Sampling Method: All fish in ponds passed over NMFS sampling table
and 2.5% removed for tagging.

Beginning Sampling Date: 04/24/80

Ending Sampling Date: 04/30/80

Sampling Comment: -0-

Beginning Tagging Date: 04/24/80

Ending Tagging Date: 04/30/80

Tagging Size: 85/1b

Tagging Comment: Tagged fish were returned to ponds from which they
came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
.....					-----
05/13/80	143400	2200	6287900	78/1b	Big Creek

Release Comment: Release figures calculated from prerelease
sampling with Petersen population estimate method.
Hatchery estimate (6,200,186) fell within 95%
confidence interval (5,856,829 - 7,010,089).

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Big Creek

Brood: 1979

Tag Code: 7-21-60

Disease History:

Starting date	Ending date	Disease	Treatment
-0-	-0-	None	-0-

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Bonneville

Brood: 1979

Tag Code: 7-21-57

Purpose: Contribution

Stock: Bonneville

Sampling Method: All fish in creek water ponds passed over NMFS
sampling table and 2.5% removed for tagging.

Beginning Sampling Date: 04/14/80

Ending Sampling Date: 04/22/80

Sampling Comment: Fish in well water ponds not sampled because of
enteric red mouth disease.

Beginning Tagging Date: 04/14/80

Ending Tagging Date: 04/22/80

Tagging Size: 75/1b

Tagging Comment: Fish for tagging came from batteries A & B. 4
ponds of diet study fish in battery A not sampled
for contribution study but tagged with codes
7-21-33, 7-21-34 7-21-35, & 7-21-36

Release Date ----S _e --	Tagged _-----	Ad-only -----	Untagged -----	Size -----	Location -----
05/27/80	36400	1300	1486200	76/1b	Tanner Creek
05/05/80	-0-	-0-	5055000	-0-	Tanner Creek
05/20/80	35900	1300	1468200	78/1b	Tanner Creek
05/28/80	48800	1800	1993000	70/1b	Tanner Creek

Release Comment: Release numbers for tagged releases from creek
water ponds based on Peterson population estimate
from prerelease sampling. 5/5 release from well
water ponds based on hatchery records. Hatchery
estimate creek water ponds 6,998,884; Petersen
estimate 95% confidence interval 4,530,235 -
5,615,573.

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Bonneville

Brood: 1979

Tag Code: 7-21-57

Disease History:

Starting date	Ending date	Disease	Treatment
_____	_____		-----
10/01/79	12/31/79	Egg fungus	Prophylactic treatment with malachite green
03/01/80	04/01/80	ERM & costia	Funox & LLMO for ERM; formalin for costia ; Batteries C & D only

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Cowlitz

Brood: 1979

Tag Code: 63-21-37

Purpose: Contribution

Stock: Cowlitz

Sampling Method: See code 63-21-54

Beginning Sampling Date: 06/18/80

Ending Sampling Date: 06/18/80

Sampling Comment: -0-

Beginning Tagging Date: 06/18/80

Ending Tagging Date: 06/19/80

Tagging Size: 190/lb

Tagging Comment: Fish ranged from 170-205/lb. 7398 pinheads
(smaller than 400 fish/lb) culled and not tagged.

Release Date -----	Tagged -----	Ad-only -----	Untagged -----	Size -----	Location -----
03/21/81	10300	100	269700	9/lb	Cowlitz R.
04/01/81	10400	100	273700	10/lb	Cowlitz R.

Release Comment: -0-

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Cowlitz

Brood: 1979

Tag Code: 63-21-37

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
03/13/80	-0-	Coagulated yolk & costia	Formalin for costia
02/28/80	-0-	Light costia	None
03/13/81	-0-	BKD	-0-
10/30/80	-0-	Furunculosis , 1 pond	TM-50 in feed
11/14/80	-0-	Furunculosis , 1 pond; cold water disease, 1 pond	TM-50 in feed
05/11/80	05/13/80	Costia , all ponds	Formalin
07/03/80	-0-	Costia , 1 pond	Formalin
01/22/81	-0-	Ceratamyxa & BKD in pond 32	-0-

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Cowlitz

Brood: 1979

Tag Code: 63-21-54

Purpose: Contribution

Stock: Cowlitz

Sampling Method: All fish in ponds passed though WDF incremental sampler and 5% removed for tagging.

Beginning Sampling Date: 05/28/80

Ending Sampling Date: 06/13/80

Sampling Comment: -0-

Beginning Tagging Date: 05/29/80

Ending Tagging Date: 06/13/80

Tagging Size: 152/lb

Tagging Comment: Large number of pinheads culled and not tagged at time of tagging. Fish ranged from 100-200/lb.

Release Date	Tagged	Ad-only	Untagged	Size	Location
07/11/80	2200	100	7000	156/lb	Cowlitz River
01/12/80	-0-	-0-	128000	1050/l	Cowlitz River
12/13/79	-0-	-0-	341000	1050/l	Cowlitz River
07/01/80	41200	1700	922800	85/lb	Deep River
07/01/80	8600	300	195100	85/lb	Grays River
07/02/80	23200	900	534400	100/lb	Grays River
07/03/80	55000	2200	1324400	124/lb	Grays River
12/10/79	-0-	-0-	330000	1050/l	Cowlitz River
06/16/80	14500	600	346900	181/lb	Hull Creek
06/17/80	15000	600	360200	187/lb	Deep River
05/28/80	-0-	-0-	1040300	206/lb	Elochoman River

Hatchery: Cowlitz

Brood: 1979

Tag Code: 63-21-54

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/03/80	11100	500	252700	200/1b	Elochoman River
06/06/80	18500	800	405600	177/1b	Elochoman River
06/09/80	14200	600	345200	150/1b	Elochoman River
06/11/80	17600	700	421700	200/1b	Grays River
06/13/80	15600	600	373700	195/1b	Grays River
06/18/80	7600	300	182100	190/1b	Elochoman River

Release Comment: -0-

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Cowlitz

Brood: 1979

Tag Code: 63-21-54

Disease History:

Starting date	Ending date	Disease	Treatment
-----	--	-----	-----
04/18/80	-0-	Clubbed gill & BKD, pond 2	Diquat & hyamine; mortality .06% per day
03/13/80	-0-	Costia & coagulated yolk	Costia treated with formalin
02/28/80	-0-	Light costia	None
05/11/80	05/13/80	Costia, all ponds	Formalin

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Cowlitz

Brood: 1979

Tag Code: 63-21-59

Purpose: Contribution

Stock: Cowlitz

Sampling Method: See code 63-21-54

Beginning Sampling Date: 06/13/80

Ending Sampling Date: 06/15/80

Sampling Comment: -0-

Beginning Tagging Date: 06/13/80

Ending Tagging Date: 06/15/80

Tagging Size: 125/1b

Tagging Comment: Tagged fish returned to population of untagged
from which they came. 7716 pinheads culled and
not tagged. Fish ranged from 125-150/1b.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/19/80	25600	1100	550800	115/1b	Deep R.
06/18/80	5400	200	124400	140/1b	Elochoman R.
07/02/80	29500	1200	678600	90/1b	Grays R.
07/11/80	100	-0-	-0-	110/1b	Cowlitz R.
06/19/80	9900	400	212800	115/1b	Elochoman R.

Release Comment: -0-

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Cowlitz

Brood: 1979

Tag Code: 63-21-59

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
-0-	-0-	See code 63-21-54	-0-

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Elokomin**

Brood: 1979

Tag Code: 63-20-05

Purpose: Contribution

Stock: **Elokomin & Toutle**

Sampling Method: All fish in ponds passed through WDF incremental
sampler and 5% removed for tagging.

Beginning Sampling Date: 04/14/80

Ending Sampling Date: 04/14/80

Sampling Comment: Fish to be tagged held **seperately** from untagged
fish prior to tagging.

Beginning Tagging Date: 05/14/80

Ending Tagging Date: 05/20/80

Tagging Size: 170/lb

Tagging Comment: 8210 pinheads (500/lb) culled and not tagged.
Tail rot **occured** in tagged fish after tagging.
Tagged fish held separately from untagged fish for
several days until mortality subsided.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/19/80	98400	2100	2310600	70/lb	Elochoman R.

Release Comment: **Elokomin** stock was 89/lb and **Toutle** stock 70/lb at
release. Release numbers based on hatchery
records.

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Elokomin

Brood: 1979

Tag Code: 63-20-05

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
02/11/80	-0-	Tail rot	None
04/05/80	-0-	Bacterial gill disease	Reduced pond densities
05/29/80	-0-	Tail rot, tagged fish, 1 pond	Formalin

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Grays River

Brood: 1979

Tag Code: 63-20-43

Purpose: Contribution

Stock: Grays River & Toutle

Sampling Method: All fish in ponds passed through WDF incremental
sampler at time of splitting to release ponds and
5% removed for tagging.

Beginning Sampling Date: 04/25/80

Ending Sampling Date: 04/25/80

Sampling Comment: 5% sample held in live pens separate from fish
not destined for tagging.

Beginning Tagging Date: 04/28/80

Ending Tagging Date: 04/29/80

Tagging Size: 187/1b

Tagging Comment: Fish ranged from 170-220/1b.

Release Date -----	Tagged -----	Ad-only -----	Untagged -----	Size -----	Location -----
04/21/80	-0-	-0-	253600	200/1b	W. Fork Grays R.
04/01/80	-0-	-0-	223800	180/1b	W. Fork Grays R.
06/03/80	6200	200	134000	99/1b	W. Fork Grays R.
06/01/80	19200	800	388500	85/1b	W. Fork Grays R.
06/24/80	12100	500	245500	61/1b	W. Fork Grays R.

Release Comment: Release numbers based on Petersen population
estimate of marked to unmarked ratios at release

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Grays River

Brood: 1979

Tag Code: 63-20-43

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
12/01/79	-0-	Coagulated. yolk & gas bubble disease, pond 2	None
03/26/80	-0-	Fungused fins, pond 1 & costia	Released fish to reduce density & formalin for costia

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Kalama** Falls

Brood: 1979

Tag Code: 63-21-05

Purpose: Contribution

Stock: **Kalama**

Sampling Method: All fish in ponds passed through WDF incremental
sampler and 5% removed for tagging.

Beginning Sampling Date: 05/13/80

Ending Sampling Date: 05/14/80

Sampling Comment: Fish to be tagged held separately from fish not
destined for tagging.

Beginning Tagging Date: 06/09/80

Ending Tagging Date: 06/13/80

Tagging Size: 160/1b

Tagging Comment: After tagging, fish returned to untagged
populations from which they came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
03/25/80	-0-	-0-	259200	455/1b	Kalama R.
06/22/80	71600	1100	1650800	115/1b	Kalama R.
03/26/80	-0-	-0-	870000	870/1b	Kalama R.
04/03/80	-0-	-0-	817800	443/1b	Kalama R.
06/13/80	28800	400	648200	157/1b	Kalama R.

Release Comment: -0-

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Kalama** Falls

Brood: 1979

Tag Code: 63-21-05

Disease History:

Starting date -----	Ending date	Disease -----	Treatment -----
04/02/80	-0-	Costia	Formalin
03/25/80	-0-	Costia	Formalin
02/04/80	-0-	Costia	Formalin
05/28/80	-0-	Costia & low temperature disease	Formalin, TM-50, & Diquat
03/19/80	-0-	Coagulated yolk	None
03/04/80	-0-	Coagulated yolk & cold water disease	None
06/11/80	-0-	Tail rot & gill irritation	None

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Klaskanine**

Brood: 1979

Tag Code: 7-21-61

Purpose: Contribution

Stock: Bonneville

Sampling Method: All fish in ponds passed over NMFS sampling table
and 2.5% removed for tagging.

Beginning Sampling Date: 05/14/80

Ending Sampling Date: 05/16/80

Sampling Comment: -0-

Beginning Tagging Date: 05/14/80

Ending Tagging Date: 05/16/80

Tagging Size: 110/1b

Tagging Comment: Tagged fish returned to ponds of untagged fish
from which they came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/04/80	66300	900	2170500	79/1b	Klaskanine River

Release Comment: 1/4 of ponds sampled for marked to unmarked ratios
prior to release. Release figures based on
Petersen population estimates. Hatchery estimate
3,488,848; Petersen estimate 95% confidence
interval 1,915,043 - 2,560,337.

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Klaskanine**

Brood: 1979

Tag Code: 7-21-61

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
-0-	-0-	None	-0-

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Klickitat

Brood: 1979

Tag Code: 63-19-47

Purpose: Contribution

Stock: Klickitat & Bonneville

Sampling Method: All fish in ponds passed through WDF incremental
sampler at time of splitting to release pond and
5% removed for tagging.

Beginning Sampling Date: 04/20/80

Ending Sampling Date: 04/21/80

Sampling Comment: Fish to be tagged held in concrete raceways and
fish not destined for tagging held in dirt bottom
release pond.

Beginning Tagging Date: 04/08/80

Ending Tagging Date: 04/18/80

Tagging Size: 200/1b

Tagging Comment: Tagged fish mixed with those in release pond after
tagging. Over 85% of fish were Bonneville stock.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/27/80	156100	1600	2981700	85/1b	Klickitat R.

Release Comment: Release numbers based on hatchery records

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Klickitat

Brood: 1979

Tag Code: 63-19-47

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
04/22/80	-0-	Bacterial gill disease	LLMO for 3 days

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Lewis River

Brood: 1979

Tag Code: 63-20-21

Purpose: Wild stock evaluation & rearing strategy

Stock: Lewis River

Sampling Method: All fish in pond marked

Beginning Sampling Date: 06/23/80

Ending Sampling Date: 06/25/80

Sampling Comment: Culling operation **occured** at time of tagging to
remove coho and chinook too small to tag
(350/1b).

Beginning Tagging Date: 06/23/80

Ending Tagging Date: 06/25/80

Tagging Size: 200/1b

Tagging Comment: -0-

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/25/80	-0-	-0-	8100	350/1b	N. Fork Lewis R.
07/02/80	63000	3300	-0-	148/1b	N. Fork Lewis R.

Release Comment: Fry seined from river from 3/22 to 5/3 and reared
at hatchery until release. Release numbers based
on numbers tagged.

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Lewis River

Brood: 1979

Tag Code: 63-20-21

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
05/28/80	-0-	Costia	Formalin
04/01/80	-0-	Coagulated. yolk, low temperature disease, costia	Formalin & TM-50
06/15/30	-0-	Tail fungus in tagged fish	Diquat

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Lewis River

Brood: 1979

Tag Code: 63-21-60

Purpose: Wild stock evaluation & rearing strategy

Stock: Lewis River

Sampling Method: Fish for tagging were grab dipnetted from pond.

Beginning Sampling Date: 06/26/80

Ending Sampling Date: 06/30/80

Sampling Comment: -0-

Beginning Tagging Date: 06/26/80

Ending Tagging Date: 06/30/80

Tagging Size: 200/lb

Tagging Comment: -0-

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
07/15/80	103700	1800	321700	117/lb	N. Fork Lewis R.

Release Comment: Release sizes ranged from 95/lb to 170/lb. Eggs taken from adults trapped at Merwin Dam, hatched at Speelyai, and transfered to Lewis River 3/8 for final rearing and release. Release numbers based on hatchery records.

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Lewis River

Brood: 1979

Tag Code: 63-21-60

Disease History:

Starting date	Ending date -----	Disease	Treatment
03/09/80	03/18/80	Low temperature disease	TM-50
05/28/80	-0-	Gill disease	None
03/18/80	-0-	Bacterial gill disease	TM-50
04/01/80	-0-	Coagulated yolk, low temperature disease, costia	Formalin , TM-50, & cleaned ponds
05/13/80	-0-	Hexamita	Epson salts

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Little White Salmon

Brood: 1979

Tag Code: 5-6-43

Purpose: Contribution

Stock: Little White, Bonneville, Spring Creek

Sampling Method: Fish in most ponds passed over NMFS sampling table and 2.5% removed for tagging.

Beginning Sampling Date: 05/20/80

Ending Sampling Date: 06/03/80

Sampling Comment: Two ponds could not be reached with sampling table equipment. Systematic dipnet method used in these ponds. About 2 dipnets of fish out of every 100 set aside for tagging.

Beginning Tagging Date: 05/20/80

Ending Tagging Date: 06/03/80

Tagging Size: 120/1b

Tagging Comment: Tagged fish returned to ponds from which they came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/10/80	162600	1900	8611500	101/1b	Little White Salmon R.

Release Comment: Fish not prerelease sampled. Hatchery records used as release figures.

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Little White Salmon

Brood: 1979

Tag Code: 5-6-43

Disease History:

Starting date	Ending date	Disease	Treatment
05/06/80	-0-	BKD	None
05/30/80	-0-	Tail rot & some costia on weak fish	Roccal
01/25/80	-0-	Cold water disease	Roccal & Terramycin. Mortality 1.3% in Feb.

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Lower Kalama

Brood: 1979

Tag Code: 63-20-06

Purpose: Contribution

Stock: Kalama

Sampling Method: All fish in ponds passed through WDF incremental
sampler at time of pond splitting to release ponds
and 5% removed for tagging,

Beginning Sampling Date: 04/03/80

Ending Sampling Date: 04/24/80

Sampling Comment: Sampling occurred at two dates because of two
distinct sizes of fish. Fish to be tagged held
separately from fish not destined for tagging.

Beginning Tagging Date: 05/28/80

Ending Tagging Date: 06/06/80

Tagging Size: 240/lb

Tagging Comment: Tagged fish returned to ponds with untagged fish
after tagging.

Release Date	Tagged	Ad-only	Untagged	Size	Location
.....	-----	-----	-----		-----
06/10/80	144500	5800	3129500	150/lb	Fallert Creek

Release Comment: Release figures based on Petersen population
estimate of tagged to untagged ratios at release.

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Lower Kalama

Brood: 1979

Tag Code: 63-20-06

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
05/28/80	-0-	Low temperature disease	TM-50 in feed
04/15/80	-0-	Costia	Formalin
04/29/80	-0-	Septicemia	TM-50 in feed
03/04/80	-0-	Coagulated yolk, fry from Kalama Falls Hatchery	None
02/11/80	-0-	Coagulated yolk	None
03/25/80	-0-	Light costia	Formalin

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **OxBow**

Brood: 1979

Tag Code: 7-21-62

Purpose: Contribution

Stock: Bonneville

Sampling Method: All fish in ponds passed over NMFS sampling table
& 5% removed for tagging.

Beginning Sampling Date: 05/05/80

Ending Sampling Date: 05/08/80

Sampling Comment: Fish transported from **OxBow** to **Hermen** Creek pond
and passed over the sampler at time of transfer
to pond.

Beginning Tagging Date: 05/06/80

Ending Tagging Date: 05/09/80

Tagging Size: 150/1b

Tagging Comment: Tagged fish returned to pond with untagged fish.
Two tag codes applied but tag groups not kept
separate.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/27/80	49400	900	1115200	100/1b	Columbia R.

Release Comment: Fish transported from **Hermen** Creek pond to a barge
below **McNary** Dam on 5/27-28. Barge moved below
Bonneville and fish released at **Skamania** Light
between 4 and 5 p.m. 5/29. Release numbers based
on Petersen population estimate made at time of
transporting from **Hermen** Creek

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: OxBow

Brood: 1979

Tag Code: 7-21-62

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
-0-	-0-	None	-0-

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **OxBow**

Brood: 1979

Tag Code: 7-21-63

Purpose: Contribution

Stock: Bonneville

Sampling Method: See code 7-21-62

Beginning Sampling Date: 05/05/80

Ending Sampling Date: 05/08/80

Sampling Comment: See code 7-21-62

Beginning Tagging Date: 05/06/80

Ending Tagging Date: 05/09/80

Tagging Size: 150/1b

Tagging Comment: See code 7-21-62

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/27/80	51900	900	1170100	100/1b	Columbia R.

Release Comment: See code 7-21-62

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **OxBow**

Brood: **1979**

Tag Code: **7-21-63**

Disease History:

Starting date	Ending date	Disease -m-m-----	Treatment -----
-0-	-0-	None	-0-

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Priest Rap. & Ringo.

Brood: 1979

Tag Code: 63-19-48

Purpose: Contribution

Stock: Priest Rapids

Sampling Method: Fish systematically dipnetted from ponds and 5% removed for tagging.

Beginning Sampling Date: 05/01/80

Ending Sampling Date: 05/01/80

Sampling Comment: Ringold fish sampled 5/15/80

Beginning Tagging Date: 05/06/80

Ending Tagging Date: 05/12/80

Tagging Size: 140/1b

Tagging Comment: Priest Rapids fish ranged from 90-200/1b. 108 sick or deformed fish culled and not tagged. Ringold fish tagged 6/10-11, ranged from 95-120/1b, & 557 pinheads (400-500/1b) culled and not tagged.

Release Date	Tagged	Ad-only	Untagged	Size e-----	Location
06/26/80	37100	-0-	631700	88/1b	Columbia R.
05/20/80	52800	300	791900	69/1b	Columbia R.
06/24/80	57300	400	1434200	78/1b	Columbia R.
06/26/80	-0-	-0-	46800	200/1b	Columbia R.

Release Comment: -0-

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Priest Rap. & Ringo.

Brood: 1979

Tag Code: 63-19-48

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
04/29/80	-0 -	Ichthyopheres	Formalin
02/01/80	-0-	Coagulated yolk	None
04/14/80	-0-	Coagulated yolk & Ichthyophtheres	Formalin
12/01/79	-0-	Soft shell in eggs	Formalin

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Sea Resources

Brood: 1979

Tag Code: 63-20-61

Purpose: Contribution

Stock: Cowlitz, Toutle, Chinook

Sampling Method: Fish systematically dipnetted from ponds and 5% removed for tagging.

Beginning Sampling Date: 04/21/80

Ending Sampling Date: 04/22/80

Sampling Comment: Because of aquatic plants in dirt bottom ponds and holes in pond walls, many fish escaped sampling.

Beginning Tagging Date: 04/22/80

Ending Tagging Date: 04/24/80

Tagging Size: 160/lb

Tagging Comment: Klickitat tag code 63-19-47 accidentally applied to 1900 fish. Fish ranged from 100-200/lb. Tagged fish returned to untagged populations from which they came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/28/80	18400	400	745400	90/lb	Chinook R.

Release Comment: Fish released over two days, 5/28-29. Release numbers based on hatchery records.

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Sea Resources

Brood: 1979

Tag Code: 63-20-61

Disease History:

Starting date	Ending date -----	Disease _--m-mm-mm-m-----	Treatment _____ - _____
05/19/80	05/20/80	Costia	Formalin

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1979

Tag Code: 5-6-39

Purpose: Contribution

Stock: Spring Creek

Sampling Method: All fish in ponds passed over NMFS sampling table
and 2.5% removed for tagging.

Beginning Sampling Date: 02/20/80

Ending Sampling Date: 02/28/80

Sampling Comment: -0-

Beginning Tagging Date: 02/21/80

Ending Tagging Date: 02/29/80

Tagging Size: 170/1b

Tagging Comment: Tagged fish returned to ponds from which they came

Release Date	Tagged	Ad-only	Untagged	Size	Location
.....					-----
03/10/80	125500	4700	7209900	123/1b	Columbia R. at hatchery

Release Comment: Hatchery records used to determine total release
numbers.

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1979

Tag Code: 5-6-39

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
02/08/80	-0-	ERM & gill bacteria	Lowered water temperature
03/03/80	-0-	Cold water disease	Fish released to reduce loading stress

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1979

Tag Code: 5-6-40

Purpose: Contribution

Stock: Spring Creek

Sampling Method: All fish in ponds passed over NMFS sampling table
and 2.5% removed for tagging.

Beginning Sampling Date: 02/29/80

Ending Sampling Date: 03/04/80

Sampling Comment: -0-

Beginning Tagging Date: 02/29/80

Ending Tagging Date: 03/05/80

Tagging Size: 170/lb

Tagging Comment: Tagged fish returned to ponds from which they
came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	- - - - -	-----	-----	-----	-----
04/10/80	75200	2500	3836300	83/lb	Columbia R. at hatchery

Release Comment: Hatchery records used to determine total release
numbers. Checked with Petersen population
estimate of marked to unmarked ratio at release in
4 of 8 ponds. Petersen estimate 95% confidence
interval 3,985,079 + or - 323,951.

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1979

Tag Code: 5-6-40

Disease History:

Starting date	Ending date	Disease	Treatment
02/08/80	-0-	ERM & gill bacteria	Lowered water temperature
03/03/80	-0-	Cold water disease	March release made to reduce loading densities

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1979

Tag Code: 5-6-41

Purpose: Contribution

Stock: Spring Creek

Sampling Method: All fish in ponds passed over NMFS sampling table
and 2.5% removed for tagging.

Beginning Sampling Date: 03/12/80

Ending Sampling Date: 03/14/80

Sampling Comment: -0-

Beginning Tagging Date: 03/13/80

Ending Tagging Date: 03/18/80

Tagging Size: 105/1b

Tagging Comment: Tagged fish returned to ponds from which they
came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
.....	-----	-----	-----		-----mm-----
05/09/80	60500	1300	3128900	51/1b	Columbia R. at hatchery

Release Comment: Hatchery records used to determine total release
numbers. Checked with Petersen population
estimate of marked to unmarked ratio at release in
8 of 16 ponds. Petersen estimate 95% confidence
interval 3,374,383 + or - 262,750.

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1979

Tag Code: 5-6-41

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
04/23/80	-0-	ERM & gill amoeba	LLMO in water system
02/08/80	-0-	ERM & gill bacteria	Lowered water temperature
05/06/80	-0-	ERM	Release made to reduce loading
03/03/80	-0-	Cold water disease	March release made to reduce loading densities

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1979

Tag Code: 5-6-42

Purpose: Contribution

Stock: Spring Creek

Sampling Method: All fish in ponds passed over NMFS sampling table
and 2.5% removed for tagging.

Beginning Sampling Date: 03/17/80

Ending Sampling Date: 03/17/80

Sampling Comment: -0-

Beginning Tagging Date: 03/18/80

Ending Tagging Date: 03/18/80

Tagging Size: 98/1b

Tagging Comment: Tagged fish returned to ponds from which they
came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
08/07/80	23100	500	1088900	19/1b	Columbia R. at hatchery

Release Comment: Hatchery records used to determine total release
numbers. Checked with Petersen population
estimate of marked to unmarked ratio at release in
4 of 12 ponds. Petersen estimate 95% confidence
interval 868,043 + or - 90,216.

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1979

Tag Code: 5-6-42

Disease History:

Starting date mm-----	Ending date -----	Disease -----	Treatment -----
04/23/80	-0-	ERM & gill amoeba	LLMO in water supply
02/08/80	-0-	ERM & gill bacteria	Lowered water temperature
07/07/80	-0-	Bacterial kidney disease	None
05/06/80	-0-	ERM	Release made & remaining fish split to reduce densities
05/14/80	-0-	Gill amoeba in pond 22	LLMO in water
03/03/80	-0-	Cold water disease	March release made to reduce loading densities
06/01/80	07/01/80	Gill amoeba	LLMO in water

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Stayton** Pond

Brood: 1979

Tag Code: 7-20-55

Purpose: Contribution

Stock: Bonneville

Sampling Method: Pond periphery seined to remove what was thought to be a 5% sample.

Beginning Sampling Date: 04/08/80

Ending Sampling Date: 04/21/80

Sampling Comment: -0-

Beginning Tagging Date: 04/08/80

Ending Tagging Date: 04/21/80

Tagging Size: 93/1b

Tagging Comment: Marked fish returned to 20 acre pond with unmarked fish.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
04/28/80	282000	3400	6063200	87/1b	Willamette R.

Release Comment: Fish transported to **Willamette**, **Molalla**, and **Santiam** rivers for release almost daily from 4/26 to 5/21. One small release made into **Santiam** River 6/20-21. Fish ranged from 91-76/1b. Release numbers based on marked to unmarked ratio sampling at time of transport.

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Stayton Pond

Brood: 1979

Tag Code: 7-20-55

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	--w-----w--m--	-----
-0-	-0-	N o n e	-0-

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Washougal**

Brood: 1979

Tag Code: 63-21-53

Purpose: Contribution

Stock: **Washougal**, Cowlitz, Toutal

Sampling Method: Systematic **dipnet** and **WDF** incremental sampler used to remove 5% sample for tagging.

Beginning Sampling Date: 03/12/80

Ending Sampling Date: 06/23/80

Sampling Comment: 3/12 & 19 fish **dipnet** sampled during transfer to **Boyles** Creek pond, 5% sample held in divided raceway. 5/7-8 fish in raceways passed through **WDF** sampler, during transfer to **Boyles** Creek, sample placed in divided raceway. 6/23 Cowlitz stock passed through **WDF** sampler.

Beginning Tagging Date: 06/16/80

Ending Tagging Date: 06/27/80

Tagging Size: 100/lb

Tagging Comment: Fish ranged from 100 to 225/lb. Possiblity of some coho receiving this tag code.

Release Date	Tagged	Ad-only	Untagged	Size	Location
06/30/80	314600	7500	5771800	99/lb	Washougal R.

Release Comment: **Toutle** and **Washougal** stocks ranged from 80 to 95/lb. Cowlitz stock was 220/lb. Cowlitz stock made up 14% of release, **Toutle** stock 18%, and **Washougal** stock 68%. Release numbers based on Petersen population estimated of marked to unmarked ratios at release.

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Washougal**

Brood: **1979**

Tag Code: **63-21-53**

Disease History:

Starting date -----	Ending date -----	Disease	Treatment -----
04/21/80	-0-	Bacterial gill disease & costia	Hyamine & formalin
02/04/80	-0-	Costia & stomach fungus	Formalin
05/21/80	-0-	Bacterial gill disease, pond 1	Hyamine
06/12/80	-0-	Bacterial gill disease & costia	Diquat & formalin
05/03/80	-0-	Bacterial gill disease & costia	Hyamine & formalin

HATCHERY RELEASE DATA FOR 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Weyco** Pond

Brood: 1979

Tag Code: **H1-2-3**

Purpose: Contribution

Stock: **Toutle**

Sampling Method: Fish systematically dipnetted from ponds and 5% removed for sampling.

Beginning Sampling Date: 02/07/80

Ending Sampling Date: 02/13/80

Sampling Comment: Fish to be tagged held in raceway at Grays River Hatchery. Fish not destined for tagging transported to **Weyco** Pond 2/7 & 2/13.

Beginning Tagging Date: 03/10/80

Ending Tagging Date: 03/18/80

Tagging Size: 500/lb

Tagging Comment: Tagged fish transported from Grays River to **Weyco** Pond 3/27/80. Fish tagged with half-length tag.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/10/80	97800	3600	1850500	90/lb	Grays R.

Release Comment: Screens at outlet to pond removed 5/21/80. Fish were 119/lb. **Remander** of fish forced out of pond 6/10 at 64/lb. Release numbers based on hatchery records.

DISEASE HISTORY OF 1979 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Weyco** Pond

Brood: 1979

Tag Code: **H1-2-3**

Disease History:

Starting date	Ending date	Disease	Treatment
-0-	-0-	None recorded	-0-

1980 BROOD

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Abernathy

Brood: 1980

Tag Code: 5-7-44

Purpose: Contribution

Stock: Abernathy & Spring Creek

Sampling Method: All fish in ponds passed over NMFS sampling table
and 10% removed for tagging.

Beginning Sampling Date: 02/18/81

Ending Sampling Date: 02/19/81

Sampling Comment: Sampler was set to remove a 2.5% and a 7.5%
sample

Beginning Tagging Date: 02/18/81

Ending Tagging Date: 02/19/81

Tagging Size: 165/lb

Tagging Comment: This code applied to 2.5% group. Tagged fish
returned to population of untagged fish from which
they came.

Release Date -----	Tagged -----	Ad-only -----	Untagged -----	Size -----	Location -----
04/15/81	7500	1300	109100	41/lb	Abernathy Creek
05/26/81	11600	2000	168900	21/lb	Abernathy Creek

Release Comment: Two codes used for these releases (5-7-44,
5-7-45). Fish reared in two different water
supplies. Those in creek water were 69 and 39/lb
on 4/15 and 5/26 release dates respectively.
Those in reuse water were 41 and 21/lb on those
dates respectively. First release made over two
days 4/15-16/81. Release numbers based on
ratios of total tagged, ad-only, and untagged
released for both dates from sampling at release.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Abernathy

Brood: 1980

Tag Code: 5-7-44

Disease History:

Starting date -----	Ending date	Disease	Treatment
01/29/81	02/11/81	ERM	TM-50
02/17/81	03/16/81	ERM	TM-50, Hyamine, & Diquat.

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Abernathy

Brood: 1980

Tag Code: 5-7-45

Purpose: Contribution

Stock: Abernathy & Spring Creek

Sampling Method: See code 5-7-44

Beginning Sampling Date: 02/18/81

Ending Sampling Date: 02/19/81

Sampling Comment: See code 5-7-44

Beginning Tagging Date: 02/18/81

Ending Tagging Date: 02/24/81

Tagging Size: 165/lb

Tagging Comment: This code applied to 7.5% group. Tagged fish returned to population of untagged fish from which they came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
04/15/81	24900	4200	324400	41/lb	Abernathy Creek
05/26/81	38600	6400	502300	21/lb	Abernathy Creek

Release Comment: See code 5-7-44

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Abernathy

Brood: 1980

Tag Code: 5-7-45

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
-0-	-0-	See code 5-7-44	-0-

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Big Creek

Brood: 1980

Tag Code: 7-23-31

Purpose: Contribution

Stock: Big Creek & Bonneville

Sampling Method: All fish in ponds passed over NMFS sampling table
and 2.5% removed for tagging

Beginning Sampling Date: 04/22/81

Ending Sampling Date: 04/23/81

Sampling Comment: -0-

Beginning Tagging Date: 04/22/81

Ending Tagging Date: 04/23/81

Tagging Size: 110/1b

Tagging Comment: Tagged fish returned to untagged populations from
which they came

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/07/81	50200	1500	1856000	77/1b	Big Creek

Release Comment: Three codes used for this release (7-23-31,
7-23-33, 7-23-34). Release numbers based on
Petersen population estimate from sampling 25% of
the hatchery ponds for marked and unmarked fish.
Fish releases on 5/7, 12, & 18 at 79, 77, & 72/1b
respectively. Hatchery estimate (6,147,934) fell
outside Petersen 95% confidence interval
(5,052,564 - 6,132,484).

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Big Creek

Brood: 1980

Tag Code: 7-23-31

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
09/16/80	10/03/80	-0-	Water hardened eggs in gallamycin
10/01/80	12/31/80	Fungus on eggs	Eggs treated twice weekly with formalin

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Big Creek

Brood: 1980

Tag Code: 7-23-33

Purpose: Contribution

Stock: Big Creek & Bonneville

Sampling Method: See code 7-23-31

Beginning Sampling Date: 04/23/81

Ending Sampling Date: 04/24/81

Sampling Comment: -0-

Beginning Tagging Date: 04/23/81

Ending Tagging Date: 04/24/81

Tagging Size: 110/1b

Tagging Comment: See code 7-23-31

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/07/81	51100	1600	1888600	77/1b	Big Creek

Release Comment: See code 7-23-31

DISEASE HISTORY OF **1980** BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Big Creek

Brood: **1980**

Tag Code: **7-23-33**

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
-0-	-0-	See code 7-23-31	-0-

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Big Creek

Brood: 1980

Tag Code: 7-23-34

Purpose: Contribution

Stock: Big Creek & Bonneville

Sampling Method: See code 7-23-31

Beginning Sampling Date: 04/27/81

Ending Sampling Date: 04/28/81

Sampling Comment: -0-

Beginning Tagging Date: 04/27/81

Ending Tagging Date: 04/28/81

Tagging Size: 110/lb

Tagging Comment: See code 7-23-31

Release Date -----	Tagged	Ad-only -----	Untagged	Size	Location
05/07/81	46000	1400	1698100	77/lb	Big Creek

Release Comment: See code 7-23-31

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Big Creek

Brood: 1980

Tag Code: 7-23-34

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
-0-	-0-	See code 7-23-31	-0-

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Bonneville

Brood: 1980

Tag Code: 7-21-56

Purpose: Contribution

Stock: Bonneville

Sampling Method: All fish in ponds passed over NMFS sampling table
and 2.5% removed for tagging

Beginning Sampling Date: 03/17/81

Ending Sampling Date: 03/24/81

Sampling Comment: -0-

Beginning Tagging Date: 03/17/81

Ending Tagging Date: 03/24/81

Tagging Size: 130/1b

Tagging Comment: Fish reared in well water ponds in batteries C and
D. Tagged fish returned to untagged populations
from which they came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
04/24/81	130000	4800	5007400	73/1b	Tanner Creek

Release Comment: Release numbers based on hatchery records because
Petersen estimate from sampling 1/4th of the
hatchery ponds resulted in a figure which was 1
million fish higher than the counted egg take.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Bonneville

Brood: 1980

Tag Code: 7-21-56

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
09/17/80	10/07/80	-0-	Water hardened eggs in gallamycin
02/05/81	02/08/81	Caudal fungus, 1 reuse pond	malachite green
03/09/81	03/11/81	Costia	All ponds treated with formalin

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Bonneville

Brood: 1980

Tag Code: 7-23-29

Purpose: Contribution

Stock: Bonneville

Sampling Method: See code 7-21-56

Beginning Sampling Date: 03/25/81

Ending Sampling Date: 03/26/81

Sampling Comment: -0-

Beginning Tagging Date: 03/25/81

Ending Tagging Date: 03/26/81

Tagging Size: 130/1b

Tagging Comment: Fish reared in Tanner Creek water ponds in batter
A. Tagged fish returned to untagged populations
from which they came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/12/81	75700	2700	3113000	68/1b	Tanner Creek

Release Comment: Release numbers calculated with Petersen
population estimate from sampling of 25% of
hatchery ponds for marked and unmarked fish prior
to release. Hatchery estimate of release
(3,197,090) fell within 95% confidence interval
(2,817,761 - 3,565,473).

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Bonneville

Brood: 1980

Tag Code: 7-23-29

Disease History:

Starting date -----	Ending date -m---e--	Disease -----	Treatment -----
09/17/80	10/07/80	-0-	Water hardened eggs in gallamycin
03/09/81	03/11/81	Costia	All ponds treated with formalin

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Clatsop** County Ponds

Brood: 1980

Tag Code: 7-21-58

Purpose: Contribution

Stock: Bonneville

Sampling Method: Fish seined from 1/2 acre dirt pond to remove 5%
for tagging

Beginning Sampling Date: 05/06/81

Ending Sampling Date: 05/08/81

Sampling Comment: -0-

Beginning Tagging Date: 05/06/81

Ending Tagging Date: 05/08/81

Tagging Size: 90/1b

Tagging Comment: -0-

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/15/81	73200	900	1726800	75/1b	S.F. Klaskanine R.

Release Comment: Release numbers based on hatchery records which
estimated a 1% loss per week while fish were
reared in 1/2 acre dirt pond (South Fork pond).

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Clatsop County Ponds

Brood: 1980

Tag Code: 7-21-58

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
-0-	-0-	None	-0-

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Clatsop** County Ponds

Brood: 1980

Tag Code: 7-21-59

Purpose: Contribution

Stock: Bonneville

Sampling Method: Fish seined from periphery of 1/3 acre dirt ponds
to remove 5% for tagging

Beginning Sampling Date: 05/11/81

Ending Sampling Date: 05/12/81

Sampling Comment: -0-

Beginning Tagging Date: 05/11/81

Ending Tagging Date: 05/12/81

Tagging Size: 75/1b

Tagging Comment: -0-

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/22/81	48900	300	1308500	70/1b	Tucker Creek

Release Comment: Release numbers based on hatchery records which
estimated a 1% loss per week while fish were
reared in 2, 1/3 acre dirt ponds (**Vanderveldt**
ponds 1 & 2).

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Clatsop County Ponds

Brood: 1980

Tag Code: 7-21-59

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
-0-	-0-	None	-0-

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Cowlitz

Brood: 1980

Tag Code: 63-21-56

Purpose: Contribution

Stock: Cowlitz

Sampling Method: See code 63-22-55

Beginning Sampling Date: 06/03/81

Ending Sampling Date: 06/10/81

Sampling Comment: Pond 5 sampled 6/3, pond 3 sampled 6/5, pond 1
sampled 6/8, pond 16 sampled 6/10

Beginning Tagging Date: 06/03/81

Ending Tagging Date: 06/11/81

Tagging Size: 100/lb

Tagging Comment: 7368 pinheads sorted and not tagged. Fish in pond
5 were 100/lb at tagging and those in pond 16 were
106/lb. Tagged fish returned to populations of
untagged fish from which they came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/27/81	112600	5400	2235400	94/lb	Cowlitz R.
06/28/81	40600	2000	885900	70/lb	Cowlitz R.

Release Comment: 6/27 release of ponds 1, 3, 5 ranged in size from
75 to 120/lb. Release numbers based on Petersen
population estimate. Fish in pond 16 had highest
incidence of eye cataracts.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Cowlitz

Brood: 1980

Tag Code: 63-21-56

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
02/02/81	-0-	Costia	Formalin
03/20/81	-0-	BKD, 1 pond	None
04/07/81	-0-	Costia, 1 pond	Formalin
05/18/81	-0-	Costia	Formalin
06/15/81	-0-	Bacterial hemorrhagic septicemia	TM-50
06/18/81	-0-	Costia	Formalin

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Cowlitz

Brood: 1980

Tag Code: 63-22-55

Purpose: Contribution

Stock: Kalama, Big Creek & Bonneville

Sampling Method: All fish in ponds passed through WDF incremental samplers and 5% removed for tagging.

Beginning Sampling Date: 05/29/81

Ending Sampling Date: 06/15/81

Sampling Comment: Pond 2 (Kalama stock) sampled 5/29, Pond 4 (Kalama stock) sampled 6/2, Pond 11 (Bonneville & Kalama stock) sampled 6/12, Pond 10 (Bonneville & Kalama stock) sampled 6/15

Beginning Tagging Date: 06/01/81

Ending Tagging Date: 06/17/81

Tagging Size: 90/lb

Tagging Comment: Fish ranged in size from 67 to 125/lb depending on pond. 1251 pinheads sorted and not tagged. Tagged fish returned to populations of untagged fish from which they came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/20/81	-0-	-0-	807000	127/lb	Cowlitz River
06/12/81	22500	400	739300	77/lb	Cowlitz River
06/18/81	20700	400	771200	67/lb	Cowlitz River
06/28/81	78100	1400	1262900	84/lb	Cowlitz River

Release Comment: Release on 5/20 was Big Creek stock, 6/12 & 18 Kalama Falls stock, 6/28 Kalama Falls & Bonneville stocks. 6/28 release Kalama Falls stock was 100/lb & Bonneville stock was 76/lb. Release numbers based on Petersen population estimate. About 25% of fish had eye cataracts at release.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Cowlitz

Brood: 1980

Tag Code: 63-22-55

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
02/02/81	-0-	Costia	Formalin
04/07/81	-0-	Costia	Formalin
05/18/81	-0-	Costia	Formalin
06/18/81	-0-	Costia	Formalin

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Elokomin**

Brood: 1980

Tag Code: 63-22-34

Purpose: Contribution

Stock: **Elokomin, Kalama**, Bonneville & Spring Creek

Sampling Method: All fish in ponds passed through WDF incremental sampler and 5% removed for tagging

Beginning Sampling Date: 03/26/81

Ending Sampling Date: 03/26/81

Sampling Comment: Fish split to dirt pond and adult holding pond at time of sampling. Fish to be tagged held in concrete raceways.

Beginning Tagging Date: 04/28/81

Ending Tagging Date: 05/11/81

Tagging Size: 180/lb

Tagging Comment: Tagged fish returned to untagged populations from which they came. 3092 pinheads sorted and not tagged.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/01/81	156200	4000	2755400	102/lb	Elochoman River

Release Comment: **Kalama** stock (30% of release) was 115/lb. Release numbers based on hatchery records because Petersen estimate felt to be erroneous by WDF biologists.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Elokomin

Brood: 1980

Tag Code: 63-22-34

Disease History:

Starting date ----.---	Ending date -----	Disease -----	Treatment -----
02/11/81	-0-	Coagulated yolk & costia	Formalin
05/01/81	-0-	Tail rot on some marking	Malachite green, marked fish

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Elokomin**

Brood: **1980**

Tag Code: **63-23-17**

Purpose: **Contribution**

Stock: **Ekokomin, Spring Creek, Kalama & Bonneville**

Sampling Method: **See code 63-22-34**

Beginning Sampling Date: **03/26/81**

Ending Sampling Date: **03/26/81**

Sampling Comment: **See code 63-22-34**

Beginning Tagging Date: **05/11/81**

Ending Tagging Date: **05/11/81**

Tagging Size: **180/1b**

Tagging Comment: **See code 63-22-34**

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/01/81	9400	-0-	-0-	100/1b	Elochoman River

Release Comment: **This code to be combined with code 63-22-34.**

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Elokomin

Brood: 1980

Tag Code: 63-23-17

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
-0-	-0-	See code 63-22-34	-0-

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Grays River

Brood: 1980

Tag Code: 63-22-63

Purpose: Contribution

Stock: Grays River & Kalama

Sampling Method: All fish in ponds passed through WDF incremental
sampler and 5% removed for tagging

Beginning Sampling Date: 05/06/81

Ending Sampling Date: 05/06/81

Sampling Comment: Fish sampled at time of splitting to release
ponds

Beginning Tagging Date: 05/12/81

Ending Tagging Date: 05/15/81

Tagging Size: 150/1b

Tagging Comment: Tagged fish returned to untagged populations from
which they came. 840 pinheads sorted and not
tagged. 416 sampled fish returned to one pond
without tagging when all the wire used.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
12/23/80	-0-	-0-	67500	900/1b	Grays River
06/01/81	8900	200	322400	93/1b	Grays River
06/05/81	23200	300	211100	85/1b	Grays River
06/08/81	32000	300	612200	82/1b	Grays River

Release Comment: 6/1 & 5 releases were Kalama stock, 6/8 release
was mixture of Grays & Kalama. Release numbers
based on Petersen population estimate.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Grays River

Brood: 1980

Tag Code: 63-22-63

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
01/03/81	02/20/81	Low incidence coagulated yolk	Eggs incubated on Bio-ring substrate
03/25/81	-0-	Costia	Formalin
05/12/81	-0-	Bacterial hemorrhagic septicemia	TM-50

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Grays River

Brood: 1980

Tag Code: 63-23-40

Purpose: Contribution

Stock: Kalama River

Sampling Method: See code 63-22-63

Beginning Sampling Date: 05/06/81

Ending Sampling Date: 05/06/81

Sampling Comment: See code 63-22-63

Beginning Tagging Date: 05/12/81

Ending Tagging Date: 05/15/81

Tagging Size: 150/lb

Tagging Comment: See code 63-22-63

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/01/81	10200	-o-	-o-	93/lb	Grays River

Release Comment: This code to be combined with 63-22-63.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Grays River

Brood: 1980

Tag Code: 63-23-40

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
-0-	-0-	See code 63-22-63	-0-

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Kalama Falls

Brood: 1980

Tag Code: 63-20-36

Purpose: Contribution

Stock: Kalama River

Sampling Method: All fish in ponds passed through WDF incremental
sampler at time of transfer to adult holding ponds
and 5% removed for tagging.

Beginning Sampling Date: 04/01/81

Ending Sampling Date: 04/01/81

Sampling Comment: Fish to be tagged held separately from fish not
destined for tagging

Beginning Tagging Date: 04/14/81

Ending Tagging Date: 04/24/81

Tagging Size: 210/lb

Tagging Comment: 2857 pinheads sorted and not tagged. Tagged fish
returned to untagged populations from which they
came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/22/81	37700	700	757100	119/lb	Kalama River
05/28/81	137700	2500	2675700	100/lb	Kalama River

Release Comment: Release numbers based on Petersen population
estimate.

DISEASE HISTORY OF **1980** BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Kalama** Falls

Brood: **1980**

Tag Code: **63-20-36**

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
02/11/81	-0-	Costia	Formalin

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Klaskanine**

Brood: **1980**

Tag Code: **7-22-27**

Purpose: Contribution

Stock: Bonneville

Sampling Method: All fish in ponds passed over NMFS sampling table
and 2.5% removed for tagging

Beginning Sampling Date: **05/05/81**

Ending Sampling Date: **05/06/81**

Sampling Comment: -0-

Beginning Tagging Date: **05/05/81**

Ending Tagging Date: **05/06/81**

Tagging Size: **139/lb**

Tagging Comment: Tagged fish returned to untagged populations from
which they came. Large size variation in fish
made tag placement difficult.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/18/81	18900	500	718000	86/lb	Klaskanine River

Release Comment: Two codes used for this release & (7-22-27,
7-23-32). Release numbers based on hatchery
records because outbreak of disease immediately
prior to release prevented sampling.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Klaskanine

Brood: 1980

Tag Code: 7-22-27

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
05/12/81	-0-	BKD, ERM, Furunculosis	None

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Klaskanine**

Brood: **1980**

Tag Code: **7-23-32**

Purpose: Contribution

Stock: Bonneville

Sampling Method: See code 7-22-27

Beginning Sampling Date: **04/30/81**

Ending Sampling Date: **05/05/81**

Sampling Comment: **-0-**

Beginning Tagging Date: **04/30/81**

Ending Tagging Date: **05/05/81**

Tagging Size: **139/1b**

Tagging Comment: See code 7-22-27

Release Date	Tagged -----	Ad-only	Untagged -----	Size	Location
05/18/81	82100	2100	3121800	86/1b	Klaskanine River

Release Comment: See code 7-22-27.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Klaskanine

Brood: 1980

Tag Code: 7-23-32

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
-0-	-0-	See code 7-22-27	-0-

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Klickitat

Brood: 1980

Tag Code: 63-20-8

Purpose: Contribution

Stock: Klickitat & Spring Creek

Sampling Method: All fish in ponds passed through WDF incremental
sampler and 5% removed for tagging

Beginning Sampling Date: 03/18/81

Ending Sampling Date: 03/19/81

Sampling Comment: Sampled during splitting to release ponds. Fish
to be tagged held in concrete raceways.

Beginning Tagging Date: 03/30/81

Ending Tagging Date: 04/06/81

Tagging Size: 180/1b

Tagging Comment: 3515 pinheads sorted and not tagged. Tagged fish
returned to untagged populations from which they
came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/05/81	130000	2700	2346500	78/1b	Klickitat River

Release Comment: Release numbers based on hatchery records.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Klickitat

Brood: 1980

Tag Code: 63-20-8

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
01/21/81	-0-	Coagulated yolk, 1 pond	None
05/27/81	-0-	Bacterial hemorrhagic septicemia	Sulmet for 10 days

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Little White Salmon

Brood: 1980

Tag Code: 5-7-47

Purpose: Contribution

Stock: Little White

Sampling Method: Systematic dipnetting and NMFS sampling table used
to remove 2.5% of fish from ponds for tagging.

Beginning Sampling Date: 05/20/81

Ending Sampling Date: 06/01/81

Sampling Comment: 36 ponds sampled with sampling table, 6 ponds
systematically dipnetted because could not reach
ponds with fish pump attached to sampling table.

Beginning Tagging Date: 05/20/81

Ending Tagging Date: 06/01/81

Tagging Size: 125/1b

Tagging Comment: Fish handled well but some fungus seen around
adipose clip on some tagged fish. Tagged fish
returned to populations from which they came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/04/81	183400	4700	6587300	94/1b	Little White Salmon River

Release Comment: Three codes used for this release (5-7-47, 5-8-49,
5-8-50). Eggs for this release came from returns
to the hatchery. Release numbers based on
hatchery records. Releases made on two days 6/4
& 5.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Little White Salmon

Brood: 1980

Tag Code: 5-7-47

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
01/21/81	-0-	Coagulated yolk, some egg takes	None

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Little White Salmon

Brood: 1980

Tag Code: 5-8-49

Purpose: Contribution

Stock: Little White

Sampling Method: See code 5-7-47

Beginning Sampling Date: 06/01/81

Ending Sampling Date: 06/03/81

Sampling Comment: See code 5-7-47

Beginning Tagging Date: 06/01/81

Ending Tagging Date: 06/03/81

Tagging Size: 125/1b

Tagging Comment: See code 5/7/47

Release Date	Tagged	Ad-only	Untagged	Size	Location
.....					
06/04/81	52400	1400	1883300	94/1b	Little White Salmon River

Release Comment: See code 5-7-47.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Little White Salmon

Brood: 1980

Tag Code: 5-8-49

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
-0-	-0-	See code 5-7-47	-0-

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Little White Salmon

Brood: 1980

Tag Code: 5-8-50

Purpose: Contribution

Stock: Little White

Sampling Method: See code 5-7-47

Beginning Sampling Date: 06/03/81

Ending Sampling Date: 06/03/81

Sampling Comment: See code 5/7/47

Beginning Tagging Date: 06/03/81

Ending Tagging Date: 06/03/81

Tagging Size: 125/lb

Tagging Comment: See code 5-7-47

Release Date	Tagged	Ad-only	Untagged	Size	Location
.....	-----	-----	-----	-----	-----
06/04/81	13300	600	489200	94	Little White Salmon River

Release Comment: See code 5-7-47.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Little White Salmon

Brood: 1980

Tag Code: 5-8-50

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
-0-	-0-	See code 5-7-47	-0-

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Lower Kalama

Brood: 1980

Tag Code: 63-22-54

Purpose: Contribution

Stock: Kalama River

Sampling Method: All fish in ponds passed through WDF incremental
sampler and 5% removed for tagging.

Beginning Sampling Date: 04/14/81

Ending Sampling Date: 05/04/81

Sampling Comment: Fish sampled on two days because of difference in
fish size

Beginning Tagging Date: 05/18/81

Ending Tagging Date: 06/04/81

Tagging Size: 180/1b

Tagging Comment: 7010 pinheads sorted and not tagged. Over 40,000
fish averaging 230/1b sorted for tagging with
smaller head mold. Tagged fish returned to
untagged populations from which they came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/01/81	71000	3000	1324400	96/1b	Kalama River
06/10/81	84300	3500	1512500	98/1b	Kalama River

Release Comment: Release numbers based on Petersen populaton
estimate.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Lower Kalama

Brood: 1980

Tag Code: 63-22-54

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
02/10/81	-0-	Coagulated yolk	Reduced water flows in troughs
03/31/81	-0-	Costia	Formalin
05/05/81	-0-	ERM	Prophylactic treatment with TM-50

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Priest Rapids

Brood: 1980

Tag Code: 63-21-55

Purpose: Contribution

Stock: Priest Rapids & Bonneville Brights

Sampling Method: Fish systematically dipnetted from ponds and 5% removed for tagging.

Beginning Sampling Date: 05/20/81

Ending Sampling Date: 05/21/81

Sampling Comment: Fish seined from upper, middle, and lower sections of ponds. 5% sample estimated by weight. Total weight of fish on hand estimated from hatchery records.

Beginning Tagging Date: 05/26/81

Ending Tagging Date: 06/09/81

Tagging Size: 100/lb

Tagging Comment: Hatchery crew reported tagged fish of largest size group had highest mortality rate relative to other groups immediately after tagging. Fish ranged in size from 100 to 175/lb. 7097 pinheads and deformed fish sorted and not tagged.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	--
06/23/81	194600	1500	3793200	89/lb	Columbia River

Release Comment: Four ponds of fish released on 6/23-24, sizes ranged from 115 to 60/lb depending on pond. Release numbers based on hatchery records.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Priest Rapids

Brood: 1980

Tag Code: 63-21-55

Disease History:

Starting date	Ending date --e--w--	Disease	Treatment
12/01/80	02/28/81	Coagulated yolk & soft shell	None, losses 798,375 Priest stock & 26,100 Bonneville bright eggs
02/01/81	06/23/81	Coagulated yolk & soft shell	None, lost 938,809 fry & fingerlings

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Priest Rapids

Brood: 1980

Tag Code: 63-22-61

Purpose: Contribution

Stock: Priest Rapids

Sampling Method: Fish systematically dipnetted from ponds and 5%
by weight removed for tagging

Beginning Sampling Date: 03/31/81

Ending Sampling Date: 03/31/81

Sampling Comment: -0-

Beginning Tagging Date: 04/28/81

Ending Tagging Date: 04/28/81

Tagging Size: 100/1b

Tagging Comment: -0-

Release Date	Tagged	Ad-only	Untagged	Size	Location
.....	-----	-----	-----	-----	-----
05/18/81	42100	100	787900	67/1b	Columbia River

Release Comment: These fish are for WPPSS mitigation. Release
figures based on hatchery records.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Priest Rapids

Brood: 1980

Tag Code: 63-22-61

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
02/01/81	04/30/81	Coagulated yolk & soft shell	None, lost 131,800 fry & fingerlings

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Sea Resources

Brood: 1980

Tag Code: 63-22-1

Purpose: Contribution

Stock: Chinook River and Spring Creek

Sampling Method: Fish systematically dipnetted from ponds and 5% removed for tagging.

Beginning Sampling Date: 03/23/81

Ending Sampling Date: 03/23/81

Sampling Comment: Fish to be tagged where held separately from fish not destined for tagging

Beginning Tagging Date: 03/24/81

Ending Tagging Date: 03/27/81

Tagging Size: 175/1b

Tagging Comment: Tagged fish returned to untagged populations from which they came. 355 pinheads and deformed fish sorted and not tagged.

Release Date -----	Tagged -----	Ad-only -----	Untagged -----	Size -----	Location -----
02/01/81	-0-	-0-	337900	301/1b	Chinook River
03/06/81	-0-	-0-	108200	186/1b	Chinook River
04/16/81	43300	1100	747800	91/1b	Chinook River
05/05/81	-0-	-0-	39000	114/1b	Chinook R.

Release Comment: Release #'s based on hatchery records. Feb. releases made 2/1,4,5,6, & 25; size 375-207/1b. March releases made 3/6 & 3/17; 76 & 87/1b respectively. Feb. & Mar. releases Spring Creek stock. Apr. releases made 4/16 & 17,21,23, 27 & 29; size 108-75/1b. Fish from returns to Chinook R. (6% of Apr. release) released 4/21 & 23. May releases from returns to Chinook R.; size 350-96/1b.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Sea Resources

Brood: 1980

Tag Code: 63-22-1

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
01/07/81	-0-	Ichthyophthirius	Formalin
01/30/81	-0-	Low incidence Ichthyophthirius	None
03/05/81	-0-	Low incidence of Ichthyophthirius	None
04/14/81	-0-	Bacterial gill disease, 1 pond	None

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1980

Tag Code: 5-7-40

Purpose: Contribution

Stock: Spring Creek

Sampling Method: Fish in every other pond passed over NMFS sampling table and 5% removed for tagging

Beginning Sampling Date: 03/03/81

Ending Sampling Date: 03/09/81

Sampling Comment: Because of an outbreak of ERM at the time of sampling, every other pond was sampled to reduce sampling stress on entire population

Beginning Tagging Date: 03/03/81

Ending Tagging Date: 03/09/81

Tagging Size: 125/1b

Tagging Comment: High mortality from ERM at time of sampling and tagging. Tagged fish returned to unmarked populations from which they came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
03/25/81	104700	400	4743200	90/1b	Columbia R.

Release Comment: Four tag codes used for this release (5-7-40, 5-7-48, 5-7-50, 5-7-51). Release numbers based on hatchery records.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1980

Tag Code: 5-7-40

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
01/07/81	01/12/81	ERM & tail rot	LLMO & Roccal
02/01/81	-0-	ERM	None, mortalities 1.4%
03/01/81	-0-	ERM	TM-50

HATCHERY RELEASE DATA FOR FALL CHINOOK TAGGED FOR CONTRIBUTION STUDY

Hatchery: Spring Creek

Brood: 1980

Tag Code: 5-7-41

Purpose: Contribution

Stock: Spring Creek

Sampoing Method: All fish in ponds passed over **NMFS** sampling table and **2.5%** removed for tagging.

Beginning Sampling Date: 04/09/81

Ending Sampling Date: 04/14/81

Sampling Comment: -0-

Beginning Tagging Date: 04/09/81

Ending Tagging Date: 04/14/81

Tagging Size: 65/1b

Tagging Comment: ERM outbreak just prior to tagging caused high mortalities. Tagged fish returned to untagged populations from which they came. Two tag codes used for this release (5-7-41 & 5-7-49).

Release Date -----	Tagged -----	Ad-only -----	Untagged -----	Size -----	Location -----
04/15/81	76700	800	3117800	71/1b	Columbia R.

Release Comment: Two codes used for this release (5-7-41, 5-7-49). Release numbers based on hatchery records.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1980

Tag Code: 5-7-41

Disease History:

Starting Date -----	Ending date -----	Disease -----	Treatment -----
01/07/81	01/12/81	ERM & tail rot	LLMO & Roccal
02/01/81	-0-	ERM	None, mortalities 1.4%
03/01/81	-0-	ERM	TM-50
04/01/81	-0-	ERM	Reduced water temperature from 50 to 47 F

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1980

Tag Code: 5-7-42

Purpose: Contribution

Stock: Spring Creek

Sampling Method: All fish in ponds passed over the NMFS sampling table and 2/5% removed for tagging

Beginning Sampling Date: 04/27/81

Ending Sampling Date: 04/28/81

Sampling Comment: Fish were split from 8 to 16 pounds at the time of sampling

Beginning Tagging Date: 04/27/81

Ending Tagging Date: 04/28/81

Tagging Size: 65/1b

Tagging Comment: Tagged fish returned to the 8 ponds from which they came

Release Date	Tagged	Ad-only	Untagged	Size	Location
.....		-----			-----
05/05/71	63100	300	3141500	65/1b	Columbia R.

Release Comment: Release numbers based on hatchery records. 26,200 freeze branded fish trucked to Prescott, Oregon for release for Jones Beach survival study. No tagged fish included in this group.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1980

Tag Code: 5-7-42

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
-0-	-0-	See code 5-7-46	-0-

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1980

Tag Code: 5-7-43

Purpose: Release location and contribution

Stock: Spring Creek

Sampling Method: See code 5-7-46

Beginning Sampling Date: 04/16/81

Ending Sampling Date: 04/21/81

Sampling Comment: -0-

Beginning Tagging Date: 04/16/81

Ending Tagging Date: 04/21/81

Tagging Size: 65/1b

Tagging Comment: See code 5-7-46

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
04/21/81	25700	100	123900	75/1b	Rock Creek

Release Comment: See code 5-7-46.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1980

Tag Code: 5-7-43

Disease History:

Starting date	Ending date	Disease	Treatment
.....			
-0-	-0-	See code 5-7-46	-0-

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1980

Tag Code: 5-7-46

Purpose: Releases location and contribution

Stock: Spring Creek

Sampling Method: All fish in ponds passed over NMFS sampling table
and 2.5% removed for tagging

Beginning Sampling Date: 04/16/81

Ending Sampling Date: 04/22/81

Sampling Comment: -0-

Beginning Tagging Date: 04/16/81

Ending Tagging Date: 04/22/81

Tagging Size: 65/lb

Tagging Comment: Just prior to marking, ERM caused high
mortalities. Tagged fish returned to
populations of untagged fish from which they
came. Two tag codes used for this group (5-7-43 &
5-7-46).

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
04/21/81	150500	800	724700	75/lb	Rock Creek

Release Comment: Two codes used for this release (5-7-46, 5-7-43).
Release numbers based on hatchery records.
Fish transported by truck to release site above
John Day Dam on two days, 4/21-22/81.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1980

Tag Code: 5-7-46

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
01/07/71	01/12/81	ERM & tail rot	LLMO & Roccal
02/01/81	-0-	ERM	None, mortalities 1.4%
03/01/81	-0-	ERM	TM-50
04/01/81	-0-	ERM	Reduced water temperature from 50 to 47 F

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1980

Tag Code: 5-7-48

Purpose: Contribution

Stock: Spring Creek

Sampling Method: See code 5-7-40

Beginning Sampling Date: 03/06/81

Ending Sampling Date: 03/09/81

Sampling Comment: See code 5-7-40

Beginning Tagging Date: 03/06/81

Ending Tagging Date: 03/09/81

Tagging Size: 125/1b

Tagging Comment: See code 5-7-40

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
03/25/81	28800	100	1345400	113/1b	Columbia R.

Release Comment: See code 5-7-40.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1980

Tag Code: 5-7-48

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
-0-	-0-	-0-	-0-

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1980

Tag Code: 5-7-49

Purpose: Contribution

Stock: Spring Creek

Sampling Method: See code 5-7-41

Beginning Sampling Date: 04/14/81

Ending Sampling Date: 04/15/81

Sampling Comment: -0-

Beginning Tagging Date: 04/14/81

Ending Tagging Date: 04/15/81

Tagging Size: 65/1b

Tagging Comment: See code 5-7-41

Release Date -----	Tagged -----	Ad-only -----	Untagged -----	Size m-m---	Location _m-w---m-----
04/15/81	30900	300	1255000	71/1b	Columbia R.

Release Comment: See code 5-7-41

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1980

Tag Code: 5-7-49

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
-0-	-0-	See code 5-7-41	-0-

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1980

Tag Code: 5-7-50

Purpose: Contribution

Stock: Spring Creek

Sampling Method: See code 5-7-40

Beginning Sampling Date: 03/09/81

Ending Sampling Date: 03/10/81

Sampling Comment: See code 5-7-40

Beginning Tagging Date: 03/09/81

Ending Tagging Date: 03/10/81

Tagging Size: 125/1b

Tagging Comment: See code 5-7-40

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
03/25/81	13700	-0-	635200	121/1b	Columbia R.

Release Comment: See code 5-7-40

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1980

Tag Code: 5-7-50

Disease History:

Starting date -----	Ending date -----	Disease	Treatment -----
-0-	-0-	See code 5-7-40	-0-

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1980

Tag Code: 5-7-51

Purpose: Contribution

Stock: Spring Creek

Sampling Method: See code 5-7-40

Beginning Sampling Date: 03/10/81

Ending Sampling Date: 03/10/81

Sampling Comment: See code 5-7-40

Beginning Tagging Date: 03/10/81

Ending Tagging Date: 03/10/81

Tagging Size: 125/1b

Tagging Comment: See code 5-7-40

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
03/25/81	15400	100	748000	102/1b	Columbia R.

Release Comment: See code 5-7-40

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1980

Tag Code: 5-7-51

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
-0-	-0-	See code 5-7-40	-0-

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1980

Tag Code: 5-7-52

Purpose: Contribution

Stock: Spring Creek

Sampling Method: All fish in ponds passed over the NMFS sampling
table and 2.5% removed for tagging

Beginning Sampling Date: 04/15/81

Ending Sampling Date: 04/15/81

Sampling Comment: -0-

Beginning Tagging Date: 04/15/81

Ending Tagging Date: 04/15/81

Tagging Size: 65/1b

Tagging Comment: Tagged fish returned to the untagged populations
from which they came

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
08/12/81	7200	200	283600	15/1b	Columbia R.

Release Comment: Release numbers based on hatchery records.
Checked with Petersen population estimate of
marked to unmarked ratio at release in 2 of 4
ponds. Petersen estimated 95% confidence interval
293,545 +- 65,185.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1980

Tag Code: 5-7-52

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
01/07/81	01/12/81	ERM & tail rot	LLMO & Roccal
02/01/81	-0-	ERM	None, mortalities 1.4%
03/01/81	-0-	ERM	TM-50
04/01/81	-0-	ERM	Reduced water temperature from 50 to 47 F
05/01/81	-0-	Gill amoeba	3% salt dip
06/01/81	-0-	Kidney disease	None
08/11/81	-0-	Bacterial gill diseased, ERM & Kidney disease	3% salt dip

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Stayton** Pond

Brood: 1980

Tag Code: 7-23-35

Purpose: Contribution

Stock: Bonneville

Sampling Method: Fish seined from periphery of 20 acre dirt pond to
remove 5% for tagging

Beginning Sampling Date: 04/07/81

Ending Sampling Date: 04/21/81

Sampling Comment: -0-

Beginning Tagging Date: 04/07/81

Ending Tagging Date: 04/21/81

Tagging Size: 100/lb

Tagging Comment: Tagged fish returned to 20 acre pond with untagged
fish

R e l e a s e					
Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
04/27/81	245500	7500	5649700	75/lb	Willamette R.

Release Comment: All fish transported from pond to the **Willamette**,
Santiam, and **Molalla** systems for release from 4/27
to 6/15/81. As transport trucks loaded, sample
periodically removed to determine marked to
unmarked ratio and fish per pound. These values
used to calculate release figures.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Stayton Pond

Brood: 1980

Tag Code: 7-23-35

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----mm-
-0-	-0-	None	-0-

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Washougal**

Brood: 1980

Tag Code: 63-21-48

Purpose: Contribution

Stock: **Washougal**

Sampling Method: All fish in ponds through WDF incremental sampler
and 5% removed for tagging

Beginning Sampling Date: 05/08/81

Ending Sampling Date: 05/11/81

Sampling Comment: Fish to be tagged held separately from those not
destined for tagging

Beginning Tagging Date: 06/19/81

Ending Tagging Date: 06/22/81

Tagging Size: 110/lb

Tagging Comment: 286 pinheads sorted and not tagged. During
tagging 76% of fish found to have eye cataracts.
Tagged fish returned to untagged populations from
which they came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
07/06/81	4400	100	83200	81/lb	Washougal R.
07/29/81	1400	-0-	26300	50/lb	Washougal R.
09/04/81	22900	200	373700	31/lb	Washougal R.

Release Comment: Release numbers based on hatchery records. Eye
cataracts on 41% of fish examined from 9/4/81
release.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Washougal**

Brood: **1980**

Tag Code: **63-21-48**

Disease History:

Starting date	Ending date ---mm-m-	Disease	Treatment
02/07/71	-0-	Costia	Formalin
03/16/81	-0-	Coagulated yolk	None
06/12/81	-0-	Light bacterial gill disease on small fish	None
07/31/81	-0-	Ichthyophthirius	Formalin
08/21/81	-0-	Furunculosis & low level of Ichthyophthirius	TM-50

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Washougal**

Brood: **1980**

Tag Code: **63-22-51**

Purpose: Contribution

Stock: **Washougal & Bonneville**

Sampling Method: Systematic **dipnet & WDF** incremental sampler used
to remove **5%** for tagging

Beginning Sampling Date: **03/16/81**

Ending Sampling Date: **05/11/81**

Sampling Comment: Systematic **dipnet** method used on **3/16** and
incremental sampler used on **5/8** and **5/11**. Fish
to be tagged held separately from those not
destined for tagging.

Beginning Tagging Date: **06/09/81**

Ending Tagging Date: **06/19/81**

Tagging Size: **120/1b**

Tagging Comment: **76%** of fish tagged found to have eye cataracts at
time of tagging. Tagged fish returned to
untagged populations from which they came.
1930 pinheads sorted and not tagged.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
04/21/81	-0-	-0-	420000	274/1b	Washougal R.
06/30/81	277300	3100	5224700	74/1b	Washougal R.
07/06/81	1500	-0-	3300	70/1b	Washougal R.

Release Comment: Release numbers based on hatchery records. **6/30**
release was **70%** Bonneville stock, **7/6** release
was **Washougal** stock.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Washougal**

Brood: **1980**

Tag Code: **63-22-51**

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
02/07/81	-0-	Costia	Formalin
03/16/81	-0-	Coagulated yolk	None
06/12/81	-0-	Light bacterial gill small fish, eye cataracts on 74% pond 1	Fed OMP supplemented with zinc

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Weyco** Pond

Brood: 1980

Tag Code: **H1-3-1**

Purpose: Contribution

Stock: Bonneville & Grays River

Sampling Method: Fish were systematically dipnetted from ponds and
5% were removed for tagging

Beginning Sampling Date: 01/07/81

Ending Sampling Date: 01/15/81

Sampling Comment: Fish to be tagged held in one pond at Grays River
Hatchery. Fish not destined for tagging
transferred to **Weyco** on days of sampling.

Beginning Tagging Date: 02/24/81

Ending Tagging Date: 03/10/81

Tagging Size: 350/1b

Tagging Comment: Half length tags used. Fish ranged in size from
400 to 300/1b. Tagged fish transferred to **Weyco**
on 3/19/81.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/12/81	169500	2700	3328100	90/1b	Grays River

Release Comment: See code **H1-3-2**

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Weyco** Pond

Brood: 1980

Tag Code: **H1-3-1**

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
12/01/80	02/01/81	Low incidence coagulated yolk at Grays River & Elokomin	None
06/04/81	-0-	Eye cataracts in 17% of fish examined	None

HATCHERY RELEASE DATA FOR 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Weyco** Pond

Brood: 1980

Tag Code: **H1-3-2**

Purpose: Contribution

Stock: **Elokomin, Kalama**, Spring Creek & Bonneville

Sampling Method: Fish were systematically **dipnetted** from ponds and
5% removed for tagging

Beginning Sampling Date: 02/24/81

Ending Sampling Date: 02/24/81

Sampling Comment: **5%** held in two ponds at **Elokomin** Hatchery, then
transferred to Grays River Hatchery for tagging.
Fish not destined for tagging transferred to
Weyco on 3/19/81.

Beginning Tagging Date: 03/10/81

Ending Tagging Date: 03/13/81

Tagging Size: **500/1b**

Tagging Comment: Tagging with half length tags took place at Grays
River. Tagged fish moved to **Weyco** on 3/19/81.

Release Date -----	Tagged -----	Ad-only -----	Untagged -----	Size -----	Location -----
06/12/81	64300	600	1208100	90/1b	Grays R.

Release Comment: Two codes used for this release (**H1-3-1, H1-3-2**).
Release numbers based on hatchery records.
Pond screens removed 5/15/81 and fish allowed to
volitionally migrate until 6/12 when pond was drained
to force remaining fish out. Fish ranged in size
from 120 to 59/1b.

DISEASE HISTORY OF 1980 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Weyco** Pond

Brood: 1980

Tag Code: **H1-3-2**

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
02/11/81	-0-	Coagulated yolk & costia	Formalin
06/04/81	-0-	Eye cataracts in 17% of fish examined	None

1981 BROOD

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Abernathy

Brood: 1981

Tag Code: 5-10-58

Purpose: Contribution

Stock: Abernathy

Sampling Method: All fish in ponds passed over NMFS sampling table
and 7.5% removed for tagging.

Beginning Sampling Date: 02/19/82

Ending Sampling Date: 02/24/82

Sampling Comment: Fish in reuse ponds sampled first.

Beginning Tagging Date: 02/22/82

Ending Tagging Date: 02/26/82

Tagging Size: 200/1b

Tagging Comment: Tagged fish returned to untagged populations from
which they came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
04/30/82	11600	900	127600	43/1b	Abernathy Creek
04/20/82	12100	900	132800	42/1b	Abernathy Creek
06/01/82	66900	5300	734100	55/1b	Abernathy Creek

Release Comment: Releases made 4/20-22. Fish reared in two
different water supplies, reuse well water and
creek water, until 4/30/82. All reuse water fish
released on that date. Release numbers based on
hatchery records, but checked by prerelease
sampling of 4 of 6 ponds for marked to unmarked
ratios on 4/8-9. Petersen population estimate of
95% confidence limit was 1,562,400 to 1,687,900.

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Abernathy

Brood: 1981

Tag Code: 5-10-58

Disease History:

Starting date -----	Ending date mm-----	Disease -----	Treatment -----
03/03/82	03/11/82	Fin rot & cold water disease in creek water ponds	TM-50
04/20/82	-0-	Bacterial gill disease in reuse ponds	Hyamine, loadings reduced, Diquat in reuse system 4/27
01/18/82	-0-	Bacterial gill disease in reuse system	Hyamine, Diquat 1/25-28, TM-50 beginning 2/2.

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Abernathy

Brood: 1981

Tag Code: 5-10-59

Purpose: Contribution

Stock: Abernathy

Sampling Method: All fish in ponds passed over NMFS sampling table
and 2.5% removed for tagging.

Beginning Sampling Date: 02/19/82

Ending Sampling Date: 02/24/82

Sampling Comment: See code 5-10-58

Beginning Tagging Date: 02/23/82

Ending Tagging Date: 02/24/82

Tagging Size: 200/1b

Tagging Comment: See code 5-10-58

Release Date _---mm--	Tagged -----	Ad-only -----	Untagged -----	Size -----	Location -----
04/20/82	4000	400	44300	42/1b	Abernathy Creek
06/01/82	22000	2100	244600	55/1b	Abernathy Creek
04/30/82	3800	400	42500	43/1b	Abernathy Creek

Release Comment: -0-

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Abernathy

Brood: 1981

Tag Code: 5-10-59

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----		-----
-0-	-0-	See code 5-10-58	-0-

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Big Creek

Brood: 1981

Tag Code: 7-24-10

Purpose: Contribution

Stock: Big Creek

Sampling Method: All fish in ponds passed over NMFS sampling table
and 2.5% removed for tagging.

Beginning Sampling Date: 04/21/82

Ending Sampling Date: 04/27/82

Sampling Comment: -0-

Beginning Tagging Date: 04/21/82

Ending Tagging Date: 04/27/82

Tagging Size: 130/1b

Tagging Comment: Tagged fish returned to untagged populations from
which they came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/17/82	131200	4300	4400800	75/1b	Big Creek

Release Comment: Release numbers based on prerelease sampling of
about 25% of the ponds for marked to unmarked
ratios. The resulting estimate was over 1,000,000
below the hatchery records estimate.

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Big Creek

Brood: 1981

Tag Code: 7-24-10

Disease History:

Starting date	Ending date -----	Disease	Treatment
04/17/82	-0-	ERM	No treatment

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Bonneville

Brood: 1981

Tag Code: 7-24-7

Purpose: Contribution and rearing environment

Stock: Bonneville

Sampling Method: All fish in ponds passed over NMFS sampling table
and 10% removed for tagging.

Beginning Sampling Date: 04/08/82

Ending Sampling Date: 04/12/82

Sampling Comment: -0-

Beginning Tagging Date: 04/08/82

Ending Tagging Date: 04/12/82

Tagging Size: 130/1b

Tagging Comment: Tagged fish returned to untagged populations from
which they came. Fish reared in well water and
are part of well water vs. creek water rearing
comparison. See code 7-24-8.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
04/23/82	105900	700	1086100	80/1b	Tanner Creek

Release Comment: Release numbers based on prerelease sampling of 1
of the 4 ponds at the 1% level for marked and
unmarked fish. Petersen population **estimate 95%**
confidence interval, 1,111,828-1,283,280. 268,300
fish reared in well water ponds released for study
of bypass system in new powerhouse at Bonneville
Dam. 261,800 of this release were cold branded.

DISEASE HISTORY OF **1981** BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Bonneville

Brood: **1981**

Tag Code: **7-24-7**

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
03/12/82	-0-	Costia	Formalin

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Bonneville

Brood: 1981

Tag Code: 7-24-8

Purpose: Contribution and rearing environment

Stock: Bonneville

Sampling Method: All fish in ponds passed over NMFS sampling table
and 5% removed for tagging,

Beginning Sampling Date: 04/12/82

Ending Sampling Date: 04/15/82

Sampling Comment: -0-

Beginning Tagging Date: 04/13/82

Ending Tagging Date: 04/15/08

Tagging Size: 160/1b

Tagging Comment: Tagged fish returned to untagged populations from
which they came. Fish reared in creek water and
are part of well water vs. creek water rearing
comparison. See code 7-24-7.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/21/82	96800	1500	2095500	80/1b	Tanner Creek

Release Comment: Release numbers based on prerelease sampling of 3
of 10 ponds at the 1% level for marked and
unmarked fish. Releases occurred on three dates
one week apart; 5/21, 5/28, and 6/4. Petersen
population estimate, 95% confidence interval
2,004,719-2,383,009.

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Bonneville

Brood: 1981

Tag Code: 7-24-8

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
-0-	-0-	-0-	-0-

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Bonneville

Brood: 1981

Tag Code: 7-26-63

Purpose: **Contrubution** and release site

Stock: Bonneville

Sampling Method: All fish in well water ponds passed over NMFS
sampling table and 5% removed for tagging.

Beginning Sampling Date: 03/31/82

Ending Sampling Date: 04/05/82

Sampling Comment: -0-

Beginning Tagging Date: 03/31/82

Ending Tagging Date: 04/05/82

Tagging Size: 120/1b

Tagging Comment: Tagged fish returned to untagged populations from
which they came. Only a portion of the sampled
fish tagged in final pond because of shortage of
tags.

Release Date	Tagged	Ad-only	Untagged	Size	Location
.....	-----		-----	-----	-----
04/14/82	102400	2000	2724500	92/1b	Umatilla River

Release Comment: Fish transported to Umatilla River and released
4/14-20 below 3-Mile Dam. Only well water reared
fish represented by tag code. None of the 290,700
creek water reared fish tagged. Release numbers
of well water reared fish based on prerelease
sampling, but numbers of creek water reared fish
based on hatchery records.

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Bonneville

Brood: 1981

Tag Code: 7-26-63

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
03/12/82	-0-	Bacterial gill disease	Potassium permanganate

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Clatsop** County Ponds

Brood: 1981

Tag Code: 7-24-12

Purpose: Contribution

Stock: Bonneville

Sampling Method: Fish seined from 1/2 acre pond during feeding operation and captured fish **systematiclly** dipnetted to remove 5% for tagging.

Beginning Sampling Date: -0-

Ending Sampling Date: -0-

Sampling Comment: -0-

Beginning Tagging Date: 05/06/82

Ending Tagging Date: 05/13/82

Tagging Size: 153/1b

Tagging Comment: Tagged fish returned to untagged population in South Fork Pond. Combine with code 7-24-12.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/28/82	79700	1100	1838100	80/1b	South Fork Klaskanine River

Release Comment: Release numbers based on prerelease sampling for marked and unmarked fish.

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Clatsop** County Ponds

Brood: 1981

Tag Code: 7-24-12

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
-0-	-0-	None recorded from 3/82 to release	-0-

HATCHERY RELEASE DATA FOR **1981** BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Clatsop** County Ponds

Brood: **1981**

Tag Code: **7-24-13**

Purpose: Contribution

Stock: Bonneville

Sampling Method: See code **7-24-12**

Beginning Sampling Date: **-0-**

Ending Sampling Date: **-0-**

Sampling Comment: **-0-**

Beginning Tagging Date: **05/06/82**

Ending Tagging Date: **05/13/82**

Tagging Size: **153/1b**

Tagging Comment: See code **7-24-12**

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/28/82	33900	500	788000	80/1b	South Fork Klaskanine River

Release Comment: See code **7-24-12**

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Clatsop County Ponds

Brood: 1981

Tag Code: 7-24-13

Disease History:

Starting date	Ending date -----	Disease -----	Treatment -----
-0-	-0-	See code 7-24-12	-0-

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Cowlitz

Brood: 1981

Tag Code: 63-20-32

Purpose: Contribution

Stock: Cowlitz

Sampling Method: See code 63-24-62

Beginning Sampling Date: 06/14/82

Ending Sampling Date: 07/01/82

Sampling Comment: -0-

Beginning Tagging Date: 06/14/82

Ending Tagging Date: 07/02/82

Tagging Size: 200/1b

Tagging Comment: These were smaller fish (200-250/1b) sorted at time of tagging to examine influence of size at release on contribution. Tagged fish returned to untagged populations from which they came. Combine with code 63-24-62.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/29/82	14100	-0-	-0-	134/1b	Cowlitz River
06/24/82	7200	-0-	-0-	83/1b	Cowlitz River
07/08/82	20000	-0-	-0-	87/1b	Cowlitz River

Release Comment: See code 63-24-62

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Cowlitz

Brood: 1981

Tag Code: 63-20-32

Disease History:

Starting date -----	Ending date -----	Disease	Treatment
-0-	-0-	See code 63-24-62	-0-

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Cowlitz

Brood: 1981

Tag Code: 63-24-50

Purpose: Contribution

Stock: Cowlitz

Sampling Method: See code 63-24-62

Beginning Sampling Date: 07/01/82

Ending Sampling Date: 07/01/82

Sampling Comment: -0-

Beginning Tagging Date: 07/02/82

Ending Tagging Date: 07/02/82

Tagging Size: 114/1b

Tagging Comment: This code to be combined with 63-26-3

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
09/29/82	8300	100	151600	28/1b	Cowlitz River

Release Comment: Release numbers based on hatchery records.

DISEASE HISTORY OF **1981** BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Cowlitz

Brood: **1981**

Tag Code: **63-24-50**

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
-0-	-0-	See code 63-26-3	-0-

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Cowlitz

Brood: 1981

Tag Code: 63-24-62

Purpose: Contribution

Stock: Cowlitz

Sampling Method: All fish in ponds passed through WDF incremental
sampler and 3% removed for tagging.

Beginning Sampling Date: 06/14/82

Ending Sampling Date: 07/01/82

Sampling Comment: -0-

Beginning Tagging Date: 06/14/82

Ending Tagging Date: 07/02/82

Tagging Size: 80/1b

Tagging Comment: Fish ranged in size from 80 to 180/1b. 8244
mortalities and pinheads sorted during tagging.
Tagged fish returned to unmarked populations from
which they came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
07/08/82	98100	2200	3245500	84/1b	Cowlitz River
05/11/82	-0-	-0-	119600	131/1b	Cowlitz River
06/24/82	66400	1200	2027100	83/1b	Cowlitz River
06/29/82	34700	1100	1418700	126/1b	Cowlitz River
06/03/82	-0-	-0-	200800	160/1b	Cowlitz River

Release Comment: -0-

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Cowlitz

Brood: 1981

Tag Code: 63-24-62

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
06/15/82	-0-	Costia	Formalin
04/27/82	-0-	Costia	Formalin
01/15/82	03/01/82	Costia	Formalin
06/28/82	-0-	Dorsal fin erosion: 30% incidence in 2 ponds	No treatment

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Cowlitz

Brood: 1981

Tag Code: 63-26-3

Purpose: Contribution

Stock: Cowlitz

Sampling Method: See code 63-24-62

Beginning Sampling Date: 06/28/82

Ending Sampling Date: 07/01/82

Sampling Comment: -0-

Beginning Tagging Date: 06/28/82

Ending Tagging Date: 07/02/82

Tagging Size: 114/1b

Tagging Comment: Sorted 824 mortalities and pinheads from fish to be tagged. Tagged fish returned to untagged populations from which they came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
.....	-----	-----	-----	-----	-----
09/29/82	47500	900	795600	30/1b	Cowlitz River

Release Comment: Fish ranged in size from 28 to 33 fish/lb.
Release numbers based on hatchery records.

DISEASE HISTORY OF **1981** BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Cowlitz

Brood: **1981**

Tag Code: **63-26-3**

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
04/27/82	-0-	Costia	Formalin
01/15/82	03/01/82	Costia	Formalin
08/05/82	-0-	Bacterial hemorrhagic septicemia	TM-50
06/15/82	-0-	Costia	Formalin

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Elokomin**

Brood: 1981

Tag Code: 63-22-42

Purpose: Contribution and incubation substrate test

Stock: **Elokomin**, Bonneville, Spring Creek

Sampling Method: All fish in ponds passed through WDF incremental
sampler and 6% removed for tagging.

Beginning Sampling Date: 03/25/82

Ending Sampling Date: 03/26/82

Sampling Comment: Fish sampled at time of transfer to 2 gravel
bottomed rearing ponds. Fish to be tagged held
separate from fish not destined for tagging.

Beginning Tagging Date: 04/29/82

Ending Tagging Date: 04/30/82

Tagging Size: 230/1b

Tagging Comment: Tagged fish returned to untagged population from
which they came. 18,700 pinheads sorted and not
tagged. This code is control group incubated
without substrate.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/15/82	52200	1000	1246900	80/1b	Elochoman River

Release Comment: Fish ranged in size for 77 to 83/1b at release.
Release numbers based on hatchery records.

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Elokomin**

Brood: 1981

Tag Code: 63-22-42

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
11/01/81	12/31/81	Coagulated yolk: 1,362,470 eggs lost.	No treatment
04/01/82	05/01/82	Drop out disease: losses 10% of population	No treatment

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Elokomin**

Brood: 1981

Tag Code: 63-22-60

Purpose: **Contribution** and incubation **substrate** test

Stock: **Elokomin**, Bonneville, Spring Creek

Sampling Method: See code 63-22-42

Beginning Sampling Date: 03/25/82

Ending Sampling Date: 03/26/82

Sampling Comment: See code 63-22-42

Beginning Tagging Date: 04/26/82

Ending Tagging Date: 04/28/82

Tagging Size: 230/1b

Tagging Comment: Tagged fish returned to untagged population from which they came. This code group incubated on **vexar** substrate. 17,000 pinheads sorted and not tagged. High tag loss due to machine malfunction and operator error.

Release Date	Tagged	Ad-only	Untagged	Size	Location
.....		-----	-----		
06/15/82	50600	2000	1247400	80/1b	Elochoman River

Release Comment: See code 63-22-42

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Elokomin

Brood: 1981

Tag Code: 63-22-60

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
-0-	-0-	See code 63-22-42	-0-

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Grays River

Brood: 1981

Tag Code: 63-24-58

Purpose: Contribution and incubation substrate test

Stock: Spring Creek

Sampling Method: All fish in ponds passed through WDF incremental
sampler and 5% removed for tagging.

Beginning Sampling Date: 05/03/82

Ending Sampling Date: 05/03/82

Sampling Comment: Sampling took place at time of transfer from
raceways to rearing ponds. Fish to be tagged
held in raceways until tagging.

Beginning Tagging Date: 05/06/82

Ending Tagging Date: 05/06/82

Tagging Size: 150/1b

Tagging Comment: Tagged fish returned to untagged populations from
which they came. This code is control group with
no incubation on substrate. 1850 pinheads and
fish with **fungused** tails sorted and not tagged,
Fish ranged in size from 150-180/1b at tagging.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/01/82	27500	1100	279400	87/1b	Grays River

Release Comment: Release numbers based on prerelease sampling for
tagged and untagged fish.

DISEASE HISTORY OF **1981** BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Grays River

Brood: **1981**

Tag Code: **63-24-58**

Disease History:

Starting date	Ending date	Disease	Treatment
02/08/82	-0-	Costia	Formalin
01/03/82	05/30/82	Coagulated yolk	No treatment

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Grays River

Brood: 1981

Tag Code: 63-24-59

Purpose: Contribution and incubation substrate test

Stock: Spring Creek

Sampling Method: See code 63-24-58

Beginning Sampling Date: 05/03/82

Ending Sampling Date: 05/03/82

Sampling Comment: Wee code 63-24-58

Beginning Tagging Date: 05/07/82

Ending Tagging Date: 05/08/82

Tagging Size: 150/lb

Tagging Comment: Tagged fish returned to untagged populations from which they came. This code **group incubated** on **biorings**. 3,000 pinheads and fish with **fungused** tails sorted and not tagged. Fish ranged in size from 150-180/lb.

Release Date	Tagged	Ad-only	Untagged	Size	Location
.....	-----	-----	-----	-----	-----
06/01/82	45500	1600	471400	87/lb	Grays River

Release Comment: See code 63-24-58

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Grays River

Brood: 1981

Tag Code: 63-24-59

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
-0-	-0-	See code 63-24-58	-0-

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Kalama** Falls

Brood: 1981

Tag Code: 63-24-60

Purpose: Contribution

Stock: **Kalama** Falls

Sampling Method: All fish in ponds passed through WDF incremental
sampler and 5% removed for tagging.

Beginning Sampling Date: 04/27/82

Ending Sampling Date: 04/28/82

Sampling Comment: Sampling took place at time of splitting to
holding ponds and raceways. Fish destined for
tagging held in one raceway.

Beginning Tagging Date: 05/18/82

Ending Tagging Date: 05/28/82

Tagging Size: 200/lb

Tagging Comment: Tagged fish returned to untagged populations from
which they came. 20,623 pinheads and mortalities
sorted and not tagged.

Release Date -m-m----	Tagged -----	Ad-only	Untagged -----	Size -----	Location -- _____ -_----
06/10/82	13900	100	286100	130/lb	Kalama River
07/02/82	163200	500	3089100	100/lb	Kalama River
03/11/82	-0-	-0-	779000	822/lb	Kalama River

Release Comment: -0-

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Kalama** Falls

Brood: 1981

Tag Code: 63-24-60

Disease History:

Starting date	Ending date -----	Disease -----	Treatment -----
04/30/82	-0-	Bacterial gill disease	Diquat for 4 days
06/25/82	-0-	Bacterial hemorrhagic septicemia & frunculosis (possible)	TM-50
06/10/82	-0-	Costia & bacterial hemorrhagic septicemia	Formalin , TM-50, & reduced loading
02/09/82	-0-	Bacterial hemorrhagic septicemia	TM-50
03/09/82	-0-	Bacterial gill disease, one pond	Reduced loading

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Klaskanine**

Brood: 1981

Tag Code: 7-24-9

Purpose: Contribution

Stock: Bonneville and Big Creek

Sampling Method: All fish in ponds passed over NMFS sampling table
and 2.5% removed for tagging.

Beginning Sampling Date: 05/18/82

Ending Sampling Date: 05/21/82

Sampling Comment: -0-

Beginning Tagging Date: 05/18/82

Ending Tagging Date: 05/21/82

Tagging Size: 95/1b

Tagging Comment: Unrecorded number of pinheads sorted from
population obtained for tagging and not tagged.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/07/82	100300	1000	1927000	85/1b	North Fork Klaskanine River

Release Comment: Release numbers based on prerelease sampling of 5
of 11 ponds at the 1% level for marked and
unmarked fish. Large size variation at release
with a high incidence of pinheads. Petersen
population estimate, 95% confidence interval,
1,862,004-2,269,404. Hatchery records estimate
3,307,785.

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Klaskanine

Brood: 1981

Tag Code: 7-24-9

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
04/17/82	-0-	ERM	10 ponds treated with formalin
04/28/82	-0-	ERM	8 ponds treated with sulfa

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Klickitat**

Brood: 1981

Tag Code: 63-21-57

Purpose: Contribution

Stock: Spring Creek, **Klickitat**

Sampling Method: All but one pond of fish passed through WDF
incremental sampler and 5% removed for tagging.

Beginning Sampling Date: 03/23/82

Ending Sampling Date: 03/24/82

Sampling Comment: Sampling occurred at time of splitting fish to
dirt rearing ponds and raceways. Fish to be
tagged held in one raceway. One pond not sampled
because of disease outbreak.

Beginning Tagging Date: 04/14/82

Ending Tagging Date: 04/27/82

Tagging Size: 214/1b

Tagging Comment: 1563 fish with eroded tails not tagged. Wire
shortage resulted in about 10,000 sampled fish not
being tagged.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/04/82	204100	2000	3473600	83/1b	Klickitat River

Release Comment: Release numbers based on hatchery records.

DISEASE HISTORY OF **1981** BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Klickitat**

Brood: **1981**

Tag Code: **63-21-57**

Disease History:

Starting date -----	Ending date mm---mm-	Disease	Treatment
04/14/82	-0-	Costia , all ponds	Formalin
05/05/82	-0-	Tail rot & gill fungus, one pond	No treatment
01/03/82	-0-	Coagulated yolk	No treatment
03/02/82	-0-	Tail rot in small number of fish	No treatment
05/19/82	-0-	Costia , one pond	No treatment
04/14/82	-0-	Bacterial hemorrhagic septicemia in 3 ponds	TM-50 & Sulmet in food
03/24/82	-0-	Bacterial hemorrhagic septicemia in 1 pond	Furox 50 for 14 days

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Little White Salmon

Brood: 1981

Tag Code: 5-4-35

Purpose: Contribution

Stock: Spring Creek & Little White Salmon

Sampling Method: Systematic **dipnet** and **NMFS** sampling table used to remove 2.5% of fish from ponds for tagging.

Beginning Sampling Date: 05/17/82

Ending Sampling Date: 05/20/82

Sampling Comment: 27 ponds sampled with sampling table, 12 ponds systematically dipnetted because could not reach ponds with fish pump attached to sampling table.

Beginning Tagging Date: 05/18/82

Ending Tagging Date: 05/21/82

Tagging Size: 93/1b

Tagging Comment: Tagged fish returned to populations of untagged fish from which they came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
.....		-----	-----	-----	
06/02/82	101300	1500	3933100	93/1b	Little White Salmon River

Release Comment: Releases made on 6/2 & 3. Release numbers based on hatchery records. Marked fish showing some fungus around adipose clip at release.

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Little White Salmon

Brood: 1981

Tag Code: 5-4-35

Disease History:

Starting date	Ending date -----	Disease	Treatment
01/28/82	-0-	White spot in some fish	No treatment

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Little White Salmon

Brood: 1981

Tag Code: 5-4-36

Purpose: Contribution

Stock: Spring Creek and Little White Salmon

Sampling Method: See code 5-4-35

Beginning Sampling Date: 05/17/82

Ending Sampling Date: 05/20/82

Sampling Comment: See code 5-4-35

Beginning Tagging Date: 05/21/82

Ending Tagging Date: 05/26/82

Tagging Size: 93/1b

Tagging Comment: See code 5-4-35

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	- - - - -	-----	-----
06/02/82	98500	1800	3902400	93/1b	Little White Salmon River

Release Comment: See code 5-4-35

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Little White Salmon

Brood: 1981

Tag Code: 5-4-36

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
-0-	-0-	See code 5-4-35	-0-

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Lower Kalama

Brood: 1981

Tag Code: 63-24-63

Purpose: Contribution

Stock: Kalama

Sampling Method: All fish in ponds passed through the WDF
incremental sampler and 5% removed for tagging.

Beginning Sampling Date: 04/28/82

Ending Sampling Date: 05/07/82

Sampling Comment: Fish sampled at time of transfer to asphalt and
dirt rearing ponds. Fish to be tagged held in
raceways.

Beginning Tagging Date: 06/01/82

Ending Tagging Date: 06/10/82

Tagging Size: 150/lb

Tagging Comment: Tagged fish returned to untagged populations from
which they came.

Release Date -----	Tagged -----	Ad-only ___m--w-___	Untagged ___-__-___	Size -----	Location -----
03/27/82	-O-	-o-	1314500	750/lb	Kalama River
06/25/82	71900	1200	1514900	110/lb	Kalama River
06/13/82	67500	400	1512100	125/lb	Kalama River

Release Comment: -0-

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Lower Kalama

Brood: 1981

Tag Code: 63-24-63

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
04/18/82	-0-	Costia	Formalin
04/28/82	-0-	Clubbed gill, gill bacteria, & air bladder fungus	Reduced pond loading

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **OxBow**

Brood: **1981**

Tag Code: **7-23-30**

Purpose: Contribution

Stock: Bonneville

Sampling Method: All fish in ponds passed over NMFS sampling table and 2.5% removed for tagging.

Beginning Sampling Date: 05/10/82

Ending Sampling Date: 05/11/82

Sampling Comment: -0-

Beginning Tagging Date: 05/10/82

Ending Tagging Date: 05/12/82

Tagging Size: 120/1b

Tagging Comment: Tagged in **conjunction** with code 7-24-11 with rotation of tagging personnel to ensure statistical replicates. Tagged fish returned to populations from which they came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/04/82	52300	700	2083800	78/1b	Tanner Creek

Release Comment: Fish reared at **OxBow** Hatchery from hatch to 5/7/82. Transferred to Bonneville at 141 fish/lb. Fish released on 3 dates; 6/4, 6/17, and 6/25. Release numbers based on prerelease sampling 2 of 6 ponds at the 1% level for marked and unmarked fish. Petersen population estimate, for codes 7-23-30 & 7-24-11 combined, 95% confidence interval, 3,864,235-4,698,085.

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: OxBow

Brood: 1981

Tag Code: 7-23-30

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
-0-	-0-	None recorded	-0-

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **OxBow**

Brood: **1981**

Tag Code: **7-24-11**

Purpose: Contribution

Stock: Bonneville

Sampling Method: See code 7-23-30

Beginning Sampling Date: **05/10/82**

Ending Sampling Date: **05/11/82**

Sampling Comment: **-0-**

Beginning Tagging Date: **05/10/82**

Ending Tagging Date: **05/12/82**

Tagging Size: **120/1b**

Tagging Comment: See code 7-23-30

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/04/82	52500	700	2092200	78/1b	Tanner Creek

Release Comment: See code 7-23-30

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: OxBow

Brood: 1981

Tag Code: 7-24-11

Disease History:

Starting date	Ending date	Disease	Treatment
-0-	-0-	None recorded	-0-

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Priest Rapids

Brood: 1981

Tag Code: 63-22-52

Purpose: Contribution

Stock: Priest Rapids, Bonneville & Kalama Falls brights

Sampling Method: 5% by weight removed for tagging by seining upper, middle, & lower sections of ponds. Weight of entire population estimated from hatchery records.

Beginning Sampling Date: 05/12/82

Ending Sampling Date: 05/13/82

Sampling Comment: Fish destined for tagging held in vinyl raceways and those not to be tagged held in divided spawning channel.

Beginning Tagging Date: 05/13/82

Ending Tagging Date: 06/02/82

Tagging Size: 125/lb

Tagging Comment: 56,000 pinheads sorted and not tagged.

Release Date -----	Tagged -----	Ad-only -----	Untagged -----	Size e-v---	Location -----
06/16/82	130600	400	2172100	77/lb	Columbia River
05/24/82	131600	400	2188200	90/lb	Columbia River

Release Comment: -0-

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Priest Rapids

Brood: 1981

Tag Code: 63-22-52

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
03/01/81	05/15/82	Light bacterial gill & high loss of pinheads	No treatment; mortalities 99,600-3/82, 240,200-4/82, 499,300-5/82

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Priest Rapids

Brood: 1981

Tag Code: 63-24-56

Purpose: Contribution

Stock: Priest Rapids

Sampling Method: Systematic **dipnet** sampling to remove 5% for tagging.

Beginning Sampling Date: 03/15/82

Ending Sampling Date: 03/15/82

Sampling Comment: Samples from 4 vinyl raceways at time of transfer to adult holding pond. Fish to be tagged retained in vinyl raceway.

Beginning Tagging Date: 03/30/82

Ending Tagging Date: 03/31/82

Tagging Size: 165/1b

Tagging Comment: Tagged fish returned to untagged population from which they came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/18/82	48700	900	836400	67/1b	Columbia River

Release Comment: Release numbers based on hatchery records.

DISEASE HISTORY OF **1981** BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Priest Rapids

Brood: 1981

Tag Code: 63-24-56

Disease History:

Starting date -----	Ending date -----	Disease	Treatment
05/12/82	-0-	Bacterial gill disease & costia on small fish (175/1b)	Increased water flows

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Sea Resources

Brood: 1981

Tag Code: 63-24-57

Purpose: Contribution

Stock: Spring Creek, Chinook River

Sampling Method: Systematic **dipnet** sampling to remove 5% for tagging.

Beginning Sampling Date: 04/01/82

Ending Sampling Date: 04/01/82

Sampling Comment: 8 standard ponds and one dirt pond sampled. Dirt pond only partially sampled because of muddy water and inadequate seine.

Beginning Tagging Date: 04/06/82

Ending Tagging Date: 04/07/82

Tagging Size: 125/1b

Tagging Comment: Fish ranged from 125 - 240/1b. Tagged fish returned to untagged populations from which they came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
04/13/82	1800	100	31600	125/1b	Chinook River
05/03/82	2500	100	43600	79/1b	Chinook River
03/26/82	-0-	-0-	88200	210/1b	Chinook River
04/24/82	23000	1300	401000	93/1b	Chinook River
05/03/82	11000	600	218400	98/1b	Chinook River
04/01/82	6700	400	116400	162/1b	Chinook River.

Release Comment: -0-

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Sea Resources

Brood: 1981

Tag Code: 63-24-57

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
01/12/82	-0-	Coagulated yolk & tail rot (low incidence)	No treatment
03/15/82	-0-	Costia	Formalin

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1981

Tag Code: 5-10-50

Purpose: Contribution

Stock: Spring Creek

Sampling Method: All fish in ponds passed over NMFS sampling table
and 2.5% removed for tagging.

Beginning Sampling Date: 03/03/82

Ending Sampling Date: 03/18/82

Sampling Comment: -0-

Beginning Tagging Date: 03/03/82

Ending Tagging Date: 03/18/82

Tagging Size: 120/1b

Tagging Comment: Tagged fish returned to untagged populations from
which they came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
03/25/82	151400	3600	7045400	110/1b	Columbia River

Release Comment: Releases made on 3/25 & 3/26. Release numbers
base on **hatchery** records, but checked by prerelease
sampling of 5 of 20 ponds on 3/19-24 for marked to
unmarked ratios. Petersen population estimate
confidence limit 5,705,701 to 6,808,142.

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1981

Tag Code: 5-10-50

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
01/01/82	03/15/82	ERM & tail rot	Lowered water temperature to 47 2/12. Mortalities lower than past

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1981

Tag Code: 5-10-51

Purpose: Contribution

Stock: Spring Creek

Sampling Method: All fish in ponds passed over NMFS sampling table
and 2.5% removed for tagging.

Beginning Sampling Date: 03/05/82

Ending Sampling Date: 03/08/82

Sampling Comment: -0-

Beginning Tagging Date: 03/05/82

Ending Tagging Date: 03/08/82

Tagging Size: 110/lb

Tagging Comment: Tagged fish returned to untagged populations from
which they came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
04/15/82	38900	1000	2130200	78/lb	Columbia River

Release Comment: Release numbers based on hatchery records but
checked by prerelease sampling 2 of 6 ponds on
3/19-24 for marked to **unmarded** ratios. Petersen
population estimate 95% confidence limit 2,581,791
- 3,822,334

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1981

Tag Code: 5-10-51

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
01/15/82	04/15/82	ERM	Lowered water temperature to 47 2/12. Mortalities lower than past.

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1981

Tag Code: 5-10-52

Purpose: Contribution

Stock: Spring Creek

Sampling Method: All fish in ponds passed over NMFS sampling table
and 2.5% removed for tagging.

Beginning Sampling Date: 03/16/82

Ending Sampling Date: 03/19/82

Sampling Comment: -0-

Beginning Tagging Date: 03/16/82

Ending Tagging Date: 03/19/82

Tagging Size: 100/1b

Tagging Comment: Tagged fish returned to untagged populations from
which they came.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/20/82	58300	5300	2927700	48/1b	Columbia River

Release Comment: Release numbers based on hatchery records, but
checked by prerelease sampling 2 of 12 ponds on
3/19-24 for marked to unmarked ratios. Petersen
population estimated 95% confidence limit
3,309,794 - 4,860,287

DISEASE HISTORY OF **1981** BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1981

Tag Code: 5-10-52

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
01/15/82	05/15/82	ERM	Lowered water temperature to 47 2/12. Mortalities lower than past.
04/28/82	-0-	Gill ameoba	No treatment

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1981

Tag Code: 5-10-57

Purpose: Contribution and release location

Stock: Spring Creek

Sampling Method: All fish in ponds passed over NMFS sampling table
and 10% removed for tagging.

Beginning Sampling Date: 03/10/82

Ending Sampling Date: 03/15/82

Sampling Comment: -0-

Beginning Tagging Date: 03/10/82

Ending Tagging Date: 03/15/82

Tagging Size: 100/1b

Tagging Comment: Two ponds (2 & 4) of fish tagged for release above
John Day Dam. Combine with code 5-8-51.

Release Date	Tagged	Ad-only	Untagged	Size	Location
.....	-----	-----	-----	-----	-----
04/08/82	102300	2600	567100	79/1b	Umatilla River

Release Comment: Releases made on 4/8, 12, & 13. Release numbers
based on hatchery records. Release on 4/8 at
river mile 50, those on 5/12 & 13 at river mile 2
below 3-Mile Dam.

DISEASE HISTORY OF **1981** BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: **1981**

Tag Code: **5-10-57**

Disease History:

Starting date	Ending date -----	Disease	Treatment
01/15/82	04/08/82	ERM	Lowered water temperature to 47 2/12. Mortalities lower than past.

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1981

Tag Code: 5-7-53

Purpose: Contribution

Stock: Spring Creek

Sampling Method: All fish in ponds passed over NMFS sampling table
and 2.5% removed for tagging.

Beginning Sampling Date: 03/17/82

Ending Sampling Date: 03/17/82

Sampling Comment: -0-

Beginning Tagging Date: 03/17/82

Ending Tagging Date: 03/17/82

Tagging Size: 100/1b

Tagging Comment: Tagged fish returned to untagged populations from
which they came. Combine with code 5-7-54.

Release Date	Tagged	Ad-only	Untagged em	Size	Location
-----	-----	-----	-----	-----	-----
07/30/82	500	25	46300	17/1b	Columbia River

Release Comment: Release originally scheduled for August but power
failure caused an undetermined high mortality and
necessitated an early release. Release numbers
based on hatchery personnel estimates.

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1981

Tag Code: 5-7-53

Disease History:

Starting date mm-em-e-	Ending date -----	Disease	Treatment
01/15/82	05/15/82	ERM	Lowered water temperature to 47 2/12. Mortalities lower than past.
04/28/82	-0-	Gill amoeba	No treatment

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1981

Tag Code: 5-7-54

Purpose: Contribution

Stock: Spring Creek

Sampling Method: See code 5-7-53

Beginning Sampling Date: 03/17/82

Ending Sampling Date: 03/17/82

Sampling Comment: -0-

Beginning Tagging Date: 03/17/82

Ending Tagging Date: 03/17/82

Tagging Size: 100/1b

Tagging Comment: See code 5-7-53

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
07/30/82	400	25	46300	17/1b	Columbia River

Release Comment: See code 5-7-53

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1981

Tag Code: 5-7-54

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
-0-	-0-	See code 5-7-53	-0-

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1981

Tag Code: 5-8-51

Purpose: Contribution and release location

Stock: Spring Creek

Sampling Method: All fish in pond passed over NMFS sampling table
and 5% removed for tagging.

Beginning Sampling Date: 03/09/82

Ending Sampling Date: 03/10/82

Sampling Comment: -0-

Beginning Tagging Date: 03/09/82

Ending Tagging Date: 03/10/82

Tagging Size: 100/1b

Tagging Comment: One pond (20) of fish tagged for release above
John Day Dam. Combine with code 5-10-57.

Release Date	Tagged	Ad-only	Untagged	Size	Location
.....					
04/08/82	46700	1200	258400	79/1b	Umatilla River

Release Comment: See code 5-10-57

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Spring Creek

Brood: 1981

Tag Code: 5-8-51

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
01/15/82	04/08/82	ERM	Lowered water temperature to 47 2/12. Mortalities lower than past.

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Stayton**

Brood: **1981**

Tag Code: **7-26-62**

Purpose: Contribution

Stock: Bonneville

Sampling Method: Fish seined from edge of 20 acre gravel bottom
rearing pond to remove 5% for tagging.

Beginning Sampling Date: **04/06/82**

Ending Sampling Date: **04/19/82**

Sampling Comment: -0-

Beginning Tagging Date: **04/06/82**

Ending Tagging Date: **04/19/82**

Tagging Size: **160/lb**

Tagging Comment: Tagged fish returned to untagged population in
rearing pond.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
05/03/82	265800	11300	6473700	88/lb	Willamette River System

Release Comment: Fish transported to major tributaries of
Willamette River for release (**Willamette**, **Santiam**,
and **Molalla** rivers) from 5/3 to 5/21. Release
numbers based on systematic sampling for marked
and unmarked fish as transport trucks were loaded.

DISEASE HISTORY OF 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: Stayton

Brood: 1981

Tag Code: 7-26-62

Disease History:

Starting date	Ending date	Disease	Treatment
-----	-----	-----	-----
-0-	-0-	None recorded	-0-

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Washougal**

Brood: 1981

Tag Code: 63-24-61

Purpose: Contribution

Stock: **Washougal**, Bonneville

Sampling Method: Systematic **dipnet** and **WDF** incremental **samper** used to remove 5% of fish for tagging.

Beginning Sampling Date: 03/23/82

Ending Sampling Date: 05/11/82

Sampling Comment: **Dipnet** sampling occurred 3/23 during transfer of fish to dirt ponds. Incremental sampler used on 5/10 & 11 during transfer of fish to lagoon. Fish for tagging held in raceways.

Beginning Tagging Date: 06/01/82

Ending Tagging Date: 06/11/82

Tagging Size: 125/1b

Tagging Comment: Fish ranged in size from 125 - 175/1b. Tagged fish returned to untagged populations from which they came. 53,500 pinheads sorted and not tagged.

Release Date	Tagged	Ad-only	Untagged	Size	Location
-----	-----	-----	-----	-----	-----
06/30/82	167900	4300	5389800	90/1b	Washougal River
02/17/82	-0-	-0-	1016000	1019/1	Washougal River
07/06/82	2500	100	49000	85/1b	Washougal River
03/30/82	-0-	-0-	157500	590/1b	Washougal River

Release Comment: -0-

DISEASE HISTORY OF **1981** BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Washougal**

Brood: **1981**

Tag Code: **63-24-61**

Disease History:

Starting date mm-m----	Ending date mm-m-em-	Disease -----	Treatment -----
03/01/82	-0-	Coagulated yolk	No treatment
05/24/82	-0-	Costia	Formalin
04/15/82	-0-	Coagulated yolk: 1 pond	No treatment
03/19/82	-0-	Air bladder fungus: 1 pond	No treatment
05/03/82	-0-	Bacterial gill disease	Diquat
04/23/82	-0-	Low temperature disease	TM-50 in feed

HATCHERY RELEASE DATA FOR 1981 BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Weyco** Pond

Brood: 1981

Tag Code: **H1-4-6**

Purpose: Contribution

Stock: Spring Creek, **Kalama**, **Washougal**, Bonneville, Grays River

Sampling Method: Fish were systematically dipnetted to remove 5% for tagging.

Beginning Sampling Date: 02/02/82

Ending Sampling Date: 02/02/82

Sampling **Comment**: Sampling took place at Grays River Hatchery. Fish not destined for tagging moved to **Weyco** Pond. Fish to be tagged held at Gray River Hatchery.

Beginning Tagging Date: 03/31/82

Ending Tagging Date: 04/20/82

Tagging Size: **440/1b**

Tagging **Comment**: Tagging took place at Grays River Hatchery. Fish moved to **Weyco** Pond after tagging. Half length tag used. **35,000** fish averaging **873/1b** sorted and not tagged.

Release Date m--m----	Tagged -----	Ad-only -----	Untagged -----	Size -----	Location -----
06/18/82	217100	7600	4270700	100/1b	Alder Creek

Release **Comment**: Release numbers based on hatchery records. An estimated **50,000** to **100,000** fish died at release because of low **D. O.** in Alder Creek.

DISEASE HISTORY OF **1981** BROOD CONTRIBUTION STUDY FALL CHINOOK SALMON

Hatchery: **Weyco** Pond

Brood: **1981**

Tag Code: **H1-4-6**

Disease History:

Starting date -----	Ending date -----	Disease -----	Treatment -----
02/08/82	-0-	Costia at Grays River	Formlin
01/03/82	05/30/82	Coagulated yolk at Grays River & Elokomin hatcheries	No treatment

APPENDIX B

Computation of the Values for the Fishery Contribution of Fall Chinook
Salmon from Columbia River Rearing Facilities

1978 BROOD

appendix Table 1--Calculation of net value for 1978 brood fall
chinook salmon from BIG CREEK HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	301	0.4568	\$ 28.16	12.8622
Washington Ocean	107	0.1624	\$ 28.16	4.5723
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	9	0.0137	\$ 20.88	.2852
Oregon Troll	25	0.0379	\$ 24.50	.9294
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	85	0.1290	\$ 28.54	3.6812
Total Commercial	527	0.7997		18.7780

Weighted average value per commercial fish = \$23.48

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	63	0.0956	\$ 105.00	10.0379
Washington Ocean	31	0.0470	\$ 105.00	4.9393
Puget Sound	35	0.0531	\$ 105.00	5.5766
Oregon Ocean	2	0.0030	\$ 88.00	.2671
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	1	0.0015	\$ 96.00	.1457
Total Sport	132	0.2003		20.9666

Weighted average value per recreational fish = \$ 104.67

Weighted average value per fish for all uses = \$ 39.74

Appendix Table 2--Calculation of net value for 1978 brood fall chinook salmon from BONNEVILLE HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	368	0.4309	\$ 28.16	12.1345
Washington Ocean	158	0.1850	\$ 28.16	5.2099
Washington Coastal Net	2	0.0023	\$ 26.19	.0613
Puget Sound	3	0.0035	\$ 20.88	.0733
Oregon Troll	57	0.0667	a 24.50	1.6353
California Troll	4	0.0047	\$ 21.51	.1007
Columbia River	101	0.1183	\$ 28.54	3.3753
Total Commercial.	693	0.8115		19.3334

Weighted average value per commercial fish = \$23.83

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	25	0.0293	\$ 105.00	3.0738
Washington Ocean	50	0.0585	\$ 105.00	6.1475
Puget Sound	79	0.0925	\$ 105.00	9.7131
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	a 88.00	0.0000
Columbia River	7	0.0082	\$ 96.00	.7869
Total Sport	161	0.1885		19.7213

Weighted average value per recreational fish = \$ 104.61

Weighted average value per fish for all uses = \$ 39.05

Appendix Table 3--Calculation of net value for 1978 brood fall chinook salmon from KLASKANINE HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	132	0.4231	\$ 28.16	11.9138
Washington Ocean	12	0.0385	\$ 28.16	1.0831
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	1	0.0032	\$ 20.88	.0669
Oregon Troll	34	0.1090	\$ 24.50	2.6699
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	105	0.3365	\$ 28.54	9.6048
Total Commercial	284	0.9103		160.702

Weighted average value per commercial fish = \$17.65

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	8	0.0256	\$ 105.00	2.6923
Washington Ocean	9	0.0288	\$ 105.00	3.0289
Puget Sound	11	0.0353	\$ 105.00	3.7019
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	28	0.0897		9.4231

Weighted average value per recreational fish = \$ 105.00

Weighted average value per fish for all uses = \$ 25.49

Appendix Table 4--Calculation of net value for 1978 brood fall chinook salmon from STAYTON POND

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	717	0.4872	\$ 28.16	13.7207
Washington Ocean	383	0.2035	\$ 28.16	5.7308
Washington Coastal Net	4	0.0021	\$ 26.19	0.557
Puget Sound	22	0.0117	\$ 20.88	.2441
Oregon Troll	106	0.0563	\$ 24.50	1.3799
California Troll	7	0.0037	\$ 21.51	0.800
Columbia River	149	0.0792	\$ 28.54	2.2595
<hr/>				
Total Commercial	1,588	0.8438		21.2905

Weighted average value per commercial fish = \$25.23

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	57	0.0303	\$ 105.00	3.1801
Washington Ocean	123	0.0654	\$ 105.00	6.8624
Puget Sound	99	0.0526	\$ 105.00	5.5234
Oregon Ocean	15	0.0080	\$ 88.00	.7014
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
<hr/>				
Total Sport	294	0.1562		16.2673

Weighted average value per recreational fish = \$ 104.13

Weighted average value per fish for all uses = \$ 37.56

Appendix Table 5--Calculation of net value for 1978 brood fall chinook salmon from SEA RESOURCES HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	5	0.2000	\$ 28.16	5.6320
Washington Ocean	3	0.1200	\$ 28.16	3.3792
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	12	0.4800	a 24.50	11.7600
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	5	0.2000	\$ 28.54	5.7080
Total Commercial	25	1.0000		20.9712

Weighted average value per commercial fish = \$20.97

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	0	0.0000	\$ 105.00	0.0000
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	0	0.0000		0.0000

Weighted average value per recreational fish = \$ 0.00

Weighted average value per fish for all uses = \$ 20.97

Appendix Table 6--Calculation of net value for 1978 brood fall chinook salmon from ABERNATHY HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0 0 0 0 0	a 34.27	0.0000
British Columbia	268	0 5 0 3 8	\$ 28.16	14.1859
Washington Ocean	76	0 1 4 2 9	\$ 28.16	4 0 2 2 9
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	4	0,0075	\$ 20.88	.1570
Oregon Troll	43	0.0808	\$ 24.50	1 9803
California Troll	5	0.0094	\$ 21.51	.2022
Columbia River	66	0.1241	\$ 28.54	3.5407
<hr/>				
Total Commercial	462	0.8684		20.6722

Weighted average value per commercial fish = \$23.80

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	8	0.0150	\$ 105.00	1.5790
Washington Ocean	30	0.0564	\$ 105.00	5.9211
Puget Sound	30	0.0564	\$ 105.00	5.7211
Oregon Ocean	2	0.0038	\$ 88.00	.3308
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
<hr/>				
Total Sport	70	0.1316		13.7519

Weighted average value per recreational fish = \$ 104.51

Weighted average value per fish for all uses = \$ 34.42

Appendix Table 7--Calculation of net value for 1978 brood fall
chinook salmon from BIG WHITE POND

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	78	0.2847	\$ 28.16	8.0164
Washington Ocean	72	0.2628	\$ 28.16	7.3997
Washington Coastal. Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	15	0.0547	\$ 20.88	1.1431
Oregon Troll	11	0.0401	\$ 24.50	.9836
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	41	0.1496	\$ 28.54	4.2706
Total Commercial	217	0.7920		17.6924

Weighted average value per commercial fish = \$22.34

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	1	0.0036	\$ 105.00	.3832
Washington Ocean	27	0.0985	\$ 105.00	10.3467
Puget Sound	19	0.0693	\$ 105.00	7.2810
Oregon Ocean	10	0.0365	\$ 88.00	3.2117
California Ocean	0	0.0000	a 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	57	0.2080		21.2226

Weighted average value per recreational fish = \$ 102.02

Weighted average value per fish for all uses = \$ 38.92

Appendix Table 8--Calculation of net value for 1978 brood fall
 chinook salmon From LITTLE WHITE HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	011.0000		\$ 34.27	0.0000
British Columbia	23	0.3485	\$ 28.16	9.8133
Washington Ocean	19	0.2879	\$ 28.16	8.1067
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	5	0.0758	\$ 24.50	1.8561
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	16	0.2424	\$ 28.54	6.9188
Total Commercial	63	0.9545		20.0185

Weighted average value per commercial fish = \$20.97

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	3	0.0455	\$ 105.00	4.7727
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	3	0.0455		4.7727

Weighted average value per recreational fish = \$ 105.00

Weighted average value per fish for all uses = \$ 24.79

Appendix Table 9--Calculation of net value for 1978 brood fall
chinook salmon from SPRING CREEK HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	1386	0.2749	\$ 28.16	7.7409
Washington Ocean	1053	0.2088	\$ 28.16	5.8811
Washington Coastal Net	27	0.0054	\$ 26.19	1.402
Puget Sound	49	0.0097	\$ 20.88	2.029
Oregon Troll	279	0.0553	\$ 24.50	1.3557
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	1211	0.2402	\$ 28.54	6.8548
Total Commercial	4,005	0.7943		15.5611

Weighted average value per commercial fish = \$19.59

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	235	0.0466	\$ 105.00	4.8939
Washington Ocean	477	0.0946	\$ 105.00	9.9336
Puget Sound	262	0.0520	\$ 105.00	5.4562
Oregon Ocean	61	0.0121	a 88.00	1.0647
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	2	0.0004	\$ 96.00	.0381
Total Sport	1,037	0.2057		21.3864

Weighted average value per recreational fish = \$ 103.98

Weighted average value per fish for all uses = \$ 36.95

Appendix Table 10--Calculation of net value for 1978 brood fall
chinook salmon from COWLITZ HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent % value
Alaska Troll	11	0.0356	\$ 34.27	1.2200
British Columbia	104	0.3366	\$ 28.16	9.4778
Washington Ocean	43	0.1392	\$ 28.16	3.9187
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	3	0.0097	\$ 20.88	.2027
Oregon Troll	36	0.1165	\$ 24.50	2.8544
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	32	0.1036	\$ 28.54	2.9556
Total Commercial	229	0.7411		17.7771

Weighted average value per commercial fish = \$23.99

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	1	0.0032	\$ 105.00	.3398
Washington Ocean	69	0.2233	\$ 105.00	23.4466
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	50	0.0324	\$ 88.00	2.8479
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	80	0.2589		26.6343

Weighted average value per recreational fish = \$ 102.88

Weighted average value per fish for all uses = \$ 44.41

Appendix Table 11--Calculation of net value for 1978 brood fall
chinook salmon from ELOKOMIN HA FCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	10	0.5882	\$ 28.16	16.5647
Washington Ocean	0	0.0000	\$ 28.16	0.0000
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon troll	0	0.0000	\$ 24.50	0.0000
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	4	0.2353	\$ 28.54	6.7153

Total Commercial	14	0.8235		16.8000

Weighted average value per commercial fish = \$20.40

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	3	0.1765	\$ 105.00	18.5295
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000

Total Sport	3	0.1765		18.5295

Weighted average value per recreational fish = \$ 105.00

Weighted average value per fish for all uses = \$ 35.33

Appendix Table 12--Calculation of net value for 1978 brood fall
chinook salmon from GRAYS RIVER HATCHERY

Commercial catch	Harked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	9	0.1268	\$ 34.27	4.3441
British Columbia	8	0.1127	\$ 28.16	3.1730
Washington Ocean	3	0.0423	\$ 28.16	1.1899
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	11	0.1549	\$ 24.50	3.7958
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	13	0.1831	\$ 28.54	5.2257
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Total Commercial	44	0.6197		12.6858

Weighted average value per commercial fish = \$20.47

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	8	0.1827	\$ 105.00	11.8310
Puget Sound	6	0.0845	\$ 105.00	8.8732
Oregon Ocean	2	0.0282	\$ 88.00	2.4789
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	11	0.1549	\$ 96.00	14.8733
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Total Sport	27	0.3803		38.0564

Weighted average value per recreational fish = \$ 100.07

Weighted average value per fish for all uses = \$ 50.74

Appendix Table 13--Calculation of net value for 1978 brood fall chinook salmon from KALAMA FALLS HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	4	0.0440	\$ 34.27	1.5064
British Columbia	46	0.5055	\$ 28.16	14.2347
Washington Ocean	11	0.1209	\$ 28.16	3.4040
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	0	0.0000	\$ 24.50	0.0000
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	13	0.1429	\$ 28.54	4.0771
Total Commercial	74	0.8132		19.2879

Weighted average value per commercial fish = \$23.72

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	1	0.0110	\$ 105.00	1.1539
Washington Ocean	0	0.0000	\$ 105.00	0.0000
Puget Sound	3	0.0330	\$ 105.00	3.4615
Oregon Ocean	3	0.0330	\$ 88.00	2.9011
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	50	0.1099	\$ 96.00	10.5494
Total Sport	17	0.1868		18.0659

Weighted average value per recreational fish = \$ 96.71

Weighted average value per fish for all uses = \$ 37.35

Appendix Table 14--Calculation of net value for 1978 brood fall chinook salmon from KLICKITAT HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	2	0.0082	\$ 34.27	.2821
British Columbia	106	0.4362	\$ 28.16	12.2838
Washington Ocean	42	0.1728	\$ 28.16	4.8672
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	2	0.0082	\$ 20.88	.1719
Oregon Troll	2	0.0288	\$ 24.50	.7058
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	46	0.1893	\$ 28.54	5.4026
Total Commercial	205	0.8436		18.4999

Weighted average value per commercial fish = \$21.93

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	24	0.0988	\$ 105.00	10.3704
Puget Sound	9	0.0370	\$ 105.00	3.8889
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	5	0.0206	\$ 96.00	1.9753
Total Sport	38	0.1564		16.2346

Weighted average value per recreational fish = \$ 103.82

Weighted average value per fish for all uses = \$ 34.73

Appendix Table 15--Calculation of net value for 1978 brood fall chinook salmon from PRIEST RAPIDS HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	73	0.3822	\$ 34.27	13.0980
British Columbia	82	0.4293	\$ 28.16	12.0896
Washington Ocean	5	0.0262	\$ 28.16	.7372
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	0	0.0000	\$ 24.50	0.0000
California Troll	4	0.0209	\$ 21.51	.4505
Columbia River	24	0.1257	\$ 28.54	3.5862
Total Commercial	188	0.9843		26.5009

Weighted average value per commercial fish = \$26.92

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	0	0.0000	\$ 105.00	0.0000
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	3	0.0157	\$ 88.00	1.3822
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	3	0.0157		1.3822

Weighted average value per recreational fish = \$ 88.00

Weighted average value per fish for all uses = \$ 27.88

Appendix Table 16--Calculation of net value for 1978 brood fall chinook salmon from SPEELYAI HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	25	0.0769	\$ 34.27	2.6362
British Columbia	110	0.3385	\$ 28.16	9.5311
Washington Ocean	30	0.0923	\$ 28.16	2.5994
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	1	0.0031	\$ 20.88	.0642
Oregon Troll	14	0.0431	\$ 24.50	1.0554
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	34	0.1046	\$ 28.54	2.9857
Total Commercial	214	0.6585		15.9909

Weighted average value per commercial fish = \$24.29

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	49	0.1508	\$ 105.00	15.8307
Puget Sound	22	0.0677	\$ 105.00	7.1077
Oregon Ocean	6	0.0185	\$ 88.00	1.6246
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	34	0.1046	\$ 96.00	10.0430
Total Sport	111	0.3415		34.6060

Weighted average value per recreational fish = \$ 101.32

Weighted average value per fish for all uses = \$ 50.60

Appendix Table 17--Calculation of net value for 1978 brood fall chinook salmon from TOUTLE HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	5	0.0370	\$ 34.27	1.2693
British Columbia	74	0.5481	\$ 28.16	15.4358
Washington Ocean	7	0.0519	\$ 28.16	1.4602
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	15	0.1111	\$ 24.50	2.7222
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	29	0.2148	\$ 28.54	6.1308
Total Commercial	130	0.9630		21.1022

Weighted average value per commercial fish = \$21.91

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	5	0.0370	\$ 105.00	3.8889
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	5	0.0370		3.8889

Weighted average value per recreational fish = \$ 105.00

Weighted average value per fish for all uses = \$ 24.99

Appendix Table 18--Calculation of net value for 1978 brood fall
chinook salmon from WASHOUGAL HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	8	0.0289	\$ 34.27	.9897
British Columbia	110	0.3971	\$ 28.16	11.1827
Washington Ocean	26	0.0939	\$ 28.16	2.6432
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	6	0.0217	\$ 20.88	.4523
Oregon Troll	18	0.0650	\$ 24.50	1.5921
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	67	0.2419	\$ 28.54	6.9032
Total Commercial	235	0.8484		17.1018

Weighted average value per commercial fish = \$20.16

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	1	0.0036	\$ 105.00	.3791
Washington Ocean	11	0.0397	\$ 105.00	4.1697
Puget Sound	12	0.0433	\$ 105.00	4.5487
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	18	0.0650	\$ 96.00	6.2383
Total Sport	42	0.1516		15.3357

Weighted average value per recreational fish = \$ 101.14

Weighted average value per fish for all uses = \$ 32.44

Appendix Table 19--Calculation of net value for 1978 brood fall
chinook salmon from WEYCO POND

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	2	0.0308	\$ 34.27	1.0545
British Columbia	37	0.5692	\$ 28.16	16.0295
Washington Ocean	5	0.0769	\$ 28.16	2.1662
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	0	0.0000	\$ 24.50	0.0000
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	15	0.2308	\$ 28.54	6.5862
Total Commercial	59	0.9077		19.4809

Weighted average value per commercial fish = \$21.46

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	5	0.0769	\$ 105.00	8.0769
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	1	0.0154	\$ 96.00	1.4769
Total Sport	6	0.0923		9.5539

Weighted average value per recreational fish = \$ 103.50

Weighted average value per fish for all uses = \$ 29.03

Appendix Table 20--Calculation of net value for 1978 brood fall chinook salmon from all hatcheries combined

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	139	0.0122	\$ 34.27	.4190
British Columbia	4165	0.3663	\$ 28.16	10.3154
Washington Ocean	2055	0.1807	\$ 28.16	5.0896
Washington Coastal Net	33	0.0029	\$ 26.19	.0760
Puget Sound	115	0.0101	\$ 20.88	.2112
Oregon Troll	673	0.0592	\$ 24.50	1.4502
California Troll	20	0.0018	\$ 21.51	.0378
Columbia River	2056	0.1808	\$ 28.54	5.1608
Total Commercial	9,256	0.8141		17.7800

Weighted average value per commercial fish = \$21.84

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	400	0.0352	\$ 105.00	3.6939
Washington Ocean	924	0.0813	\$ 105.00	8.5330
Puget Sound	587	0.0516	\$ 105.00	5.4209
Oregon Ocean	114	0.0100	\$ 88.00	.8823
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	89	0.0078	\$ 96.00	.7515
Total Sport	2,114	0.1859		19.2815

Weighted average value per recreational fish = \$ 103.70

Weighted average value per fish for all uses = \$ 37.06

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Appendix Table 21--Calculation of net value for 1979 brood fall chinook salmon from BIG CREEK HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	584	0.4842	\$ 28.16	13.6363
Washington Ocean	239	0.1982	\$ 28.16	5.5806
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	22	0.0182	\$ 20.88	.3809
Oregon Troll	35	0.0290	\$ 24.50	.7110
California Troll	2	0.0017	\$ 21.51	.0357
Columbia River	156	0.1294	\$ 28.54	3.6917
Total Commercial	1,038	0.8607		20.4739

Weighted average value per commercial fish = \$23.79

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	11	0.0091	\$ 105.00	.9577
Washington Ocean	116	0.0962	\$ 105.00	10.0995
Puget Sound	7	0.0058	\$ 105.00	.6095
Oregon Ocean	24	0.0199	\$ 88.00	1.7512
California Ocean	6	0.0050	\$ 88.00	.4378
Columbia River	4	0.0033	\$ 96.00	.3184
Total Sport	168	0.1393		14.1741

Weighted average value per recreational fish = \$ 101.75

Weighted average value per fish for all uses = \$ ██████████

Appendix Table 22--Calculation of net value for 1979 brood fall chinook salmon from BONNEVILLE HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	75	0.5396	\$ 28.16	15.1942
Washington Ocean	27	0.1942	\$ 28.16	5.4699
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	0	0.0000	\$ 24.50	0.0000
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	26	0.1871	\$ 28.54	5.3384
Total Commercial.	128	0.9209		20.8512

Weighted average value per commercial fish = \$22.64

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	ii	0.0791	\$ 105.00	8.3094
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	ii	0.0791		8.3094

Weighted average value per recreational fish = \$ 105.00

Weighted average value per fish for all uses = \$ 29.16

Appendix ' Table 23--Calculation of net value for 1979 brood fall chinook salmon from KLASKANINE HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	34	0.3656	\$ 28.16	10.2950
Washington Ocean	6	0.0645	\$ 28.16	1.8168
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	3	0.0323	\$ 24.50	.7903
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	36	0.3871	\$ 28.54	11.0477
Total Commercial	79	0.8495		13.2892

Weighted average value per commercial fish = \$15.64

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	14	0.1505	\$ 105.00	15.8065
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	14	0.1505		15.8065

Weighted average value per recreational fish = \$ 105.00

Weighted average value per fish for all uses = \$ 29.10

Appendix Table 24--Calculation of net value for 1979 brood fall chinook salmon from OXBOW HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	74	0.4654	\$ 28.16	13.1059
Washington Ocean	26	0.1635	\$ 28.16	4.6048
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	7	0.0440	\$ 24.50	1.0786
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	22	0.1384	\$ 28.54	3.9489
Total Commercial	129	0.8113		18.9277

Weighted average value per commercial fish = \$23.33

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	4	0.0252	\$ 105.00	2.6415
Washington Ocean	5	0.0314	\$ 105.00	3.3019
Puget Sound	17	0.1069	\$ 105.00	11.2264
Oregon Ocean	4	0.0252	\$ 88.00	2.2138
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	30	0.1887		19.3836

Weighted average value per recreational fish = \$ 102.73

Weighted average value per fish for all uses = \$ 38.31

Appendix Table 25--Calculation of net value for 1979 brood fall
chinook salmon from STAYTON POND

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
	636	0.3372	\$ 28.16	9.4962
Washington Ocean	452	0.2397	\$ 28.16	6.7489
Washington Coastal Net	3	0.0016	\$ 26.19	0.417
Puget Sound	40	0.0212	a 20.88	4.428
Oregon Troll	100	0.0530	\$ 24.50	1.2991
California Troll	3	0.0016	\$ 21.51	0.342
Columbia River	221	0.1172	\$ 28.54	3.3443
Total Commercial	1,455	0.7715		18.1800

Weighted average value per commercial fish = \$23.57

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	5	0.0027	\$ 105.00	.2784
Washington Ocean	342	0.1813	a 105.00	19.0403
Puget Sound	68	0.0361	\$ 105.00	3.7858
Oregon Ocean	16	0.0085	\$ 88.00	.7466
California Ocean	0	0.0000	a 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	431	0.2285		23.8510

Weighted average value per recreational fish = \$ 104.37

Weighted average value per fish for all uses = \$ 42.03

Appendix Table 26--Calculation of net value for 1979 brood fall
chinook salmon from SEA RESOURCES HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	12	0.2308	\$ 34.27	7.9085
British Columbia	14	0.2692	\$ 28.16	7.5815
Washington Ocean	1	0.0192	\$ 28.16	.5415
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	0	0.0000	\$ 24.50	0.0000
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	11	0.2115	\$ 28.54	6.0373
Total Commercial	38	0.7308		16.2431

Weighted average value per commercial fish = \$22.23

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	8	0.1538	\$ 105.00	16.1538
Washington Ocean	6	0.1154	\$ 105.00	12.1154
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	14	0.2692		28.2692

Weighted average value per recreational fish = \$ 105.00

Weighted average value *per* fish for all uses = \$ 44.51

Appendix Table 27--Calculation of net value for 1979 brood fall chinook salmon from ABERNATHY HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	200	0.2825	\$ 28.16	7.9548
Washington Ocean	165	0.2331	\$ 28.16	6.5627
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	24	0.0339	\$ 20.88	.7078
Oregon Troll	33	0.0466	\$ 24.50	1.1420
California Troll	3	0.0042	\$ 21.51	.0911
Columbia River	85	0.1201	\$ 28.54	3.4264
Total Commercial.	510	0.7203		16.5785

Weighted average value per commercial fish = \$23.01

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	1	0.0014	\$ 105.00	.1483
Washington Ocean	155	0.2189	\$ 105.00	22.9873
Puget Sound	4	0.0056	\$ 105.00	.5932
Oregon Ocean	33	0.0466	\$ 88.00	4.1017
California Ocean	5	0.0071	\$ 88.00	.6215
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	198	0.2797		28.4520

Weighted average value per recreational fish = \$ 101.74

Weighted average value per fish for all uses = \$ 45.03

Appendix Table 28--Calculation of net value for 1979 brood fall
chinook salmon from LITTLE WHITE HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	18	0.3913	\$ 28.16	11.0191
Washington Ocean	11	0.2391	\$ 28.16	6.7339
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	0	0.0000	\$ 24.50	0.0000
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	8	0.1739	\$ 28.54	4.9635
Total Commercial	37	0.8043		17.9269

Weighted average value per commercial fish = \$22.29

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	4	0.0870	\$ 505.00	9.1304
Puget Sound	5	0.1087	\$ 105.00	11.4131
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	9	0.1957	20	.5435

Weighted average value per recreational fish = \$ 105.00

Weighted average value per fish for all uses = \$ 38.47

Appendix Table 29--Calculation of net value for 1979 brood fall
chinook salmon from SPRING CREEK HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0 0 0 0 0	\$ 34.27	0 0 0 0 0
British Columbia	769	0.2110	\$ 28.16	5.9427
Washington Ocean	719	0 1973	\$ 28.16	5.5563
Washington Coastal Net	3	0.0008	\$ 26.19	.0216
Puget Sound	50	0.0137	\$ 20.88	.2865
Oregon Troll	112	0.0307	\$ 24.50	.7530
California Troll	13	0 0 0 36	\$ 21.51	.0767
Columbia River	1224	0.3359	\$ 28.54	9.5864
Total Commercial	2,890	0.7931		12.9727

Weighted average value per commercial fish = \$16.36

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	16	0.0044	\$ 105.00	.4610
Washington Ocean	556	0 1526	\$ 105.00	16.0209
Puget Sound	503	0.0283	\$ 105.00	2.9679
Oregon Ocean	67	0.0184	\$ 88.00	1.6180
California Ocean	10	0.0027	\$ 88.00	.2415
Columbia River	2	0.0005	\$ 96.00	.0527
Total Sport	754	0.2069		21.3620

Weighted average value per recreational fish = \$ 103.24

Weighted average value per fish for all uses = \$ 34.33

Appendix Table 30--Calculation of net value for 1979 brood fall
chinook salmon from COWLITZ HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	28	0.0461	\$ 34.27	1.5808
British Columbia	160	0.2636	\$ 28.16	742.27
Washington Ocean	130	0.2142	\$ 28.16	6.0310
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	6	0.0099	\$ 20.88	.2064
Oregon fr 0 l l	19	0.0313	\$ 24.50	.7669
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	41	0.0675	\$ 28.54	1.9277
Total Commercial	384	0.6326		16.0753

Weighted average value per commercial fish = \$25.41

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	1	0.0016	\$ 105.00	.1730
Washington Ocean	169	0.2784	\$ 105.00	29.2339
Puget Sound	12	0.0198	\$ 105.00	2.0758
Oregon Ocean	9	0.0148	\$ 88.00	1.3048
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	32	0.0527	\$ 96.00	5.0610
Total Sport	223	0.3674		37.8484

Weighted average value per recreational fish = \$ 103.02

Weighted uses = \$ 53.92

Appendix Table 31--Calculation of net value for 1979 brood fall chinook salmon from ELOKOMIN HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	23	0.3710	\$ 28.16	10.4465
Washington Ocean	10	0.1613	\$ 28.16	4.5419
Washington Coastal. Net	0	0.0000	\$ 26.19	0.0000
Puget sound	4	0.0645	\$ 20.88	1.3471
Oregon Troll	12	0.1935	\$ 24.50	4.7419
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	12	0.1935	\$ 28.54	5.5239
Total Commercial	61	0.9839		21.2710

Weighted average value per commercial fish = \$21.62

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	1	0.0161	\$ 105.00	1.6936
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	1	0.0161		1.6936

Weighted average value per recreational fish = \$ 105.00

Weighted average value per fish **for all uses** = \$ 22.96

Appendix Table 32--Calculation of net value for 1979 brood fall chinook salmon from GRAYS RIVER HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	7	0.1077	\$ 34.27	3.6906
British Columbia	37	0.5692	\$ 28.16	16.0295
Washington Ocean	7	0.1077	\$ 28.16	3.0326
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	2	0.0308	\$ 24.50	.7538
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	6	0.0923	\$ 28.54	2.6345
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Total Commercial	59	0.9077		23.5989

Weighted average value per commercial fish = \$26.00

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 508.00	0.0000
Washington Ocean	5	0.0769	\$ 105.00	8.0769
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	1	0.0154	\$ 96.00	1.4769
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Total Sport	6	0.0923		9.5539

Weighted average value per recreational fish = \$ 103.50

Weighted average value per fish for all uses = \$ 33.15

Appendix Table 33- - Calculation of net value for 1979 brood fall
chinook salmon from KALAMA FALLS HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	12	0.0571	\$ 34.27	1.9583
British Columbia	506	0.5048	\$ 28.16	14.2141
Washington Ocean	19	0.0905	\$ 28.16	2.5478
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	5	0.0238	\$ 20.88	0.4971
Oregon Troll	1	0.0048	\$ 24.50	0.1167
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	12	0.0571	\$ 28.54	1.6309
Total Commercial	155	0.7381		19.3912

Weighted average value per commercial fish = \$26.27

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	20	0.0952	\$ 105.00	10.0000
Puget Sound	21	0.1000	\$ 105.00	10.5000
Oregon Ocean	8	0.0381	\$ 88.00	3.3524
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	6	0.0286	\$ 96.00	2.7429
Total Sport	55	0.2619		26.5952

Weighted average value per recreational fish = \$ 101.55

Weighted average value per fish for all uses = \$ 45.99

Appendix Table 34--Calculation of net value for 1979 brood fall
chinook salmon from KLIKITAT HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	50	0.0402	\$ 34.27	1.3763
British Columbia	87	0.3494	\$ 28.16	9.8391
Washington Ocean	46	0.1847	\$ 28.16	5.2023
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	18	0.0723	\$ 20.88	1.5094
Oregon Troll	8	0.0321	\$ 24.50	.7871
California Troll	17	0.0683	\$ 21.51	1.4686
Columbia River	38	0.1528	\$ 28.54	4.3555
Total Commercial	224	0.8996		20.6353

Weighted average value per commercial Fish = \$22.60

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	19	0.0763	\$ 105.00	8.0121
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	6	0.0241	\$ 88.00	2.1205
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	25	0.1004		10.1325

Weighted average value per recreational fish = \$ 100.92

Weighted average value per fish for all uses = \$ 30.47

Appendix Table 35--Calculation of net value for 1979 brood fall
chinook salmon from LEWIS RIVER HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	21	0.0462	\$ 34.27	1.5817
British Columbia	167	0.3670	\$ 28.16	50.3356
Washington on Ocean	39	0.0857	\$ 28.16	2.4137
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	20	0.0440	\$ 24.50	1.0769
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	14	0.0308	\$ 28.54	8782
Total Commercial	261	0.5736		15.4387

Weighted average value per commercial fish = \$26.91

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	1	0.0022	\$ 105.00	.2308
Washington Ocean	54	0.1187	\$ 105.00	12.4615
Puget Sound	15	0.0330	\$ 105.00	3.4615
Oregon Ocean	17	0.0374	\$ 88.00	3.2879
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	507	0.2352	\$ 96.00	22.5758
Total Sport	194	0.4264		42.0175

Weighted average value per recreational fish = \$ 98.55

Weighted average value per fish for all uses = \$ 57.46

Appendix Table 36--Calculation of net value for 1979 brood fall chinook salmon from LOWER KALAMA HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	8	0.0432	\$ 34.27	1.4819
British Columbia	86	0.4649	\$ 28.16	13.0906
Washington Ocean	26	0.1405	\$ 28.16	3.9576
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	5	0.0270	\$ 24.50	.6622
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	19	0.1027	\$ 28.54	2.9311
Total Commercial	144	0.7784		19.2950

Weighted average value per commercial fish = \$24.79

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	6	0.0324	\$ 105.00	3.4054
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	3	0.0162	\$ 88.00	1.4270
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	32	0.1730	\$ 96.00	16.6054
Total Sport	41	0.2216		21.4378

Weighted average value per recreational fish = \$ 96.73

Weighted average value per fish for all uses = \$ 40.73

Appendix Table 37--Calculation of net value for 1979 brood fall chinook salmon from PRIEST RAPIDS HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	181	0.4132	\$ 34.27	14.1618
British Columbia	141	0.3219	\$ 28.16	9.0652
Washington Ocean	8	0.0183	\$ 28 . 16	.5143
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0 0 . 0 0 0 0	0	\$ 20.88 0 . 0 0 0 0	0
Oregon Troll	7	0.0160	\$ 24.50 .	391 . 6
California Troll	0 0 . 0 0 0 0	0	\$ 21.51 0 . 0 0 0 0	0
Columbia River	69	0.1575	\$ 28.54 4 . 4	9 6 0
Total Commercial	406	0.9269		24.2904

Weighted average value per commercial fish = \$26.20

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	8	0.0183	\$ 105.00	1.9178
Washington Ocean	7	0.0160	\$ 105.00	1.6781
Puget Sound	5	0.0114	\$ 105.00	1.1786
Oregon Ocean	2	0.0046	\$ 88.00	.4018
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	50	0.0228	\$ 96.00	2.1918
Total Sport	32	0.0731		7.3881

Weighted average value per recreational fish = \$ 101.13

Weighted average value per fish for all uses = \$ 31.68

Appendix Table 38--Calculation of net value for 1979 brood fall chinook salmon from WASHOUGAL HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	63	0.0789	\$ 34.27	2.7055
British Columbia	339	0.4248	\$ 28.16	11.9627
Washington Ocean	115	0.1441	\$ 28.16	4.0581
Washington Coastal Net	0	0.0000	a 26.19	0.0000
Puget Sound	15	0.0188	\$ 20.88	.3925
Oregon Troll	15	0.0188	\$ 24.50	.4605
California 'Troll	50	0.0125	\$ 21.51	.2695
Columbia River	88	0.1103	\$ 28.54	3.1473
Total Commercial	645	0.8083		19.9592

Weighted average value per commercial fish = \$24.69

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	77	0.0965	\$ 105.00	10.1316
Puget Sound	37	0.0464	\$ 105.00	4.8684
Oregon Ocean	2	0.0025	\$ 88.00	.2206
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	37	0.0464	\$ 96.00	4.4511
Total Sport	153	0.1917		19.6717

Weighted average value per recreational fish = \$ 102.60

Weighted average value per fish for all uses = \$ 39.63

Appendix Table 39--Calculation Of net value for 1979 brood fall
chinook salmon from WEYCO POND

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	1	0.0106	\$ 34.27	.3646
British Columbia	19	0.2021	\$ 28.16	5.6919
Washington Ocean	23	0.2447	\$ 28.16	6.8902
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	9	0.0957	\$ 20.88	1.9992
Oregon Troll	2	0.0213	\$ 24.50	.5213
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	22	0.2340	\$ 28.54	6.6796
Total Commercial	76	0.8085		15.7012

Weighted average value per commercial fish = \$19.42

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	1	0.0106	\$ 508.00	1.1170
Washington Ocean	5	0.0532	\$ 105.00	5.5851
Puget Sound	8	0.0851	\$ 105.00	8.9362
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	4	0.0426	\$ 96.00	4.0851
Total Sport	18	0.1915		19.7234

Weighted average value per recreational fish = \$ 103.00

Weighted average value per fish for all uses = \$ 35.42

Appendix Table 40--Calculation Of net value for 1979 brood fall chinook salmon from all hatcheries combined

Comme	Marked	Percent	Value	Percent
Alaska Troll	343	0.0309	\$ 34.27	1.0594
British Columbia	3569	0.3216	\$ 28.16	90576
Washington Ocean	2069	0.1865	\$ 28.16	5.2508
Washington Coastal Net	6	0.0005	\$ 26.19	.0142
Puget Sound	193	0.0174	\$ 20.88	.3632
Oregon Troll	381	0.0343	\$ 24.50	8412
California Troll	48	0.0043	\$ 21.51	.0930
Columbia River	2110	0.1902	\$ 28.54	5.4271
Total Commercial	8,719	0.7858		16.8696

Weighted average value per commercial fish = \$21.47

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	56	0.0050	\$ 105.00	5299
Washington Ocean	1572	0.1417	\$ 105.00	14.8757
Puget Sound	302	0.0272	\$ 105.00	2.8578
Oregon Ocean	191	0.0172	\$ 88.00	1.5148
California Ocean	21	0.0019	a 88.00	.1665
Columbia River	235	0.0212	\$ 96.00	2.0332
Total Sport	2,377	0.2142		21.9779

Weighted average value per recreational fish = \$ 102.59

Weighted average value per fish for all uses = \$ 38.85

1980 BROOD

Appendix Table 42--Calculation of net value for 1980 brood fall
chinook salmon from CLATSOP COUNTY PONDS

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	187	0.5358	\$ 28.16	15.0886
Washington Ocean	34	0.0974	\$ 28.16	2.7434
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	12	0.0344	\$ 20.88	.7179
Oregon Troll	5	0.0143	\$ 24.50	.3510
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	69	0.1977	\$ 28.54	5.6426
Total Commercial	307	0.8797		19.0986

Weighted average value per commercial fish = \$21.71

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	4	0.0115	\$ 105.00	1.2034
Washington Ocean	20	0.0573	\$ 105.00	6.0172
Puget Sound	18	0.0516	\$ 105.00	5.4155
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	42	0.1203		12.6361

Weighted average value per recreational fish = \$ 105.00

Weighted average value per fish for all uses = \$ 31.73

Appendix Table 43--Calculation of net value for 1980 brood fall chinook salmon From BIG CREEK HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	172	0.5658	\$ 28.16	15.9326
Washington Ocean	53	0.1743	\$ 28.16	4.9095
Washington Coastal Net	0	0.0000	a 26.19	0.0000
Puget Sound	2	0.0066	\$ 20.88	.1374
Oregon troll	9	0.0296	\$ 24.50	7.253
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	36	0.1184	a 28.54	3.3797
Total Commercial	272	0.8947		21.8232

Weighted average value per commercial fish = \$24.39

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	6	0.0197	\$ 105.00	2.0724
Washington Ocean	16	0.0526	\$ 105.00	5.5263
Puget Sound	10	0.0329	\$ 105.00	3.4539
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	a 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	32	0.1053		11.0526

Weighted average value per recreational fish = \$ 105.00

Weighted average value per fish for all uses = \$ 32.88

Appendix Table 44--Calculation of net value for 1980 brood fall
chinook salmon from BONNEVILLE HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	222	0.5722	\$ 28.16	16.1122
Washington Ocean	50	0.1289	\$ 28.16	3.6289
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	12	0.0309	\$ 20.88	.6458
Oregon Troll	8	0.0206	\$ 24.50	.5052
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	39	0.1005	\$ 28.54	2.8687
Total Commercial	331	0.8531		20.9925

Weighted average value per commercial fish = \$24.61

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	11	0.0284	\$ 105.00	2.9768
Washington Ocean	23	0.0593	\$ 105.00	6.2242
Puget Sound	17	0.0438	\$ 105.00	4.6005
Oregon Ocean	6	0.0155	\$ 88.00	1.3608
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	57	0.1469		15.1624

Weighted average value per recreational fish = \$ 103.21

Weighted average value per fish for all uses = \$ 36.15

Appendix Table 45--Calculation of net value for 1980 brood fall
chinook salmon from KLASKANINE HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent x value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	31	0.4559	\$ 28.16	12.8376
Washington Ocean	8	0.1176	\$ 28.16	3.3129
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	0	0.0000	\$ 24.50	0.0000
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	29	0.4265	\$ 28.54	12.1719
Total Commercial	68	1.0000		16.5770

Weighted average value per commercial fish = \$16.58

Sport Catch	Catch	Percent	Value	% x Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	0	0.0000	\$ 105.00	0.0000
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	0	0.0000		0.0000

Weighted average value per recreational fish = \$ 0.00

Weighted average value per fish for all uses = \$ 16.58

Appendix Table 46--Calculation of net value for 1980 brood fall
chinook salmon from STAYTON POND

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	336	0.4898	\$ 28.16	13.7927
Washington Ocean	111	0.1618	\$ 28.16	4.5565
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	56	0.0816	\$ 20.88	1.7045
Oregon Troll	11	0.0160	\$ 24.50	.3929
California Troll	3	0.0044	\$ 21.51	.0941
Columbia River	39	0.0569	\$ 28.54	1.6225
Total Commercial	556	0.8105		20.5975

Weighted average value per commercial fish = \$25.41

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	10	0.0146	\$ 105.00	1.5306
Washington Ocean	59	0.0860	\$ 105.00	9.0306
Puget Sound	54	0.0787	\$ 105.00	8.2653
Oregon Ocean	2	0.0029	\$ 88.00	.2566
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	5	0.0073	\$ 96.00	.6997
Total Sport	130	0.1895		19.7828

Weighted average value per recreational fish = \$ 104.39

Weighted average value per fish for all uses = \$ 40.38

Appendix Table 47--Calculation of net value for 1980 brood fall
chinook salmon from SEA RESOURCES HATCHERY

Commercial catch	Mar ked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll.	0	0.0000	\$ 34.27	0.0000
British Columbia	19	0.3393	\$ 28.16	9.5543
Washington Ocean	13	0.2321	\$ 28.16	6.5372
Washington Coastal. Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	0	0.0000	\$ 24.50	0.0000
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	19	0.3393	\$ 28.54	9.6832
Total Commercial	51	0.9107		16.4307

Weighted average value per commercial fish = \$18.04

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	3	0.0536	\$ 105.00	5.6250
Washington Ocean	2	0.0357	\$ 105.00	3.7500
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	5	0.0893		9.3750

Weighted average value per recreational fish = \$ 105.00

Weighted average value per fish for all uses = \$ 25.81

Appendix Table 48--Calculation of net value for 1980 brood fall
chinook salmon from ABERNATHY HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	2	0.0031	\$ 34.27	.1069
British Columbia	283	0.4415	\$ 28.16	12.4326
Washington Ocean	113	0.1763	\$ 28.16	4.9642
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	16	0.0250	\$ 20.88	.5212
Oregon Troll	10	0.0156	\$ 24.50	.3822
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	51	0.0796	\$ 28.54	2.2707
Total. Commercial	475	0.7410		18.4867

Weighted average value per commercial fish = \$24.95

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	25	0.0390	\$ 105.00	4.0952
Washington Ocean	73	0.1139	\$ 105.00	11.9579
Puget Sound	63	0.0983	\$ 105.00	10.3198
Oregon Ocean	4	0.0062	\$ 88.00	.5491
California Ocean	0	0.0000	a 88.00	0.0000
Columbia River	1	0.0016	\$ 96.00	.1498
Total Sport	166	0.2590		27.0718

Weighted average value per recreational fish = \$ 104.54

Weighted average value per fish for all uses = \$ 45.56

Appendix Table 49--Calculation of net value for 1980 brood fall
chinook salmon from LITTLE WHITE HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	24	0.4286	\$ 28.16	12.0686
Washington Ocean	6	0.1071	a 28.16	3.0172
Washington Coastal. Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	0	0.0000	\$ 24.50	0.0000
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	15	0.2679	\$ 28.54	7.6446
Total Commercial	45	0.8036		15.3536

Weighted average value per commercial fish = \$19.11

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	3	0.0536	\$ 105.00	5.6250
Puget Sound	8	0.1429	\$ 105.00	15.0000
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	11	0.1964		20.6250

Weighted average value per recreational fish = \$ 105.00

Weighted average value per fish for all uses = \$ 35.98

Appendix Table 50--Calculation of net value for 1980 brood fall
chinook salmon from SPRING CREEK HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	837	0.4301	\$ 28.16	12.1120
Washington Ocean	220	0.1131	\$ 28.16	3.1835
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	63	0.0324	\$ 20.88	.6760
Oregon Troll	37	0.0190	\$ 24.50	.4658
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	523	0.2688	\$ 28.54	7.6703
Total Commercial	1,680	0.8633		16.7061

Weighted average value per commercial fish = \$19.35

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	21	0.0108	\$ 105.00	1.1331
Washington Ocean	123	0.0632	\$ 105.00	6.6367
Puget Sound	115	0.0591	\$ 105.00	6.2050
Oregon Ocean	7	0.0036	\$ 88.00	.3165
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	266	0.1367		14.2914

Weighted average value per recreational fish = \$ 104.55

Weighted average value per fish for all uses = \$ 31.00

Appendix Table 51--Calculation of net value for 1980 brood fall chinook salmon from COWLITZ HATCHERY

Commercial catch	Mar ked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	40	0.0540	\$ 34.27	1.8499
British Columbia	388	0.5236	\$ 28.16	14.7451
Washingt on Ocean	30	0.0405	\$ 28.16	1.1401
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	4	0.0054	\$ 20.88	.1127
Oregon Troll	21	0.0283	\$ 24.50	.6943
California Troll	4	0.0054	\$ 21.51	.1161
Columbia River	121	0.1633	\$ 28.54	4.6604
Total Commercial	608	0.8205		18.8216

Weighted average value per commercial fish = \$22.94

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	10	0.0135	\$ 105.00	1.4170
Washingt on Ocean	88	0.1188	\$ 508.00	12.4696
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	16	0.0216	\$ 88.00	1.9001
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	19	0.0256	\$ 96.00	2.4615
Total Sport	133	0.1795		18.2483

Weighted average value per recreational fish = \$ 101.67

Weighted average value per fish for all uses = \$ 37.07

Appendix Table 52--Calculation of net value for 1980 brood fall
chinook salmon from ELOKOMIN HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	12	0.0571	\$ 34.27	1.9583
British Columbia	109	0.5190	\$ 28.16	14.6164
Washington Ocean	8	0.0381	\$ 28.16	1.0728
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	11	0.0524	a 24.50	1.2833
California Troll	0	0.0000	a 21.51	0.0000
Columbia River	53	0.2524	\$ 28.54	7.2030
Total. Commercial	193	0.9190		19.1832

Weighted average value per commercial fish = \$20.87

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	2	0.0095	\$ 508.00	1.01100
Washington Ocean	8	0.0381	\$ 105.00	4.0000
Puget Sound	6	0.0286	a 508.00	3.0000
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	1	0.0048	\$ 96.00	.4571
Total Sport	17	0.0810		8.4571

Weighted average value per recreational fish = \$ 104.47

Weighted average value per fish for all uses = \$ 27.64

Appendix Table 53--Calculation of net value for 1980 brood fall chinook salmon From GRAYS RIVER HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	11	0.0786	\$ 34.27	2.6926
British Columbia	86	0.6143	\$ 28.16	17.2983
Washington Ocean	3	0.0214	\$ 28.16	.6034
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	2	0.0143	\$ 20.88	.2983
Oregon Troll	2	0.0143	\$ 24.50	.3500
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	25	0.1786	\$ 28.54	5.0964
Total Commercial	129	0.9214		21.4212

Weighted average value per commercial fish = \$23.25

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	6	0.0429	\$ 505.00	4.5000
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	5	0.0357	\$ 96.00	3.4286
Total Sport	11	0.0786		7.9286

Weighted average value per recreational fish = \$ 100.91

Weighted average value per fish for all uses = \$ 29.35

Appendix Table 54--Calculation of net value for 1980 brood fall
chinook salmon from KALAMA FALLS HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	26	0.1327	\$ 34.27	4.5460
British Columbia	114	0.5816	\$ 28.16	16.3788
Washington Ocean	5	0.0255	\$ 28.16	.7184
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	3	0.0153	\$ 20.88	.3196
Oregon Troll	1	0.0051	\$ 24.50	.1250
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	16	0.0816	\$ 28.54	2.3298
Total Commercial	165	0.8418		22.1694

Weighted average value per commercial fish = \$26.33

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	3	0.0153	\$ 105.00	1.6071
Puget Sound	19	0.0969	\$ 505.00	10.1786
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	9	0.0459	\$ 96.00	4.4082
Total Sport	31	0.1582		16.1939

Weighted average value per recreational fish = \$ 102.39

Weighted average value per fish for all uses = \$ 38.36

Appendix Table 55--Calculation of net value for 1980 brood fall
chinook salmon from KLIKITAT HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	2	0.0465	\$ 34.27	1.5940
British Columbia	26	0.6047	\$ 28.16	17.0270
Washington on Ocean	1	0.0233	\$ 28.16	.6549
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	1	0.0233	\$ 24.50	.5698
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	11	0.2558	\$ 28.54	7.3009
Total Commercial	41	0.9535		20.1014

Weighted average value per commercial fish = \$21.08

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	2	0.0465	\$ 105.00	4.8837
Washington Ocean	0	0.0000	\$ 105.00	0.0000
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	2	0.0465		4.8837

Weighted average value per recreational fish = \$ 105.00

Weighted average value per fish for all uses = \$ 24.99

Appendix Table 56--Calculation of net value for 1980 brood fall chinook salmon from LOWER KALAMA HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	76	0.1212	\$ 34.27	4.1539
British Columbia	324	0.5167	\$ 28.16	14.5516
Washington Ocean	16	0.0255	\$ 28.16	.7186
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	8	0.0128	\$ 24.50	.3126
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	83	0.1324	\$ 28.54	3.7780
Total Commercial	507	0.8086		19.8691

Weighted average value per commercial fish = \$24.57

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	6	0.0096	\$ 105.00	1.0048
Washington Ocean	23	0.0367	\$ 105.00	3.8517
Puget Sound	14	0.0223	\$ 105.00	2.3445
Oregon Ocean	2	0.0032	\$ 88.00	.2807
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	75	0.1196	\$ 96.00	11.4832
Total Sport	120	0.1914		18.9648

Weighted average value per recreational fish = \$ 99.09

Weighted average value per fish for all uses = \$ 38.83

Appendix Table 57--Calculation of net value for 1980 brood fall chinook salmon from PRIEST RAPIDS HATCHERY

Commercial catch	Mar iced catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	294	0.2885	\$ 34.27	9.8875
British Columbia	489	0.4799	\$ 28.16	13.5135
Washington Ocean	2	0.0020	\$ 28.16	.0553
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	9	0.0088	\$ 24.50	.2164
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	193	0.1894	\$ 28.54	5.4055
Total Commercial	987	0.9686		23.8621

Weighted average value per commercial fish = \$24.64

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	2	0.0020	\$ 105.00	.2061
Washington Ocean	3	0.0029	\$ 505.00	.3091
Puget Sound	10	0.0098	a 105.00	1.0304
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	17	0.0167	\$ 96.00	1.6016
Total Sport	32	0.0314		3.1472

Weighted average value per recreational fish = \$ 100.22

Weighted average value per fish for all uses = \$ 27.01

Appendix Table 58--Calculation of net value for 1980 brood fall chinook salmon from WASHOUGAL HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	63	0.1413	\$ 34.27	4.8408
British Columbia	206	0.4619	\$ 28.16	13.0066
Washington Ocean	19	0.0426	\$ 28.16	1.1996
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	2	0.0045	\$ 24.50	.1099
California Troll	3	0.0067	\$ 21.51	.1447
Columbia River	68	0.1525	\$ 28.54	4.3514
Total Commercial	361	0.8094		19.4541

Weighted average value per commercial fish = \$24.03

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	3	0.0067	\$ 105.00	.7063
Washington Ocean	29	0.0650	\$ 105.00	6.8274
Puget Sound	8	0.0179	\$ 105.00	1.8834
Oregon Ocean	4	0.0090	\$ 88.00	.7892
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	41	0.0919	\$ 96.00	8.8251
Total Sport	85	0.1906		19.0314

Weighted average value per recreational fish = \$ 99.86

Weighted average value per fish for all uses = \$ 38.49

Appendix Table 59--Calculation of net value for 1980 brood fall chinook salmon from WEYCO POND

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	2	0.0488	\$ 34.27	1.6717
British Columbia	17	0.4146	\$ 28.16	11.6761
Washington Ocean	6	0.1463	\$ 28.16	4.1210
Washington Coastal. Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	0	0.0000	\$ 24.50	0.0000
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	2	0.0488	\$ 28.54	1.3922
Total Commercial	27	0.6585		17.5176

Weighted average value per commercial fish = \$26.60

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	5	0.1220	\$ 105.00	12.8049
Puget Sound	9	0.2195	\$ 105.00	23.0488
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	14	0.3415		35.8537

Weighted average value per recreational fish = \$ 105.00

Weighted average value per fish for all uses = \$ 53.37

Appendix Table 60--Calculation of net value for 1980 brood fall
chinook salmon from all hatcheries combined

Commercial catch			Marked catch	Percent of catch	Value per fish	Percent X value
Alaska	Troll		528	0.0664	\$ 34.27	2.2740
British	Columbia		3870	0.4864	\$ 28.16	13.6960
Washington	Ocean		698	0.0877	\$ 28.16	2.4702
Washington	Coastal	Net	0	0.0000	\$ 26.19	0.0000
Puget	Sound		170	0.0021	\$ 20.88	.4461
Oregon	Troll		135	0.0170	\$ 24.50	.4157
California	Troll		0	0.0000	\$ 21.51	.0270
Columbia	River		1392	0.1749	\$ 28.54	4.9928
Total Commercial			6,803	0	.8550	19.5040

Weighted average value per commercial fish = \$22.81

Sport Catch		Catch	Percent	Value	% X Value
British Columbia		505	0.0132	\$ 105.00	1.3856
Washington Ocean		484	0.0608	\$ 105.00	6.3868
Puget Sound		351	0.0441	\$ 105.00	4.6318
Oregon Ocean		41	0.0052	\$ 88.00	.4534
California Ocean		0	0.0000	\$ 88.00	0.0000
Columbia River		173	0.0217	\$ 96.00	2.0872
Total Sport		1,154	0.1450		14.9448

Weighted average value per recreational fish = \$ 103.05

Weighted average value per fish for all uses = \$ 34.45

1981 BROOD

Appendix Table 61--Calculation of net value for 1981 brood fall
chinook salmon from OLA (SOP COUNTY PONDS)

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	54	0.6506	a 28.16	18.3210
Washington Ocean	0	0.0000	\$ 28.16	0.0000
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	3	0.0361	\$ 24.50	.8855
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	26	0.3133	\$ 28.54	8.9402

Total Commercial	83	1.0000		19.5198

Weighted average value per commercial fish = \$19.52

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	0	0.0000	\$ 105.00	0.0000
Puget Sound	0	0.0000	a 105.00	0.0000
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000

Total Sport	0	0.0000		0.0000

Weighted average value per recreational fish = \$ 0.00

Weighted average value per fish for hal luses = \$ 19.52

Appendix Table 62--Calculation of net value for 1981 brood fall chinook salmon from BIG CREEK HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	343	0.7000	\$ 28.16	19.7120
Washington Ocean	18	0.0367	\$ 28.16	1.0345
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	2	0.0041	\$ 20.88	.0852
Oregon Troll	7	0.0143	\$ 24.50	.3500
California Troll	5	0.0102	\$ 21.51	.2195
Columbia River	69	0.1408	\$ 28.54	4.0189
Total Commercial	444	0.9061		21.5420

Weighted average value per commercial fish = \$23.77

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	6	0.0122	\$ 105.00	1.2857
Washington Ocean	8	0.0163	\$ 105.00	1.7143
Puget Sound	13	0.0265	\$ 105.00	2.7857
Oregon Ocean	8	0.0163	\$ 88.00	1.4367
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	11	0.0224	\$ 96.00	2.1551
Total Sport	46	0.0939		9.3775

Weighted average value per recreational fish = \$ 99.89

Weighted average value per fish for all uses = \$ 30.92

Appendix Table 63--Calculation Of net value for 1981 brood fall
chinook salmon from BONNEVILLE HATCHERY

Commercial catch	i-tarked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	405	0.4880	\$ 28.16	13.7407
Washington Ocean	29	0.0349	\$ 28.16	.9839
Washington Coastal. Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	7	0.0084	\$ 20.88	.1761
Oregon Troll	33	0.0398	\$ 24.50	9741
California Troll	8	0.0096	\$ 21.51	2073
Columbia River	259	0.3120	\$ 28.54	8.9059

Total Commercial	741	0.8928		16.3942

Weighted average value per commercial fish = \$18.36

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	10	0.0120	\$ 105.00	1.2651
Washington Ocean	41	0.0494	\$ 105.00	5.1868
Puget Sound	32	0.0386	\$ 105.00	4.0482
Oregon Ocean	3	0.0036	\$ 88.00	.3181
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	3	0.0036	\$ 96.00	.3470

Total Sport	89	0.1072		11.1651

Weighted average value per recreational fish = \$ 104.12

Weighted average value per fish for all uses = \$ 27.56

Appendix Table 64--Calculation of net value for 1981 brood fall chinook salmon from KLASKANINE HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	33	0.7333	a 28.16	20.6507
Washington Ocean	2	0.0444	\$ 28.16	1.2516
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	1	0.0222	\$ 20.88	.4640
Oregon Troll	5	0.1111	\$ 24.50	2.7222
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	4	0.0889	\$ 28.54	2.5369
Total Commercial	45	1.0000		25.1774

Weighted average value per commercial fish = \$25.18

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	0	0.0000	\$ 105.00	0.0000
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	a 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	0	0.0000		0.0000

Weighted average value per recreational fish = \$ 0.00

Weighted average value per fish for all uses = \$ 25.18

Appendix Table 65--Calculation of net value for 1981 brood fall chinook salmon from OXBOW HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	23	0.6571	\$ 28.16	18.5051
Washington Ocean	0	0.0000	\$ 28.16	00000
Washington Coastal Net	0	00000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	0	0.0000	\$ 24.50	0.0000
California Troll	0	0.0000	\$ 21.51	00000
Columbia River	7	0.2000	\$ 28.54	5.7080
Total Commercial	30	0.8571		18.7051

Weighted average value per commercial fish = \$21.82

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	5	0.1429	\$ 105.00	15.0000
Washington Ocean	0	0.0000	\$ 105.00	0.0000
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	5	0.1429		15.0000

Weighted average value per recreational fish = \$ 105.00

Weighted average value per fish for all uses = \$ 33.71

Appendix Table 66--Calculation of net value for 1981 brood fall
chinook salmon from STAYTON POND

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	713	0.7691	\$ 28.16	21.6592
Washington Ocean	36	0.0388	a 28.16	1.0936
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget sound	19	0.0205	\$ 20.88	4280
Oregon Troll	27	0.0291	\$ 24.50	7.136
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	63	0.0680	\$ 28.54	1.9396
Total Commercial	858	0.9256		23.9623

Weighted average value per commercial fish = \$25.89

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	22	0.0237	\$ 105.00	2.4919
Washington Ocean	28	0.0302	\$ 105.00	3.1715
Puget Sound	16	0.0173	\$ 105.00	1.8123
Oregon Ocean	3	0.0032	\$ 88.00	.2848
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	69	0.0744		7.7605

Weighted average value per recreational fish = \$ 104.26

Weighted average value per fish for all uses = \$ 31.72

Appendix Table 67--Calculation of net value for 1981 brood fall chinook salmon from SEA RESOURCES HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	a 34.27	0.0000
British Columbia	141	0.5242	a 28.16	14.7605
Washington Ocean	4	0.0149	\$ 28.16	.4187
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	13	0.0483	\$ 24.50	1.1840
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	101	0.3755	\$ 28.54	10.7158
Total Commercial	259	0.9628		16.7387

Weighted average value per commercial fish = \$17.39

sport Catch	Catch	Percent	Value	% X Value
British Columbia	1	0.0037	\$ 105.00	.3903
Washington Ocean	0	0.0000	\$ 105.00	0.0000
Puget Sound	9	0.0335	\$ 105.00	3.5130
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	50	0.0372		3.9033

Weighted average value per recreational fish = \$ 105.00

Weighted average value per fish for all. uses = \$ 20.64

Appendix Table 68--Calculation of net value for 1981 brood fall
chinook salmon from ABERNATHY HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	105	0.5676	\$ 28.16	1.
Washington Ocean	13	0.0703	\$ 28.16	1.9788
Washington Coastal. Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	9	0.0486	\$ 20.88	1.0158
Oregon Troll	1	0.0054	\$ 24.50	.1324
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	31	0.1676	\$ 24.47	82.4
Total Commercial	15	9	8595	19.2773

Weighted average value per commercial fish = \$22.43

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	10	0.0541	\$ 105.00	5.6757
Washington Ocean	5	0.0270	\$ 508.00	2.8378
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	11	0.0595	\$ 96.00	5.7081
Total Sport	26	0.1405		14.2216

Weighted average value per recreational fish = \$ 101.19

Weighted average value per fish **for all** uses = \$ 33.50

Appendix Table 69--Calculation of net value for 1981 brood fall
chinook salmon from LITTLE WHITE HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	24	0.7059	\$ 28.16	19.8776
Washington Ocean	2	0.0588	\$ 28.16	1.6565
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	0	0.0000	\$ 24.50	0.0000
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	8	0.2353	\$ 28.54	6.7153
Total Commercial	34	1.0000		21.7694

Weighted average value per commercial fish = \$21.77

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	0	0.0000	\$ 105.00	0.0000
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	0	0.0000		0.0000

Weighted average value per recreational fish = \$ 0.00

Weighted average value per Fish for all uses = \$ 21.77

Appendix Table 70--Calculation of net value for 1981 brood fall
chinook salmon from SPRING CREEK HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	642	0.4161	\$ 28.16	11.7166
Washington Ocean	65	0.0421	\$ 28.16	1.1865
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	10	0.0065	\$ 20.88	.1353
Oregon Troll	59	0.0382	\$ 24.50	.9368
California Troll	13	0.0084	\$ 21.51	.1812
Columbia River	581	0.3765	\$ 28.54	10.7464
Total Commercial	1,370	0.8879		14.5328

Weighted average value per commercial fish = \$16.37

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	16	0.0104	\$ 105.00	1.0888
Washington Ocean	67	0.0434	\$ 105.00	4.5593
Puget Sound	51	0.0331	\$ 105.00	3.4705
Oregon Ocean	21	0.0136	\$ 88.00	1.1977
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	18	0.0117	\$ 96.00	1.1199
Total Sport	173	0.1121		11.4362

Weighted average value per recreational fish = \$ 102.00

Weighted average value per fish for all uses = \$ 25.97

Appendix Table 71--Calculation of net value for 1981 brood fall chinook salmon from COWLITZ FISHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	13	0.0376	\$ 34.27	1.2876
British Columbia	194	0.5607	\$ 28.16	15.7821
Washington Ocean	17	0.0491	\$ 28.16	1.3836
Washington Coastal. Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	1	0.0029	\$ 20.88	0.0603
Oregon Troll.	18	0.0520	\$ 24.50	1.2746
California Troll.	0	0.0000	\$ 21.51	0.0000
Columbia River	60	0.1734	\$ 28.54	4.9491
Total Commercial	303	0.8757		19.9686

Weighted average value per commercial fish = \$22.80

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	3	0.0087	\$ 105.00	0.9104
Washington Ocean	13	0.0376	\$ 105.00	3.9451
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	5	0.0145	\$ 88.00	1.2717
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	22	0.0636	\$ 96.00	6.1040
Total Sport	43	0.1243		12.2312

Weighted average value per recreational fish = \$ 98.42

Weighted average value per fish for all uses = \$ 32.20

Appendix Table 72--Calculation of net value for 1981 brood fall
chinook salmon from ELUKOMIN HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	25	0.9615	\$ 28.16	27.0769
Washington Ocean	0	0.0000	\$ 28.16	0.0000
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	1	0.0385	\$ 24.50	9423
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	0	0.0000	\$ 28.54	0.0000
Total Commercial	26	1.0000		28.0192

Weighted average value per commercial fish = \$28.02

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	0	0.0000	\$ 505.00	0.0000
Puget Sound	0	0.0000	\$ 505.00	0.0000
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	0	0.0000		0.0000

Weighted average value per recreational fish = \$ 0.00

Weighted average value per fish for all uses = \$ 28.02

Appendix Table 73--Calculation of net value for 1981 brood fall chinook salmon from GRAYS RIVER HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	9	0.4500	\$ 28.16	12.6720
Washington Ocean	2	0.1000	\$ 28.16	2.8160
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	0	0.0000	\$ 24.50	0.0000
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	6	0.3000	\$ 28.54	8.5620
Total Commercial.	17	0.8500		15.7880

Weighted average value per commercial fish = \$18.57

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	3	0.1500	\$ 105.00	15.7500
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	3	0.1500		15.7500

Weighted average value per recreational fish = \$ 105.00

Weighted average value per fish for all uses = \$ 31.54

Appendix Table 74--Calculation of net value for 1981 brood fall
chinook salmon from KALAMA FALLS HATCHERY

Commercial catch	marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	18	0.0870	\$ 34.27	2.9800
British Columbia	159	0.7681	\$ 28.16	21.6301
Washington Ocean	6	0.0290	\$ 28.16	8.162
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	2	0.0097	\$ 24.50	2.367
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	14	0.0676	\$ 28.54	1.9302
Total Commercial	199	0.9614		25.7307

Weighted average value per commercial fish = \$26.77

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	0	0.0000	\$ 105.00	0.0000
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	8	0.0386	\$ 96.00	3.7101
Total Sport	8	0.0386		3.7101

Weighted average value per recreational fish = \$ 96.00

Weighted average value per fish for all uses = \$ 29.44

Appendix Table 75--Calculation of net value for 1981 brood fall
chinook salmon from KLIK ITAT HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	0	0.0000	\$ 34.27	0.0000
British Columbia	41	0.4020	\$ 28.16	11.3192
Washington Ocean	10	0.0980	\$ 28.16	2.7608
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	1	0.0098	\$ 24.50	.2402
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	39	0.3824	\$ 28.54	10.9124
Total Commercial	91	0.8922		14.7025

Weighted average value per commercial fish = \$16.48

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	0	0.0000	\$ 105.00	0.0000
Puget Sound	11	0.1078	\$ 805.00	11.3235
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	11	0.1078		11.3235

Weighted average value per recreational fish = \$ 105.00

Weighted average value per fish for all uses = \$ 26.03

Appendix Table 76--Calculation of net value for 1981 brood fall
chinook salmon from LOWER KALAMA HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	24	0.1021	\$ 34.27	3.4999
British Columbia	139	0.5915	\$ 28.16	16.6563
Washington Ocean	8	0.0340	\$ 28.16	.9586
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	2	0.0085	\$ 24.50	.2085
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	50	0.2128	\$ 28.54	6.0723
Total Commercial	223	0.9489		21.5361

Weighted average value per commercial fish = \$22.70

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	5	0.0213	\$ 105.00	2.2340
Washington Ocean	6	0.0255	\$ 505.00	2.6809
Puget Sound	0	0.0000	\$ 105.00	0.0000
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	1	0.0043	\$ 96.00	.4085
Total Sport	12	0.0511		5.3234

Weighted average value per recreational fish = \$ 104.25

Weighted average value per fish for all uses = \$ 26.86

Appendix Table 77--Calculation Of net value for 1981 brood fall
chinook salmon from PRIEST RAP LOS HATCHERY

<i>Commercial catch</i>	<i>Marked catch</i>	<i>Percent of catch</i>	<i>Value per fish</i>	<i>Percent X value</i>
Alaska Troll.	260	0.1806	\$ 34.27	6.1877
British Columbia	502	0.3486	\$ 28.16	9.8169
Washington Ocean	2	0.0014	\$ 28.16	.0391
Washington Coastal Net	0	0.0000	\$ 261.9	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	3	0.0021	\$ 24.50	.0510
California Troll	4	0.0028	\$ 21.51	.0598
Columbia River	634	0.4403	\$ 28.54	12.5655
Total Commercial	1,405	0.9757		16.5947

Weighted average value per commercial fish = \$17.01

<i>Sport Catch</i>	<i>Catch</i>	<i>Percent</i>	<i>Value</i>	<i>% X Value</i>
British Columbia	4	0.0028	\$ 105.00	.2917
Washington Ocean	2	0.0014	\$ 805.00	.1458
Puget Sound	9	0.0063	\$ 105.00	.6563
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	20	0.0139	\$ 96.00	1.3333
Total Sport	35	0.0243		2.4271

Weighted average value per recreational fish = \$ 99.86

Weighted average value per fish for all uses = \$ 19.02

Appendix Table 78--Calculation of net value for 1981 brood fall chinook salmon from WASHOUGAL HATCHERY

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	18	0.0759	\$ 34.27	2.6028
British Columbia	107	0.4515	\$ 28.16	12.7136
Washington Ocean	7	0.0295	\$ 28.16	.8317
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll.	3	0.0127	\$ 24.50	.3101
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	89	0.3755	\$ 28.54	10.7175
Total Commercial	224	0.9451		16.8338

Weighted average value per commercial fish = \$17.81

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	3	0.0127	\$ 105.00	1.3291
Washington Ocean	0	0.0000	\$ 505.00	0.0000
Puget Sound	6	0.0253	a 505.00	2.6582
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	4	0.0169	\$ 96.00	1.6203
Total Sport	13	0.0549		5.6076

Weighted average value per recreational fish = \$ 102.23

Weighted average value per fish for all uses = \$ 22.44

Appendix Table 79--Calculation of net value for 1981 brood fall
chinook salmon from WEYCO POND

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	11	0.1447	\$ 34.27	4.9601
British Columbia	43	0.5658	\$ 28.16	15.9326
Washington Ocean	0	0.0000	\$ 28.16	0.0000
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	0	0.0000	\$ 20.88	0.0000
Oregon Troll	1	0.0132	\$ 24.50	.3224
California Troll	0	0.0000	\$ 21.51	0.0000
Columbia River	18	0.2368	\$ 28.54	6.7595
Total Commercial	73	0.9605		21.4520

Weighted average value per commercial fish = \$22.33

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	0	0.0000	\$ 105.00	0.0000
Washington Ocean	3	0.0395	\$ 105.00	4.1447
Puget Sound	0	0.0000	\$ 808.00	0.0000
Oregon Ocean	0	0.0000	\$ 88.00	0.0000
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	0	0.0000	\$ 96.00	0.0000
Total Sport	3	0.0395		4.1447

Weighted average value per recreational fish = \$ 105.00

Weighted average value per fish for all uses = \$ 25.60

Appendix Table 80--Calculation Of net value for 1981 brood fall
chinook salmon from all hatcheries combined

Commercial catch	Marked catch	Percent of catch	Value per fish	Percent X value
Alaska Troll	344	0.0482	\$ 34.27	1.6534
British Columbia	3702	0.5192	\$ 28.16	14.6211
Washington Ocean	221	0.0310	\$ 28.16	.8728
Washington Coastal Net	0	0.0000	\$ 26.19	0.0000
Puget Sound	49	0.0069	\$ 20.88	.1435
Oregon Troll	179	0.0251	\$ 24.50	.6151
California Troll.	30	0.0042	\$ 21.51	.0905
Columbia River	2059	0.2888	\$ 28.54	.8218
Total Commercial	6,584	0.9234		18.2852

Weighted average value per commercial fish = \$19.80

Sport Catch	Catch	Percent	Value	% X Value
British Columbia	85	0.0119	\$ 105.00	1.2518
Washington Ocean	176	0.0247	\$ 105.00	2.5919
Puget Sound	147	0.0206	\$ 105.00	2.1648
Oregon Ocean	40	0.0056	\$ 88.00	.4937
California Ocean	0	0.0000	\$ 88.00	0.0000
Columbia River	98	0.0137	\$ 96.00	1.3195
Total sport	546	0.0766		7.8216

Weighted average value per recreational fish = \$ 102.14

Weighted average value per fish for all uses = \$ 26.11