PACIFIC SALMON COMMISSION
JOINT CHINOOK TECHNICAL COMMITTEE

2013 Exploitation Rate Analysis and Model Calibration
Volume Two: Appendix Supplement

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LIST OF APPENDICES

Note: Product names used in this publication are included for completeness but do not constitute product endorsement.

APPENDIX A: RELATIONSHIP BETWEEN EXPLOITATION RATE INDICATOR STOCKS, ESCAPEMENT INDICATOR STOCKS, MODEL STOCKS, AND ADDITIONAL MANAGEMENT ACTION STOCKS IDENTIFIED IN THE PACIFIC SALMON TREATY ANNEX

LIST OF APPENDIX A TABLES

Appendix A1. Indicator stocks for Southeast Alaska and Transboundary Rivers.

Area	Annex Stock Group[1]	Annex Indicator Stocks	Run Type	Escapement Indicator Stock	Escapement Objective[2]	Model Stock	Escapement Goal in Model[3]	Exploitation Rate Indicator Stock	CWT Acronym
SEAK/TBR				Taku	219,000–36,000 [4]			Taku	TAK
				Stikine	14,000–28,000[4]			NA	
				Alsek	3,500–5,300			NA	
Yakutat				Situk	500–1,000[2]			NA	
SEAK Northern Inside				Chilkat	1,750-3,500[4]			Chilkat	CHK
			Spring	King Salmon	120–240[5]	Alaska South SE	9,110	Alaska Spring (Little Port Walter, Neets Bay Hatchery, Whitman Lake Hatchery, Deer Mountain Hatchery, Crystal Lake Hatchery)	AKS
SEAK Central Inside				Andrew Creek	650–1,500[5]				
SEAK Southern Inside				Unuk	1,800–3,800[4]				
				Chickamin	450–900[5]				
				Blossom	250–500[5]				
				Keta	175–400[5]				

Note: NA = not available.

[1] SEAK fisheries will be managed to achieve escapement objectives for Southeast Alaska and Transboundary River Chinook stocks.

[2] CTC escapement objective.

[3] Agency objective.

[4] Based on large spawners (ocean age 3 and older).

[5] Based on index count of large spawners (ocean age 3 and older).

Appendix A2. Indicator stocks for Canada.

Area	Annex Stock Group	Annex Indicator Stocks	Run Type	Escapement Indicator Stock	Escapement Objective[1]	Model Stock	Escapement Goal in Model[2]	Exploitation Rate Indicator Stock	CWT Acronym
NBC-Area 1	North/Central British Columbia	Yakoun	Summer	Yakoun	Escapement goal range by stock	North/Central B.C.	117,500	Kitsumkalum	KLM
NBC-Area 3		Nass	Summer	Nass					
NBC-Area 4		Skeena		Skeena					
CBC-Area 8			Spring/Fall	Rivers Inlet					
CBC-Area 9			Spring	Dean				Atnarko	ATN
WCVI	West Coast Vancouver Island Falls	Artlish, Burman, Gold, Kauok, Tahsis, Tashish, Marble	Fall	WCVI Aggregate (Artlish, Burman, Kauok, Tahsis, Tashish, Marble)	Escapement goal range for aggregate	WCVI Natural	42,734	Robertson Creek	RBT
						WCVI Hatchery	6,472		
Upper Strait of Georgia	Upper Strait of Georgia	Klinaklini, Kakweikan, Wakeman, Kingcome, Nimpkish	Summer/Fall	Upper Strait of Georgia (Klinaklini, Kakweikan, Wakeman, Kingcome, Nimpkish)	Escapement goal range for aggregate	Upper Strait of Georgia	23,300	Quinsam	QUI
Lower Strait of Georgia	Lower Strait of Georgia		Summer/Fall			Lower Strait of Georgia Hatchery	5,318	Puntledge	PPS
								Big Qualicum	BQR
		Cowichan, Nanaimo	Fall	Lower Strait of Georgia (Cowichan/ Nanaimo)	Escapement goal range for aggregate	Lower Strait of Georgia Natural	21,935	Cowichan	COW
								Nanaimo	NAN
Fraser River	Fraser Early	Upper Fraser Mid Fraser Thompson	Spring	Fraser Spring run age 1.2	Escapement goal range by stock	Fraser Early	93,700	Nicola	NIC
				Fraser Spring run age 1.3				Dome	DOM
			Summer	Fraser Summer run age 1.3				NA	NA
				Fraser Summer run age 0.3				Lower Shuswap	SHU
	Fraser Late	Harrison River	Fall	Harrison River	75,100–98,500	Fraser Late	75,100	Chilliwack	CHI
								Harrison	HAR

[1] CTC escapement objective.
[2] Agency objective.

Appendix A3. Indicator stocks for Puget Sound.

Area	Annex Stock Group	Annex Indicator Stocks	Run Type	Escapement Indicator Stock	Escapement Objective[1]	Model Stock	Escapement Goal in Model[2]	Exploitation Rate Indicator Stock	CWT Acronym
North/ Central Puget Sound	North Puget Sound Natural Springs	Nooksack	Spring	Nooksack	Escapement goal range by stock	Nooksack Spring	4,000	Nooksack Spring Fingerling Nooksack Spring Yearling	NSF NKS
		Skagit		Skagit spring				Skagit Spring Fingerling Skagit Spring Yearling	SKF SKS
	Not an Annex stock		Fall			Nooksack Fall	11,923	Samish Fall Fingerling	SAM
	Puget Sound Natural Summer/Falls	Snohomish	Summer/ Fall	Snohomish		Snohomish Wild	5,250	Skykomish	SKY
		Skagit group		Skagit Summmer/Fall		Skagit Wild	9,778	Skagit Summer Fingerling	SSF
		Lake Washington		Lake Washington Falls		Puget Sound Natural Fingerling	16,966	NA	
		Green River		Green River				Green River Fingerling	GRN
		Stillaguamish		Stillaguamish		Stillaguamish Wild	2,000	Stillaguamish Fall Fingerling	STL
								Nisqually Fall Fingerling	NIS
Hood Canal	Not an Annex stock		Fall			Puget Sound Hatchery Fingerling		George Adams Fall Fingerling	GAD
South Puget Sound	Not an annex stock		Fall			Puget Sound Hatchery Fingerling	24,769	South Puget Sound Fall Fingerling	SPS
						Puget Sound Hatchery Yearling	9,136	South Puget Sound Fall Yearling	SPY
								Squaxin Pens Fall Yearling[3]	SQP
								Univ. of Washington Accelerated Fall[3]	UWA
			Spring					White River Spring Yearling	WRY

Note: NA = not available.
[1] CTC escapement objective.
[2] Agency objective.
[3] Production and tagging discontinued.

Appendix A4. Indicator stocks for the Washington Coast.

Area	Annex Stock Group	Annex Indicator Stocks	Run Type	Escapement Indicator Stock	Escapement Objective[1]	Model Stock	Escapement Goal in Model[2]	Exploitation Rate Indicator Stock	CWT Acronym
WA Coast/ Juan de Fuca	Washington Coastal Fall Naturals	Hoko	Fall	Hoko				Elwha Fall Fingerling	ELW
								Hoko Fall Fingerling	HOK
		Grays Harbor		Grays Harbor Fall	Escapement goal range by stock	Washington Coastal Wild	21,500	NA	
		Queets		Queets Fall				Queets Fall Fingerling	QUE
		Hoh		Hoh Fall				NA	
		Quillayute		Quillayute Fall				NA	
								Sooes Fall Fingerling	SOO
	Not an annex stock		Fall			Washington Coastal Hatchery	6,703	NA	
	Not an annex stock		Spring	Grays Harbor Spring				NA	
	Not an annex stock		Spring/ Summer	Queets Spring/Summer				NA	
				Hoh Spring/Summer				NA	
	Not an annex stock		Summer	Quillayute Summer				NA	

Note: NA = not available

[1] CTC escapement objective.

[2] Agency objective.

Appendix A5. Indicator stocks for Columbia River and Oregon Coast.

Area	Annex Stock Group	Annex Indicator Stocks	Run Type	Escapement Indicator Stock	Escapement Objective[1]	Model Stock	Escapement Goal in Model[2]	Exploitation Rate Indicator Stock	CWT Acronym
Columbia River	Not an Annex stock		Spring			Cowlitz Spring Hatchery	2,500	NA	CWS
						Willamette River Hatchery	13,500	Willamette Spring	WSH
	Columbia River Summers	Mid-Columbia Summers	Summer	Mid-Columbia Summer	17,857[3]	Columbia River Summer	17,857	Columbia Summers	SUM
	Columbia River Falls		Fall			Fall Cowlitz Hat.	8,800	Cowlitz Tule	CWF
						Spring Creek Hatchery	7,000	Spring Creek Tule	SPR
						Lower Bonneville Hatchery	26,200	Columbia Lower River Hatchery	LRH
		Upriver Brights		Columbia Upriver Bright	45,000	Columbia Upriver Brights	40,000	Columbia Upriver Bright	URB
								Hanford Wild	HAN
		Deschutes		Deschutes River Fall	4,532	Subset of Columbia Upriver Brights	4,000	NA	
						Lyons Ferry	3,430	Lyons Ferry	LYF
						Mid-Columbia River Brights	12,500	NA	
		Lewis River		Lewis	5,700	Lewis River Wild	5,700	Lewis River Wild	LRW
North Oregon Coast	Far North Migrating Oregon Coastal Falls	Nehalem	Fall	Nehalem	6,989	Oregon Coast	62,382	Salmon River	SRH
		Siuslaw		Siuslaw	12,925				
		Siletz		Siletz	2,944				
Mid-Oregon Coast	Not an Annex stock		Fall	Umpqua				Elk River	ELK
				Mid-South Oregon Coastal Falls					

Note: NA = not available.
[1] CTC escapement objective.
[2] Agency objective.
[3] Measured at Bonneville Dam.

APPENDIX B: ISBM INDICES

LIST OF APPENDIX B TABLES

Appendix B1. ISBM Indices for all British Columbia ISBM fisheries based on CWT-based exploitation rate analysis (1999–2011). The stock groups correspond to Annex 4, Chapter 3, Attachment IV of the 2009 Agreement. See footnotes in B5.

Stock Group	Escapement Indicator	CWT Indices[1]												
		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Lower Strait of Georgia	Cowichan	0.517	0.196	0.260	0.247	0.363[2]	0.284	0.132	0.191	0.043	0.242	0.400	0.261	0.147
	Nanaimo[3]	0.163	0.154	0.260	0.247	NA[4]	NA	NA	NA	NA	NA	NA	NA	NA
Fraser Late	Harrison[5]	0.112	0.073	0.090	0.105	0.055[6]	0.032	0.058	0.032	0.035	0.031	0.058	0.134	0.092
North Puget Sound Natural Springs	Nooksack, Skagit	0.183 NA[7]	1.176 NA	0.040 NA	0.023 NA	0.046 NA	NA NA	NA NA	NA NA	NA NA	NA NA	0.106 NA	0.014 NA	0.014 NA
Upper Strait of Georgia	Klinaklini, Kakweikan, Wakeman, Kingcome, Nimpkish	0.021	0.123	0.040	0.063	0.006	0.018	0.028	0.079	0.268	0.073	0.247	0.182	0.032
Fraser Early (spring and summers)	Upper Fraser, Mid-Fraser, Thompson	NA[7]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
West Coast Vancouver Island Falls	WCVI (Artlish, Burman, Kauok, Tahsis, Tashish, Marble)	0.431	0.083	0.060	0.248	0.496[8]	0.488	0.267	0.267	0.906	0.652	0.464	0.178	0.65
Puget Sound Natural Summer/Falls	Skagit	NA[7]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Stillaguamish	0.194	0.111	0.145	NA	NA	0.027	0.057	0.074	0.192	NA	0.252	0.083	0.246
	Snohomish	NA[7]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lake Wash.	NA[7]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Green River	0.171	0.154	0.350	0.323	0.328	0.162	0.085	0.109	0.076	0.106	0.208	0.151	0.3
North/Central B.C.	Yakoun, Nass, Skeena, Area[6]	NA[7]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Appendix B2. ISBM Indices for all southern U.S. fisheries based on CWT-based exploitation rate analysis (1999–2011). The stock groups correspond to Annex 4, Chapter 3, Attachment V of the Pacific Salmon Treaty 2009 Agreement. See footnotes in B5.

Stock Group	Escapement Indicator	CWT Indices[1]												
		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Washington Coastal Fall Naturals	Hoko	NA[7]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Grays Harbor	0.430	1.630	0.860	0.540	0.150	0.530	0.560	0.520	0.790	0.390	0.700	0.690	0.923
	Queets	1.000	0.850	1.440	0.840	0.850	0.840	2.050	0.600	1.050	0.610	0.450	0.670	NA
	Hoh	1.540	2.750	1.660	0.950	1.340	1.220	1.030	1.290	2.230	0.950	1.220	1.000	2.003
	Quillayute	1.300	2.470	1.480	1.420	0.990	1.150	1.030	1.180	1.470	1.160	1.970	0.670	NA
Columbia River Falls	Upriver Brights	1.370	2.530	1.350	1.320	1.430	1.740	1.780	3.080	3.100	1.830	2.790	1.750	2.862
	Deschutes	0.510	0.710	0.520	0.590	0.049	0.510	0.670	0.580	0.510	1.860	2.360	0.790	0.798
	Lewis[5]	0.000	0.360	0.580	0.560	1.030	0.170	0.980	1.330	0.790	0.630	0.140	0.430	0.432
Puget Sound Natural Summer/Falls	Skagit	NA[7]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Stillaguamish	0.120	0.040	0.890	NA	NA	0.010	0.220	0.080	0.120	NA[7]	0.200	0.380	0.195
	Snohomish	NA[7]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lake Wash.	NA[7]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Green River	0.500	0.700	1.180	1.070	1.030	1.010	0.170	0.370	0.380	0.280	0.290	0.340	0.439
Fraser Late	Harrison River[5]	0.470	0.130	0.310	0.410	0.640	0.320	NA[10]	NA	NA	NA	NA	NA	NA
Columbia R Summers	Mid-Columbia Summers[5]	1.640	4.820	5.320	7.250	10.040	2.690	6.080	0.480	1.840	6.800	1.310	9.810	5.376
Far North Migrating OR Coastal Falls	Nehalem[5]	1.960	1.970	1.940	2.170	3.110	1.800	2.000	3.480	2.010	0.920	0.590	1.210	1.210
	Siletz[5]	0.820	1.160	1.190	1.310	1.590	2.290	1.190	2.340	1.600	0.670	0.730	0.500	1.068
	Siuslaw[5]	1.220	2.450	2.180	2.560	3.820	1.030	1.630	2.230	1.000	0.640	1.070	0.770	1.108
North Puget Sound Natural Springs	Nooksack	0.440	0.000	0.040	NA[7]	NA	NA	NA	NA	NA	0.210	0.520	0.700	0.741
	Skagit	NA[7]	NA	NA	1.120	NA	NA	NA	NA	NA	NA	NA	NA	NA

Appendix B3. ISBM Indices for all British Columbia fisheries, from the Chinook model (1999–2013) used to establish the AI for each year. The stock groups correspond to Annex 4, Chapter 3, Attachment IV of the Pacific Salmon Treaty 2009 Agreement. See footnotes in B5.

Stock Group	Escapement Indicator	Model Indices														
		1999 CLB0107	2000 CLB0107	2001 CLB0107	2002 CLB0206	2003 CLB0308	2004 CLB0404	2005 CLB0506	2006 CLB0604	2007 CLB0705	2008 CLB0807	2009 CLB0907	2010 CLB1007	2011 CLB1106	2012 CLB1209	2013 CLB1308
Lower Strait of Georgia	Cowichan	0.304	0.232	0.325	0.541	0.490	0.593	0.381[9]	0.590	0.240	0.315	0.494	0.203	0.367	0.443	0.362
	Nanaimo[3]	0.209	0.113	0.246	0.190	0.498	0.695									
Fraser Late	Harrison[5]	0.309	0.198	0.336	0.302	0.352	0.719	0.332	0.294	0.211	0.208	0.245	0.138	0.193	0.256	0.286
North Puget Sound Natural Springs	Nooksack, Skagit	0.233	0.156	0.241	0.195	0.251	0.273	0.314	0.993	0.563	0.470	0.988	0.568	0.732	0.339	0.273
		NA[7]	NA	NA	NA	0.251	0.273	0.314	0.993	0.563	0.470	0.988	0.568	0.731	0.340	0.273
Upper Strait of Georgia	Klinaklini, Kakweikan, Wakeman, Kingcome, Nimpkish	0.174	0.118	0.314	0.272	0.649	0.971	0.649	0.584	0.146	0.622	0.128	0.122	0.578	0.596	0.649
Fraser Early (spring and summers)	Upper Fraser, Mid-Fraser, Thompson	0.125	0.124	0.210	0.145	0.661	0.718	0.654	0.610	0.159	0.128	0.094	0.121	0.222	0.226	0.238
West Coast Vancouver Island Falls	WCVI (Artlish, Burman, Kauok, Tahsis, Tashish, Marble)	0.365	0.327	0.244	0.342	0.744	0.927	0.728	1.082	0.133	1.490	0.137	0.122	0.491	0.636	0.227
Puget Sound Natural Summer/Falls	Skagit	0.197	0.119	0.217	0.172	0.436	0.438	0.465	1.092	0.718	0.724	1.097	0.709	0.745	1.421	0.429
	Stillaguamish	0.355	0.234	0.469	0.375	0. 513	0.567	0.587	1.166	0.821	0.796	1.123	0.791	0.793	1.329	0.561
	Snohomish	0.185	0.116	0.222	0.176	0.435	0.445	0.457	1.101	0.736	0.721	1.098	0.718	0.744	1.359	0.423
	Lake Wash.	0.332	0.202	0.355	0.275	0.508	0.446	0.497[11]	0.898	0.735	0.722	0.918	0.690	0.752	0.991	0.419[11]
	Green River	0.333	0.202	0.356	0.275	0.508	0.466	0.497[11]	0.914	0.752	0.721	0.919	0.670	0.756	1.000	0.419[11]
North/Central B.C.	Yakoun, Nass, Skeena, Area[6]	0.237	0.254	0.613	0.584	0.689	0.804	0.680	0.626	0.202	0.593	0.224	0.177	0.598	0.536	0.496

Appendix B4. ISBM Indices for all southern U.S. fisheries, from the Chinook model (1999–2013) used to establish the AI for each year. The stock groups correspond to Annex 4, Chapter 3, Attachment V of the Pacific Salmon Treaty 2009 Agreement. See footnotes in B5.

Stock Group	Escapement Indicator	Model Indices														
		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
		CLB0107	CLB0107	CLB0107	CLB0206	CLB0308	CLB0404	CLB0506	CLB0604	CLB0705	CLB0807	CLB0907	CLB1007	CLB1106	CLB1209	CLB1308
Washington Coastal Fall Naturals	Hoko	0.39	0.34	0.56	0.48	0.682	0.966	0.444	0.442	0.401	0.305	0.284	0.130	0.419	0.378	0.608
	Grays Harbor	0.440	0.430	0.450	0.840	0.494	0.573	0.222	0.544	0.504	0.45	0.404	0.382	0.549	0.604	0.547
	Queets	0.880	0.420	0.440	1.050	1.063	0.932	1.023	1.022	1.014	1.007	0.508	0.285	0.327	0.179	0.532
	Hoh	1.390	0.730	0.760	1.260	1.208	1.214	1.499	1.493	1.111	1.457	0.981	0.987	0.760	0.443	0.802
	Quillayute	1.140	0.720	0.750	1.310	1.292	1.139	1.133	0.673	0.883	0.851	0.881	0.963	1.058	1.151	1.442
Columbia River Falls	Upriver Brights	1.020	1.090	0.990	0.910	1.022	0.906	0.734	0.814	0.726	0.701	0.798	0.801	0.841	0.894	0.971
	Deschutes	1.020	0.880	0.740	0.550	0.561	0.475	0.483	0.437	0.493	0.428	0.461	1.004	1.044	0.684	0.718
	Lewis[5]	0.110	0.160	1.700	0.930	0.851	1.008	1.058	1.861	1.466	0.436	0.470	0.505	0.426	0.442	0.538
Puget Sound Natural Summer/Falls	Skagit	0.170	0.210	0.780	0.270	0.406	0.157	0.195	0.258	0.325	0.321	0.292	0.261	0.789	0.327	1.015
	Stillaguamish	0.140	0.140	0.400	0.200	0.184	0.224	0.185	0.493	0.152	0.137	0.446	0.117	0.169	1.054	0.213
	Snohomish	0.040	0.050	0.600	0.150	0.072	0.110	0.891	0.199	0.138	0.165	0.202	0.125	0.211	0.332	0.231
	Lake Wash.	0.500	0.480	0.590	1.250	0.768	0.411	0.373	0.613	0.391	0.392	0.768	0.517	0.387	0.590	0.404
	Green River	0.500	0.480	0.600	0.350	0.263	0.260	0.202	0.361	0.278	0.380	0.555	0.520	0.236	0.631	0.331
Fraser Late	Harrison River[5]	0.660	0.390	0.620	0.720	0.981	1.058	0.670	0.787	0.563	0.378	0.410	0.209	0.497	0.448	0.887
Columbia R Summers	Mid-Columbia Summers[5]	0.110	0.090	0.140	0.820	0.794	0.715	0.545	0.696	0.943	1.254	1.236	1.142	1.398	1.369	1.571
Far North Migrating OR Coastal Falls	Nehalem[5]	2.670	2.660	2.750	2.610	2.346	2.230	2.090	1.912	2.183	1.968	2.003	0.916	2.146	1.696	1.475
	Siletz[5]	1.810	1.790	1.870	1.330	1.302	1.288	1.233	1.237	1.399	1.592	1.217	0.698	0.643	0.814	0.679
	Siuslaw[5]	0.940	0.930	0.950	3.340	2.856	2.816	2.643	1.095	1.241	0.971	1.632	2.028	1.427	1.646	1.443
North Puget Sound Natural Springs	Nooksack	0.150	0.200	0.010	0.000	0.121	0.974	0.222	0.121	NA[7]	NA	0.107	0.181	0.484	0.171	0.330
	Skagit	NA[7]	NA	0.070	0.060	0.119	0.663	0.213	0.161	NA	NA	0.143	0.245	0.271	0.147	0.337

Appendix B5. Footnote definitions for Appendix B ISBM index Tables 1–4.

[1] The CWT-based estimates, not the model estimates, are to be used in postseason assessments.

[2] An inconsistency was discovered between the approaches used to calculate the model-based and CWT-based indices. The former included harvest rates for terminal sport while the latter did not. Terminal sport harvest rates are now included in the calculation of both indices starting 2003. Further review is yet required to determine whether the base period terminal sport harvest rates obtained from analyses of Big Qualicum CWT recoveries adequately represent impacts that would have occurred on Cowichan Chinook.

[3] Indices for the Nanaimo stock are calculated from CWT recoveries for Cowichan; differences between Nanaimo and Cowichan stock indices are due to differences in terminal harvest.

[4] Several problems have been identified in the approach previously used to calculate the CWT-based indices for Nanaimo Chinook; indices for this stock will not be reported starting 2003 as their utility is questionable.

[5] Stock or stock group with an CTC-agreed escapement goal.

[6] The terminal sport harvest rates for Chilliwack Hatchery Chinook, the indicator stock, were removed from the calculation for the Harrison River naturals starting 2003 because sport harvest has been essentially zero on the natural population.

[7] NA means not available because of insufficient data (lack of stock specific tag codes, base period CWT recoveries, etc).

[8] A review of the approach used to calculate both the CWT-based and model data-based indices for the WCVI naturals was carried out in 2008. A similar approach was adopted for both indices but due to modifications to the formerly used procedures, the historical time series of values was updated starting 2003.

[9] Although model-based indices were previously calculated separately for Cowichan and Nanaimo Chinook; these did not adequately represent impacts on either Lower Strait of Georgia stock. This is because the model-based data represent an aggregate of the two stocks and methods do not currently exist to correctly disaggregate these data for calculation of the ISBM values. Until such methods are developed, a single index value only will be reported representing the aggregate starting 2007.

[10] The U.S. CWT based indices for Fraser Late from 2005 onward do not accurately reflect the impacts on the natural stock because a considerable proportion of the recoveries in the U.S. fisheries have occurred in mark-selective fisheries in which only clipped hatchery-origin fish are retained. The U.S. indices since 2005 indicate greater impacts than would have occurred on the natural stocks and are no longer being reported.

[11] For the Canadian ISBM fisheries, both Lake Washington and Green are assumed to have the same distribution and thus the same index value.

APPENDIX C: PERCENT DISTRIBUTION OF TOTAL MORTALITY AMONG FISHERIES AND ESCAPEMENT FOR EXPLOITATION RATE INDICATOR STOCKS BY CALENDAR YEAR WITH ANALOGOUS MODEL STOCKS LISTED IN PARENTHESES

Landed catch distribution tables can be accessed at the following link: Landed Catch Distribution Tables.

These data result from cohort analysis of CWT recoveries for the indicator stocks; data within a row for each calendar year sum to 100%. Total mortality includes mortality in the form of landed catch and incidental, nonlanded mortality (i.e., release during nonretention periods, contact with gear, etc.). Landed catch is from direct observation programs and incidental mortalities are estimated based on sampling data and/or internal algorithms (i.e., size-at-age vulnerability algorithms and gear-specific mortality rates). Some changes are present in these distribution tables compared to those presented in previous reports due to changes in the CWT database. Values are not reported for a particular calendar year if there are less than 3 age classes present in that year or if there are less than 10 estimated CWTs in the reported catch and escapement. Where relevant, the escapement portion of the distribution includes mortalities resulting from interdam loss. Also, where escapement data is missing or only partially enumerated, those data are footnoted.

LIST OF APPENDIX C TABLES

LIST OF APPENDIX C TABLES (continued)

LIST OF APPENDIX C TABLES (continued)

Appendix C1. Percent distribution of Alaska Spring (Alaska South SE) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	264	3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	2056	3,4	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	1135	3,4,5	44.7%	3.3%	11.1%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.9%	31.3%
1982	3082	3,4,5,6	26.6%	5.2%	5.6%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.2%	56.8%
1983	6600	3,4,5,6	34.1%	1.2%	8.3%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.2%	51.2%
1984	12212	3,4,5,6	27.6%	2.5%	16.3%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%	50.4%
1985	19113	3,4,5,6	28.4%	8.8%	13.0%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	2.1%	45.8%
1986	19562	3,4,5,6	26.8%	10.2%	12.5%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	3.7%	45.2%
1987	18816	3,4,5,6	34.0%	4.6%	7.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	7.2%	46.1%
1988	17173	3,4,5,6	31.5%	4.3%	10.5%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	6.9%	45.2%
1989	14563	3,4,5,6	22.9%	16.4%	9.4%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.2%	5.1%	41.1%
1990	17332	3,4,5,6	36.6%	6.6%	10.2%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	9.6%	34.9%
1991	16039	3,4,5,6	37.0%	6.6%	10.0%	0.6%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.1%	34.1%
1992	10304	3,4,5,6	18.8%	31.9%	8.8%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	8.6%	31.2%
1993	6840	3,4,5,6	21.5%	7.3%	12.4%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.2%	8.4%	47.8%
1994	8592	3,4,5,6	14.1%	36.5%	10.1%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.7%	2.8%	33.2%
1995	7419	3,4,5,6	26.8%	12.7%	11.3%	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.3%	7.0%	33.0%
1996	6950	3,4,5,6	24.2%	7.5%	15.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.9%	14.0%	33.4%
1997	6152	3,4,5,6	24.6%	6.2%	14.6%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.8%	17.6%	32.9%
1998	4352	3,4,5,6	25.0%	11.6%	13.7%	0.0%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.4%	14.3%	30.4%
1999	6767	3,4,5,6	20.8%	3.7%	16.8%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	13.7%	41.2%
2000	7265	3,4,5,6	23.3%	4.4%	13.4%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.7%	11.7%	43.8%
2001	7341	3,4,5,6	17.1%	3.3%	10.4%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%	9.0%	57.9%
2002	6429	3,4,5,6	12.8%	2.5%	9.9%	1.1%	0.8%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.4%	7.9%	62.4%
2003	6318	3,4,5,6	17.9%	2.2%	9.7%	0.8%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.2%	59.0%
2004	9141	3,4,5,6	18.0%	7.0%	6.5%	0.5%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	9.3%	57.4%
2005	9195	3,4,5,6	26.2%	7.2%	13.2%	0.4%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	18.9%	33.3%
2006	11527	3,4,5,6	35.0%	4.7%	6.8%	0.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	9.6%	40.8%
2007	11468	3,4,5,6	31.3%	7.0%	6.6%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	9.7%	43.5%
2008	10577	3,4,5,6	21.1%	4.7%	4.2%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	14.2%	54.3%
2009	8206	3,4,5,6	17.2%	4.7%	4.3%	0.5%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.0%	8.0%	59.1%
2010	6286	3,4,5,6	18.9%	5.6%	9.1%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%	8.9%	55.6%
2011	6442	3,4,5,6	12.8%	9.7%	5.6%	0.4%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.2%	11.1%	56.5%
1979-2011	9781		25.1%	8.1%	10.2%	0.5%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%	9.0%	44.8%
1979-1984	5757		33.2%	3.0%	10.3%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.5%	47.4%
1985-1995	14159		27.1%	13.3%	10.5%	0.7%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.8%	6.6%	39.8%
1996-1998	5818		24.6%	8.5%	14.6%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	15.3%	32.2%
1999-2011	8228		20.9%	5.1%	9.0%	0.4%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	10.9%	51.1%

Appendix C2. Percent distribution of Atnarko River (North/Central B.C.) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1985	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1987	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1988	6	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1989	37	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1990	145	2,3,4	20.7%	4.1%	0.0%	1.4%	1.4%	0.7%	0.0%	0.0%	0.0%	4.1%	14.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.8%	0.0%	50.3%
1991	757	2,3,4,5	7.7%	0.1%	0.0%	1.7%	2.1%	0.4%	0.0%	0.0%	0.0%	0.9%	20.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.7%	1.3%	61.6%
1992	981	2,3,4,5,6	8.9%	0.0%	0.0%	1.8%	3.7%	0.3%	0.0%	0.0%	0.0%	5.3%	18.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.6%	1.8%	56.4%
1993	1363	2,3,4,5,6	10.5%	0.9%	0.6%	4.5%	3.6%	0.4%	0.0%	0.0%	0.0%	1.2%	12.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.3%	2.1%	60.9%
1994	1701	2,3,4,5,6	7.6%	0.2%	0.3%	1.5%	2.3%	0.0%	0.0%	0.0%	0.0%	2.6%	18.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.2%	0.8%	64.5%
1995	2405	2,3,4,5,6	4.4%	0.1%	1.1%	1.1%	3.5%	0.0%	0.0%	0.0%	0.0%	0.3%	18.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.2%	2.6%	63.6%
1996	2083	2,3,4,5,6	2.5%	0.0%	0.5%	0.2%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%	13.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.3%	4.5%	71.3%
1997	1193	2,3,4,5,6	4.5%	0.0%	1.5%	0.2%	3.9%	0.0%	0.0%	0.0%	0.0%	0.5%	10.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.2%	4.3%	66.2%
1998	1087	2,3,4,5,6	7.1%	0.0%	0.5%	0.0%	6.3%	0.0%	0.0%	0.0%	0.0%	0.0%	15.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.0%	2.9%	57.8%
1999	1461	2,3,4,5,6	5.9%	0.0%	2.5%	0.0%	4.4%	0.0%	0.0%	0.0%	0.0%	0.0%	7.7%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	4.1%	3.6%	71.5%
2000	1051	2,3,4,5,6	6.5%	0.1%	0.0%	0.0%	3.5%	0.0%	0.0%	0.0%	0.0%	0.0%	7.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.9%	4.1%	70.4%
2001	706	2,3,4,5,6	6.7%	0.0%	1.6%	0.0%	3.1%	0.4%	0.0%	0.0%	0.0%	0.0%	15.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	9.3%	4.0%	59.8%
2002	771	2,3,4,5,6	5.2%	0.1%	0.5%	8.8%	6.1%	0.8%	0.0%	0.0%	0.0%	0.0%	17.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%	2.2%	51.4%
2003	646	2,3,4,5,6	4.8%	0.2%	0.0%	2.8%	16.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	30.5%	3.9%	41.0%
2004	691	2,3,4,5,6	9.8%	0.0%	0.0%	3.6%	11.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	28.9%	1.6%	44.3%
2005	945	3,4,5,6	12.9%	0.1%	0.8%	4.6%	16.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	22.6%	2.0%	40.4%
2006	1432	4,5,6	8.6%	0.0%	1.1%	2.2%	8.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	13.2%	2.4%	64.5%
2007	409	2,5,6	11.5%	0.0%	2.4%	1.2%	9.3%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	22.5%	2.4%	50.1%
2008	151	2,3,6	6.6%	0.0%	0.7%	1.3%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	13.9%	0.0%	75.5%
2009	708	2,3,4	8.9%	0.0%	0.0%	2.8%	5.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	34.9%	3.4%	44.1%
2010	805	2,3,4,5	10.6%	0.1%	0.6%	2.6%	9.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	23.6%	2.0%	51.4%
2011	448	2,3,4,5,6	13.8%	0.0%	0.7%	8.5%	12.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	15.0%	3.6%	46.4%
2012	718	3,4,5,6	7.7%	0.7%	0.6%	1.7%	3.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.8%	0.0%	74.0%
1979-2012	985		8.4%	0.3%	0.7%	2.3%	6.1%	0.2%	0.0%	0.0%	0.0%	0.7%	8.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.5%	2.4%	58.1%
1979-1984	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1985-1995	1225		10.0%	0.9%	0.3%	2.0%	2.8%	0.3%	0.0%	0.0%	0.0%	2.4%	17.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.3%	1.5%	59.5%
1996-1998	1454		4.7%	0.0%	0.8%	0.1%	4.0%	0.0%	0.0%	0.0%	0.0%	0.2%	13.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.9%	3.9%	65.1%
1999-2012	782		8.5%	0.1%	0.8%	2.9%	8.0%	0.1%	0.0%	0.0%	0.0%	0.0%	3.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	17.5%	2.5%	56.1%

Appendix C3. Percent distribution of Big Qualicum River Fall (Lower Strait of Georgia Hatchery and Natural) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	5102	2,3,4,5	4.4%	0.7%	0.5%	1.9%	0.4%	2.5%	0.1%	20.9%	15.2%	10.5%	11.9%	0.0%	0.0%	0.0%	0.1%	0.3%	0.0%	0.0%	0.0%	2.7%	27.8%
1980	2932	2,3,4,5	1.5%	1.8%	0.4%	4.6%	1.5%	4.7%	0.0%	15.2%	20.1%	7.1%	12.9%	0.0%	0.2%	0.0%	0.0%	0.3%	0.2%	0.0%	0.0%	3.6%	25.8%
1981	1545	2,3,4,5	2.4%	0.1%	0.4%	1.5%	0.8%	1.7%	0.3%	17.5%	32.9%	12.3%	14.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.6%	0.0%	0.0%	4.0%	11.2%
1982	788	2,3,4,5	5.5%	0.8%	1.3%	4.7%	0.4%	4.6%	0.0%	12.6%	11.3%	6.1%	20.3%	0.0%	0.0%	0.0%	0.0%	1.1%	0.8%	0.0%	0.0%	1.6%	29.1%
1983	695	2,3,4,5	5.5%	0.3%	0.7%	5.0%	1.2%	1.2%	0.0%	14.5%	15.3%	7.1%	18.7%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.0%	0.0%	8.2%	21.4%
1984	559	2,3,4,5	2.0%	0.4%	0.0%	1.4%	6.4%	1.6%	0.0%	9.1%	39.4%	7.0%	9.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.7%	18.4%
1985	816	2,3,4,5	6.5%	1.3%	0.0%	2.1%	2.1%	1.6%	0.0%	2.2%	24.5%	4.3%	18.4%	0.0%	0.0%	0.0%	0.0%	3.2%	0.0%	0.0%	0.0%	8.9%	24.9%
1986	1349	2,3,4,5	3.0%	0.4%	0.0%	0.8%	2.9%	1.4%	0.0%	9.9%	29.9%	13.5%	14.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.5%	17.9%
1987	803	2,3,4,5	10.2%	0.0%	1.0%	4.2%	2.9%	4.7%	0.0%	2.1%	22.8%	2.7%	7.5%	0.0%	0.9%	0.0%	0.0%	0.7%	0.0%	0.0%	0.0%	6.6%	33.6%
1988	547	2,3,4,5	2.4%	1.8%	0.0%	2.2%	1.1%	2.7%	1.6%	1.6%	39.5%	1.1%	12.1%	0.0%	0.0%	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%	4.4%	28.2%
1989	627	2,3,4,5	4.5%	5.6%	0.8%	3.5%	1.8%	4.9%	0.0%	1.9%	22.5%	0.5%	7.8%	0.0%	0.3%	0.0%	0.0%	0.0%	1.1%	0.0%	0.0%	17.9%	27.0%
1990	784	2,3,4,5	4.8%	4.7%	0.0%	6.6%	2.4%	3.1%	0.0%	3.7%	19.3%	1.7%	16.1%	0.0%	0.1%	0.0%	0.0%	0.0%	2.6%	0.0%	0.0%	4.5%	30.5%
1991	788	2,3,4,5	2.8%	3.7%	0.0%	2.3%	1.9%	2.0%	0.0%	6.0%	33.2%	1.3%	7.2%	0.0%	0.5%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	10.7%	28.0%
1992	752	2,3,4,5	3.3%	5.5%	2.5%	5.5%	6.4%	3.2%	0.0%	9.8%	29.3%	5.6%	4.4%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	5.2%	19.0%
1993	520	2,3,4,5	1.5%	2.3%	0.0%	1.5%	2.5%	1.7%	0.0%	4.2%	42.9%	4.4%	8.3%	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	0.0%	0.0%	4.6%	24.8%
1994	282	2,3,4,5	5.0%	0.0%	0.0%	1.8%	1.8%	2.8%	0.0%	5.0%	26.6%	1.8%	5.7%	0.0%	0.0%	0.0%	0.0%	2.8%	0.0%	0.0%	0.0%	6.4%	40.4%
1995	244	2,3,4,5	7.0%	0.0%	0.0%	2.0%	3.3%	0.0%	0.0%	0.0%	17.6%	0.0%	9.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.2%	50.0%
1996	370	2,3,4,5	3.0%	0.0%	0.0%	0.5%	0.8%	0.3%	0.0%	0.0%	55.1%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	0.0%	0.0%	2.2%	36.2%
1997	230	2,3,4,5	4.8%	0.0%	0.0%	3.5%	2.2%	0.0%	4.3%	0.9%	10.9%	3.5%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	21.7%	45.2%
1998	204	2,3,4,5	7.4%	1.0%	0.0%	0.0%	6.9%	0.0%	0.0%	0.0%	14.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	9.3%	60.8%
1999	293	2,3,4,5	6.1%	2.4%	0.0%	3.8%	4.8%	0.0%	3.8%	0.0%	12.6%	3.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	0.0%	2.4%	59.7%
2000	250	2,3,4,5	16.8%	1.6%	0.0%	0.0%	2.8%	0.0%	0.0%	0.0%	10.4%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	3.6%	0.0%	0.0%	0.0%	4.0%	60.4%
2001	541	2,3,4,5	4.6%	13.3%	0.0%	0.0%	11.1%	0.6%	0.0%	0.0%	9.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.8%	0.0%	0.0%	0.0%	2.2%	56.7%
2002	338	2,3,4,5	11.2%	0.0%	3.3%	3.6%	6.5%	1.8%	3.3%	0.0%	6.8%	0.0%	5.0%	0.0%	0.0%	0.0%	0.9%	2.1%	0.0%	0.0%	0.0%	3.6%	52.1%
2003	278	2,3,4,5	8.6%	0.7%	2.2%	0.0%	14.7%	3.2%	0.0%	0.0%	12.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	58.3%
2004	394	2,3,4,5	8.6%	0.0%	0.3%	5.8%	3.8%	1.5%	0.0%	0.0%	8.1%	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	1.5%	0.0%	0.0%	0.0%	0.8%	69.0%
2005	596	2,3,4,5	9.7%	0.5%	0.0%	2.0%	14.9%	5.2%	2.9%	0.0%	8.1%	0.0%	1.0%	0.0%	0.5%	0.0%	0.7%	3.5%	0.0%	0.0%	0.0%	1.5%	49.5%
2006	625	2,3,4,5	5.3%	4.2%	1.0%	1.6%	4.8%	0.6%	0.0%	0.0%	4.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.2%	0.0%	0.0%	0.0%	3.7%	73.9%
2007	626	2,3,4,5	12.3%	0.5%	0.5%	5.3%	8.9%	0.6%	2.2%	0.0%	6.5%	0.0%	1.0%	0.0%	0.0%	0.0%	0.0%	1.4%	0.0%	0.0%	0.0%	5.6%	55.1%
2008	437	2,3,4,5	5.3%	0.9%	0.5%	1.8%	7.6%	0.9%	6.9%	0.0%	9.2%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	2.1%	4.8%	0.0%	0.0%	2.5%	57.2%
2009	550	2,3,4,5	4.5%	5.6%	0.0%	2.0%	3.6%	1.6%	5.1%	0.0%	9.1%	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	0.9%	0.9%	0.0%	0.0%	2.7%	63.3%
2010	473	2,3,4,5	7.0%	0.2%	1.5%	1.5%	8.7%	1.1%	3.6%	0.0%	13.1%	0.0%	0.0%	0.0%	1.9%	0.0%	0.0%	1.9%	0.0%	0.0%	0.0%	0.0%	59.6%
2011	532	2,3,4,5	7.5%	1.9%	2.1%	0.0%	7.7%	0.9%	1.1%	0.0%	10.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	0.0%	0.0%	0.0%	1.1%	65.0%
2012	536	2,3,4,5	7.1%	2.4%	0.0%	3.4%	9.1%	1.1%	0.0%	0.0%	23.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	0.0%	0.0%	1.1%	50.7%
1979-2012	777		5.9%	1.9%	0.6%	2.5%	4.7%	1.9%	1.0%	4.0%	19.6%	2.8%	6.2%	0.0%	0.2%	0.0%	0.1%	0.9%	0.5%	0.0%	0.0%	5.1%	42.1%
1979-1984	1937		3.5%	0.7%	0.5%	3.2%	1.8%	2.7%	0.1%	15.0%	22.4%	8.3%	14.6%	0.0%	0.0%	0.0%	0.0%	0.3%	0.4%	0.0%	0.0%	4.2%	22.3%
1985-1995	683		4.6%	2.3%	0.4%	3.0%	2.6%	2.6%	0.1%	4.2%	28.0%	3.3%	10.2%	0.0%	0.2%	0.0%	0.0%	0.8%	0.4%	0.0%	0.0%	7.7%	29.5%
1996-1998	268		5.0%	0.3%	0.0%	1.3%	3.3%	0.1%	1.4%	0.3%	26.9%	1.2%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	11.1%	47.4%
1999-2012	462		8.2%	2.4%	0.8%	2.2%	7.8%	1.4%	2.1%	0.0%	10.3%	0.3%	0.6%	0.0%	0.2%	0.0%	0.1%	1.5%	0.5%	0.0%	0.0%	2.2%	59.3%

Appendix C4. Percent distribution of Chilkat River total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1985	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1987	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1988	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1989	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1990	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1991	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1992	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1993	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1994	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1996	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1997	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1998	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1999	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2000	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2001	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2002	63	3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2003	310	3,4	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2004	512	3,4,5	4.3%	9.4%	6.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	80.3%
2005	548	3,4,5,6	4.9%	5.3%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	88.3%
2006	309	3,4,5,6	3.2%	1.9%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	93.2%
2007	274	3,4,5,6	5.1%	10.6%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	80.3%
2008	442	3,4,5,6	5.2%	6.1%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	88.0%
2009	570	3,4,5,6	3.5%	1.8%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	94.6%
2010	300	3,4,5,6	5.0%	12.3%	5.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	77.3%
2011	341	3,4,5,6	5.6%	10.0%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	83.0%
1979-2011	412		4.6%	7.2%	2.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	85.6%
1979-1984	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1985-1995	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1996-1998	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1999-2011	412		4.6%	7.2%	2.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	85.6%

Appendix C5. Percent distribution of Chilliwack River Fall (Fraser Late) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	3147	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	4632	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1985	2264	2,3,4	1.1%	0.1%	0.0%	0.4%	0.2%	33.9%	0.0%	6.3%	22.1%	2.3%	6.3%	0.0%	3.9%	0.0%	0.4%	4.8%	4.3%	0.0%	0.0%	1.1%	12.9%
1986	2155	2,3,4,5	0.0%	0.0%	0.0%	0.8%	0.2%	20.2%	0.0%	9.4%	18.4%	2.6%	12.9%	0.0%	2.7%	0.0%	0.2%	4.9%	7.6%	0.0%	0.0%	1.3%	18.7%
1987	2651	2,3,4,5	0.0%	0.0%	0.0%	0.8%	0.3%	19.0%	0.5%	16.0%	18.9%	0.5%	2.3%	0.0%	4.0%	0.0%	0.2%	3.6%	2.8%	0.0%	0.0%	1.2%	29.9%
1988	2389	2,3,4,5	0.4%	0.1%	0.0%	0.2%	0.0%	18.1%	0.0%	6.4%	13.1%	0.0%	2.3%	0.0%	4.2%	0.0%	0.1%	4.0%	2.8%	0.0%	0.0%	2.6%	45.6%
1989	1305	2,3,4,5	0.3%	0.0%	0.0%	0.0%	0.0%	23.3%	0.0%	1.8%	21.2%	0.0%	3.6%	0.0%	5.8%	0.0%	0.2%	3.6%	1.3%	0.0%	0.0%	0.6%	38.3%
1990	1803	2,3,4,5	0.9%	0.0%	0.0%	0.0%	0.3%	10.5%	2.0%	3.4%	17.1%	0.1%	4.8%	0.0%	6.1%	0.0%	0.5%	15.5%	7.5%	0.0%	0.0%	1.1%	30.1%
1991	3136	2,3,4,5	0.3%	0.1%	0.0%	0.4%	0.1%	19.1%	0.6%	9.0%	15.9%	0.2%	5.2%	0.0%	13.3%	0.0%	0.1%	5.8%	5.1%	0.0%	0.0%	1.5%	23.3%
1992	4172	2,3,4,5	0.3%	0.0%	0.0%	0.1%	0.1%	20.1%	0.1%	6.6%	10.8%	0.7%	1.6%	0.0%	8.7%	0.0%	0.1%	0.9%	3.5%	0.0%	0.0%	1.2%	45.1%
1993	1991	2,3,4,5	0.3%	0.0%	0.0%	0.0%	0.4%	13.3%	0.4%	8.1%	7.0%	0.0%	1.4%	0.0%	7.6%	0.0%	0.0%	0.0%	1.1%	0.0%	0.0%	2.0%	58.4%
1994	740	2,3,4,5	0.4%	0.4%	0.0%	0.8%	0.0%	8.1%	2.6%	3.2%	7.7%	0.4%	7.3%	0.0%	1.5%	0.0%	0.0%	5.3%	5.9%	0.0%	0.0%	5.8%	50.5%
1995	2252	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.2%	12.5%	0.4%	0.0%	7.8%	0.0%	4.3%	0.0%	1.1%	0.0%	0.0%	1.4%	2.4%	0.0%	0.0%	1.0%	68.8%
1996	1799	2,3,4,5	0.2%	0.0%	0.0%	0.1%	0.0%	1.9%	0.3%	0.0%	23.0%	0.0%	2.7%	0.0%	3.9%	0.0%	0.0%	1.1%	4.3%	0.0%	0.0%	2.2%	60.3%
1997	2443	2,3,4,5	0.6%	0.0%	0.0%	0.1%	0.5%	12.6%	1.9%	0.0%	14.7%	0.3%	4.8%	0.0%	4.5%	0.0%	0.1%	2.5%	4.0%	0.0%	0.0%	2.5%	51.0%
1998	3189	2,3,4,5	0.5%	0.0%	0.0%	0.0%	0.3%	0.2%	0.3%	0.0%	4.0%	0.0%	0.5%	0.0%	3.1%	0.0%	0.0%	0.3%	0.9%	0.0%	0.0%	1.3%	88.6%
1999	3389	2,3,4,5	0.1%	0.0%	0.0%	0.2%	0.1%	0.3%	1.9%	0.0%	11.2%	0.0%	0.4%	0.0%	13.5%	0.0%	0.5%	0.7%	0.6%	0.0%	0.0%	1.6%	68.9%
2000	2719	2,3,4,5	0.1%	0.0%	0.0%	0.0%	0.5%	5.8%	2.7%	0.0%	5.1%	0.0%	0.0%	0.0%	4.4%	0.0%	0.1%	0.7%	1.0%	0.0%	0.0%	2.5%	76.9%
2001	4269	2,3,4,5	0.1%	0.1%	0.0%	0.0%	0.2%	3.7%	1.6%	0.0%	9.2%	0.0%	0.2%	0.0%	6.2%	0.0%	0.4%	1.1%	4.8%	0.0%	0.0%	12.9%	59.8%
2002	5155	2,3,4,5	0.3%	0.0%	0.0%	0.1%	0.3%	8.2%	4.8%	0.0%	4.2%	0.0%	0.7%	0.0%	8.1%	0.0%	1.1%	0.3%	2.1%	0.0%	0.0%	5.3%	64.4%
2003	4671	2,3,4,5	0.2%	0.0%	0.0%	0.0%	0.2%	5.7%	2.8%	0.0%	3.2%	0.0%	0.3%	0.0%	8.5%	0.0%	0.5%	0.3%	1.3%	0.0%	0.0%	6.4%	70.6%
2004	6773	2,3,4,5	0.2%	0.0%	0.0%	0.2%	0.0%	5.3%	2.3%	0.0%	0.8%	0.0%	0.7%	0.0%	6.8%	0.0%	0.2%	0.1%	1.1%	0.0%	0.0%	4.8%	77.5%
2005	4064	2,3,4,5	0.0%	0.0%	0.0%	0.1%	0.2%	7.5%	4.2%	0.0%	3.7%	0.0%	3.6%	0.0%	3.8%	0.0%	0.9%	0.9%	1.0%	0.0%	0.0%	6.0%	68.1%
2006	3014	2,3,4,5	0.0%	0.0%	0.0%	0.5%	0.0%	7.4%	2.2%	0.0%	2.4%	0.0%	0.6%	0.0%	2.8%	0.0%	0.3%	0.3%	1.7%	0.0%	0.0%	4.5%	77.3%
2007	1821	2,3,4,5	0.0%	0.0%	0.0%	0.3%	0.0%	8.4%	3.2%	0.0%	2.3%	0.0%	3.0%	0.0%	2.6%	0.0%	0.2%	0.7%	1.8%	0.0%	0.2%	6.7%	70.6%
2008	2849	2,3,4,5	0.3%	0.0%	0.0%	0.0%	0.0%	11.0%	4.9%	0.0%	2.1%	0.0%	1.1%	0.0%	4.7%	0.0%	1.7%	0.9%	1.9%	0.0%	0.0%	9.8%	61.6%
2009	3017	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	3.2%	0.0%	4.6%	0.0%	3.8%	0.0%	0.7%	0.0%	0.3%	1.3%	3.7%	0.0%	0.0%	14.0%	66.7%
2010	5381	2,3,4,5	0.3%	0.0%	0.0%	0.1%	0.0%	3.1%	3.1%	0.0%	7.9%	0.0%	1.9%	0.0%	4.2%	0.0%	1.1%	1.0%	1.8%	0.0%	0.0%	7.1%	68.4%
2011	4963	2,3,4,5	0.0%	0.0%	0.0%	0.1%	0.2%	4.4%	3.4%	0.0%	4.0%	0.0%	1.9%	0.0%	1.6%	0.0%	0.6%	1.3%	3.2%	0.0%	0.0%	3.5%	75.8%
2012	5185	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	1.9%	0.0%	10.4%	0.0%	0.2%	0.0%	8.5%	0.0%	0.8%	0.5%	3.8%	0.0%	0.3%	4.1%	68.3%
1979-2012	3199		0.2%	0.0%	0.0%	0.2%	0.2%	10.2%	1.8%	2.5%	9.7%	0.3%	2.8%	0.0%	5.2%	0.0%	0.4%	2.3%	3.0%	0.0%	0.0%	4.1%	57.0%
1979-1984	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1985-1995	2260		0.4%	0.1%	0.0%	0.3%	0.2%	18.0%	0.6%	6.4%	14.5%	0.6%	4.7%	0.0%	5.3%	0.0%	0.2%	4.5%	4.0%	0.0%	0.0%	1.8%	38.3%
1996-1998	2477		0.4%	0.0%	0.0%	0.1%	0.3%	4.9%	0.8%	0.0%	13.9%	0.1%	2.7%	0.0%	3.9%	0.0%	0.0%	1.3%	3.0%	0.0%	0.0%	2.0%	66.6%
1999-2012	4091		0.1%	0.0%	0.0%	0.1%	0.1%	5.2%	3.0%	0.0%	5.1%	0.0%	1.3%	0.0%	5.4%	0.0%	0.6%	0.7%	2.1%	0.0%	0.0%	6.4%	69.6%

Appendix C6. Percent distribution of Cowichan River Fall (Lower Strait of Georgia Natural) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1985	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1987	123	2	Failed	Criteria		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1988	308	3	Failed	Criteria		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1989	626	2,4	Failed	Criteria		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1990	2072	2,3,5	0.0%	0.0%	0.0%	0.1%	0.5%	2.2%	0.0%	13.0%	54.9%	1.1%	10.1%	0.0%	0.6%	0.0%	0.2%	3.5%	1.9%	0.0%	0.4%	1.3%	10.2%
1991	4234	2,3,4	0.1%	0.0%	0.0%	0.2%	1.2%	3.9%	0.7%	9.0%	59.7%	0.4%	4.2%	0.0%	0.7%	0.0%	0.0%	3.3%	0.9%	0.0%	0.4%	0.7%	14.6%
1992	4588	2,3,4,5	0.1%	0.1%	0.0%	0.4%	0.7%	8.7%	1.1%	17.9%	51.9%	1.0%	4.1%	0.0%	0.2%	0.0%	0.0%	1.3%	1.3%	0.0%	0.7%	0.5%	10.2%
1993	4138	2,3,4,5	0.3%	0.0%	0.0%	0.1%	1.1%	7.9%	1.4%	11.9%	52.6%	0.5%	3.3%	0.0%	0.6%	0.0%	0.0%	0.9%	0.5%	0.0%	1.0%	0.7%	17.3%
1994	1342	2,3,4,5	0.5%	0.0%	0.0%	0.4%	0.0%	3.9%	0.7%	4.8%	41.3%	0.1%	7.7%	0.0%	0.4%	0.0%	0.0%	4.1%	0.7%	0.0%	3.7%	2.3%	29.3%
1995	1674	2,3,4,5	0.2%	0.0%	0.0%	0.0%	0.0%	5.4%	0.6%	0.0%	37.4%	0.0%	2.9%	0.0%	0.0%	0.0%	0.0%	2.4%	1.1%	0.0%	1.5%	4.4%	44.1%
1996	1356	2,3,4,5	0.3%	0.0%	0.0%	0.0%	0.0%	0.4%	1.0%	0.0%	50.1%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	1.0%	4.8%	0.0%	4.7%	2.6%	34.4%
1997	937	2,3,4,5	1.1%	0.0%	0.0%	0.0%	0.5%	3.3%	0.9%	0.0%	25.9%	0.0%	1.2%	0.0%	0.0%	0.0%	0.0%	3.4%	3.4%	0.0%	0.3%	2.9%	57.1%
1998	471	2,3,4,5	3.8%	0.0%	0.0%	0.0%	0.8%	0.4%	1.7%	0.0%	26.1%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	3.6%	0.0%	0.0%	8.7%	8.9%	45.4%
1999	578	2,3,4,5	0.0%	0.0%	0.0%	0.0%	1.2%	0.0%	3.5%	0.0%	46.2%	0.0%	0.0%	0.0%	0.9%	0.0%	0.5%	7.6%	0.0%	0.0%	2.2%	5.5%	32.4%
2000	801	2,3,4,5	0.7%	0.4%	0.0%	0.0%	0.0%	1.2%	4.7%	0.0%	18.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	2.2%	0.0%	0.5%	7.5%	58.8%
2001	784	2,3,4,5	0.4%	0.0%	0.0%	0.0%	0.1%	9.6%	0.0%	0.0%	32.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	12.8%	2.9%	0.0%	6.6%	2.4%	32.9%
2002	739	2,3,4,5	1.5%	0.0%	0.0%	0.0%	2.4%	3.4%	3.1%	0.0%	21.7%	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	4.2%	6.0%	0.0%	12.4%	14.7%	29.9%
2003	396	2,3,4,5	2.3%	0.3%	0.0%	2.5%	3.3%	9.1%	3.0%	0.0%	34.3%	0.5%	0.0%	0.0%	0.5%	0.0%	0.0%	8.1%	3.8%	0.0%	4.5%	4.0%	23.7%
2004	386	2,3,4,5	0.0%	0.5%	0.0%	0.8%	4.9%	15.5%	11.7%	0.0%	23.6%	0.0%	0.0%	0.0%	2.6%	0.0%	0.0%	6.7%	2.3%	0.0%	3.9%	3.6%	23.8%
2005	347	2,3,4,5	0.0%	0.3%	0.0%	1.4%	5.5%	23.9%	2.0%	0.0%	10.1%	0.0%	1.4%	0.0%	0.3%	0.0%	0.9%	18.7%	1.7%	0.0%	7.8%	0.0%	25.9%
2006	279	3,4,5	1.1%	0.0%	0.0%	0.7%	0.0%	21.9%	11.8%	0.0%	15.8%	0.0%	0.0%	0.0%	2.5%	0.0%	0.7%	5.4%	5.4%	0.0%	6.8%	0.0%	28.0%
2007	292	2,4,5	0.0%	0.0%	0.7%	0.0%	0.0%	7.9%	2.4%	0.0%	18.5%	0.0%	1.4%	0.0%	0.3%	0.0%	0.7%	8.6%	0.0%	0.0%	5.8%	0.0%	53.8%
2008	284	2,3,5	0.0%	0.0%	0.4%	0.0%	0.4%	11.6%	12.0%	0.0%	35.6%	0.0%	0.0%	0.0%	1.1%	0.0%	0.0%	5.3%	1.1%	0.0%	5.6%	0.0%	27.1%
2009	626	2,3,4	0.0%	0.0%	0.5%	0.0%	0.3%	5.6%	7.8%	0.0%	50.2%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	6.5%	5.4%	0.0%	5.3%	0.0%	17.7%
2010	1302	2,3,4,5	0.2%	0.1%	0.0%	0.0%	2.2%	7.8%	2.3%	0.0%	38.9%	0.0%	0.0%	0.0%	1.1%	0.0%	0.0%	6.7%	4.0%	0.0%	1.8%	0.0%	35.0%
2011	1948	2,3,4,5	0.6%	0.2%	0.0%	0.2%	2.1%	4.8%	4.8%	0.0%	21.1%	0.0%	0.0%	0.0%	1.2%	0.0%	0.2%	3.8%	5.5%	0.0%	3.1%	0.2%	52.3%
2012	3352	2,3,4,5	0.6%	0.1%	0.1%	0.5%	1.0%	3.2%	3.4%	0.0%	20.9%	0.0%	0.2%	0.0%	0.4%	0.0%	0.3%	3.6%	1.0%	0.0%	27.2%	0.2%	37.2%
1979-2012	1432		0.6%	0.1%	0.1%	0.3%	1.2%	7.0%	3.5%	2.5%	34.2%	0.2%	1.6%	0.0%	0.6%	0.0%	0.2%	5.5%	2.4%	0.0%	5.0%	2.7%	32.2%
1979-1984	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1985-1995	3008		0.2%	0.0%	0.0%	0.2%	0.6%	5.3%	0.8%	9.4%	49.6%	0.5%	5.4%	0.0%	0.4%	0.0%	0.0%	2.6%	1.0%	0.0%	1.3%	1.6%	21.0%
1996-1998	921		1.7%	0.0%	0.0%	0.0%	0.5%	1.4%	1.2%	0.0%	34.1%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	2.7%	2.7%	0.0%	4.6%	4.8%	45.7%
1999-2012	865		0.5%	0.1%	0.1%	0.4%	1.7%	9.0%	5.2%	0.0%	27.7%	0.0%	0.2%	0.0%	0.9%	0.0%	0.2%	7.4%	3.0%	0.0%	6.7%	2.7%	34.2%

Appendix C7. Percent distribution of Cowlitz Fall Tule (Fall Cowlitz Hatchery) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	28	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	282	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	417	2,3,4	6.0%	0.0%	0.0%	2.4%	6.2%	17.3%	0.0%	0.0%	0.0%	0.0%	3.4%	0.0%	12.7%	0.0%	12.7%	0.5%	0.0%	0.0%	13.9%	0.0%	24.9%
1982	505	2,3,4,5	4.2%	0.0%	0.4%	1.6%	0.0%	16.4%	1.0%	0.0%	0.0%	0.4%	3.4%	0.0%	20.2%	0.0%	10.9%	2.8%	0.0%	0.0%	7.3%	1.6%	29.9%
1983	616	2,3,4,5	4.4%	0.0%	0.0%	7.1%	0.0%	18.8%	0.0%	0.0%	0.3%	3.9%	1.0%	0.0%	7.8%	0.0%	17.7%	0.5%	0.0%	0.0%	4.4%	1.0%	33.1%
1984	794	2,3,4,5	5.2%	0.0%	0.0%	7.4%	0.9%	25.2%	0.0%	0.0%	0.0%	2.3%	1.9%	0.0%	4.8%	0.0%	0.1%	0.1%	0.0%	0.0%	14.9%	3.4%	33.9%
1985	742	2,3,4,5	3.9%	0.9%	0.0%	4.4%	0.0%	12.7%	0.0%	0.0%	0.4%	0.0%	5.7%	0.0%	5.1%	0.0%	5.7%	0.5%	0.7%	0.0%	6.7%	7.7%	45.6%
1986	1552	2,3,4,5	0.5%	0.2%	0.0%	0.2%	0.0%	13.9%	0.0%	0.0%	0.3%	0.7%	1.8%	0.0%	14.4%	0.0%	5.5%	0.3%	0.5%	0.0%	30.9%	6.3%	24.5%
1987	1481	2,3,4,5	5.7%	0.6%	0.0%	4.6%	0.0%	11.3%	0.9%	0.0%	0.0%	1.4%	0.7%	0.0%	12.2%	0.0%	7.1%	0.1%	0.5%	0.0%	21.5%	7.7%	25.7%
1988	1555	2,3,4,5	1.8%	0.6%	0.0%	2.1%	0.0%	17.9%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	15.9%	0.0%	2.0%	0.0%	0.0%	0.0%	23.1%	10.2%	25.8%
1989	611	2,3,4,5	4.3%	0.0%	0.7%	4.7%	0.0%	7.2%	0.0%	0.0%	0.0%	0.0%	1.3%	0.0%	18.8%	0.0%	3.3%	0.0%	0.3%	0.0%	6.9%	7.0%	45.5%
1990	297	2,3,4,5	4.4%	0.0%	0.0%	2.4%	0.0%	15.5%	0.0%	0.0%	0.0%	3.4%	3.7%	0.0%	10.1%	0.0%	7.7%	0.0%	4.0%	0.0%	0.0%	1.0%	47.8%
1991	151	2,3,4,5	11.3%	8.6%	0.0%	3.3%	0.0%	6.0%	3.3%	0.0%	0.0%	1.3%	0.0%	0.0%	10.6%	0.0%	3.3%	0.0%	0.0%	0.0%	9.9%	5.3%	37.1%
1992	203	2,3,4,5	2.5%	0.0%	0.0%	0.0%	1.5%	20.2%	0.0%	0.0%	0.0%	2.5%	0.0%	0.0%	7.9%	2.5%	5.4%	0.0%	0.0%	0.0%	3.4%	0.0%	54.2%
1993	362	2,3,4,5	4.1%	0.0%	0.0%	3.0%	0.0%	7.7%	0.0%	0.0%	0.0%	0.0%	1.1%	0.0%	19.1%	0.0%	7.5%	0.0%	0.0%	0.0%	3.3%	15.2%	39.0%
1994	217	2,3,4,5	5.1%	0.0%	0.0%	2.3%	0.0%	2.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	87.1%
1995	174	2,3,4,5	1.7%	0.0%	0.0%	2.9%	0.0%	2.3%	2.3%	0.0%	0.0%	0.0%	1.1%	0.0%	4.6%	0.0%	0.0%	1.1%	0.0%	0.0%	1.1%	1.7%	81.0%
1996	279	2,3,4,5	5.4%	0.0%	0.0%	0.4%	0.0%	0.7%	0.0%	0.0%	2.5%	0.0%	0.0%	0.0%	6.1%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	3.6%	80.3%
1997	173	2,3,4,5	6.4%	0.0%	11.0%	2.3%	0.0%	6.4%	0.0%	0.0%	2.9%	0.0%	0.0%	0.0%	5.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	64.7%
1998	80	2,3,4,5	5.0%	0.0%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.0%	0.0%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%	77.5%
1999	150	2,3,4,5	6.7%	0.0%	4.0%	0.0%	6.7%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	9.3%	0.0%	3.3%	0.0%	0.0%	0.0%	0.0%	14.0%	52.0%
2000	110	2,3,4,5	3.6%	0.0%	0.0%	0.0%	0.0%	8.2%	13.6%	0.0%	0.0%	0.0%	0.0%	0.0%	16.4%	0.0%	1.8%	0.0%	0.0%	0.0%	5.5%	5.5%	45.5%
2001	481	2,3,4,5	1.0%	0.0%	0.0%	0.0%	0.0%	1.2%	3.7%	0.0%	0.0%	0.0%	0.0%	0.0%	12.1%	0.0%	10.2%	0.0%	0.0%	0.0%	1.7%	2.5%	67.6%
2002	573	2,3,4,5	7.0%	0.0%	0.0%	1.0%	0.0%	6.6%	3.3%	0.0%	0.0%	0.0%	0.0%	0.0%	27.7%	0.0%	21.6%	0.0%	0.0%	0.0%	3.3%	3.8%	25.5%
2003	543	2,3,4,5	5.3%	0.0%	0.0%	1.5%	0.0%	9.6%	2.2%	0.0%	1.5%	0.0%	0.0%	0.0%	18.4%	0.0%	7.0%	0.0%	0.0%	0.0%	8.7%	5.2%	40.7%
2004	221	2,3,4,5	5.4%	0.0%	0.0%	0.9%	0.0%	5.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	19.5%	0.0%	9.5%	0.0%	2.3%	0.0%	9.0%	2.3%	45.2%
2005	239	2,3,4,5	2.9%	7.9%	0.0%	2.9%	0.0%	4.2%	3.3%	0.0%	0.0%	0.0%	0.0%	0.0%	8.4%	0.0%	5.4%	0.0%	0.0%	0.0%	3.3%	4.2%	57.3%
2006	141	2,3,4,5	5.7%	0.0%	0.0%	2.8%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.1%	0.0%	2.1%	0.0%	0.0%	0.0%	2.1%	12.1%	63.1%
2007	154	2,3,4,5	2.6%	3.9%	0.0%	5.2%	0.0%	9.7%	3.9%	0.0%	0.0%	0.0%	0.0%	0.0%	17.5%	0.0%	4.5%	0.0%	0.0%	0.0%	0.0%	0.0%	52.6%
2008	201	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	9.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.5%	0.0%	6.0%	0.0%	2.5%	0.0%	3.0%	10.9%	66.2%
2009	483	2,3,4,5	2.7%	0.0%	2.3%	0.0%	1.7%	1.4%	1.4%	0.0%	4.3%	0.0%	0.0%	0.0%	6.0%	0.0%	3.7%	0.0%	3.1%	0.0%	1.7%	7.7%	64.0%
2010	634	2,3,4,5	3.5%	0.5%	0.0%	1.3%	0.3%	3.2%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	11.5%	0.0%	10.6%	0.0%	0.0%	0.0%	1.9%	1.4%	64.5%
2011	1380	2,3,4,5	1.2%	0.1%	0.1%	0.4%	0.8%	1.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	0.0%	2.6%	0.0%	0.0%	0.0%	0.4%	0.9%	90.4%
1979-2011	501		4.2%	0.8%	0.6%	2.3%	0.6%	8.7%	1.3%	0.0%	0.4%	0.5%	0.8%	0.0%	11.2%	0.1%	5.8%	0.2%	0.5%	0.0%	6.1%	4.6%	51.4%
1979-1984	583		4.9%	0.0%	0.1%	4.6%	1.8%	19.4%	0.2%	0.0%	0.1%	1.6%	2.4%	0.0%	11.4%	0.0%	10.4%	1.0%	0.0%	0.0%	10.1%	1.5%	30.5%
1985-1995	668		4.1%	1.0%	0.1%	2.7%	0.1%	10.6%	0.6%	0.0%	0.1%	0.8%	1.5%	0.0%	11.1%	0.2%	4.3%	0.2%	0.6%	0.0%	9.7%	5.6%	46.7%
1996-1998	177		5.6%	0.0%	3.7%	2.6%	0.0%	2.4%	0.0%	0.0%	1.8%	0.0%	0.0%	0.0%	7.1%	0.0%	0.8%	0.0%	0.0%	0.0%	0.4%	1.6%	74.2%
1999-2011	408		3.7%	1.0%	0.5%	1.2%	0.7%	5.3%	2.6%	0.0%	0.4%	0.0%	0.0%	0.0%	12.2%	0.0%	6.8%	0.0%	0.6%	0.0%	3.1%	5.4%	56.5%

Appendix C8. Percent distribution of Dome Creek Spring (Fraser Early) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1985	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1987	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1988	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1989	1	3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1990	41	3,4	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1991	153	3,4,5	0.0%	0.0%	0.0%	0.0%	3.3%	0.7%	0.0%	0.7%	7.2%	0.0%	5.2%	0.0%	2.0%	0.0%	0.0%	0.0%	13.7%	0.0%	0.0%	3.3%	64.1%
1992	164	3,4,5,6	0.0%	0.0%	0.0%	0.0%	2.4%	4.3%	0.0%	3.7%	7.3%	0.0%	44.5%	0.0%	1.2%	0.0%	0.0%	0.0%	6.1%	0.0%	0.0%	0.0%	30.5%
1993	361	3,4,5,6	0.0%	0.0%	0.0%	0.0%	2.8%	1.7%	0.0%	0.0%	6.6%	0.0%	48.8%	0.0%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.5%	33.0%
1994	304	3,4,5,6	1.0%	0.0%	0.0%	0.0%	0.0%	2.0%	0.0%	0.0%	1.6%	0.0%	27.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.6%	65.8%
1995	535	3,4,5,6	0.0%	0.0%	0.0%	0.7%	0.0%	1.7%	0.0%	0.0%	6.9%	0.0%	20.7%	0.0%	0.4%	0.0%	0.0%	0.0%	1.5%	0.0%	0.0%	3.0%	65.0%
1996	374	3,4,5,6	0.0%	0.0%	0.0%	0.5%	1.1%	0.0%	0.0%	0.0%	8.0%	0.0%	36.9%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	0.0%	0.0%	4.3%	47.1%
1997	327	3,4,5,6	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	0.3%	0.0%	7.6%	0.0%	38.8%	0.0%	1.2%	0.0%	0.0%	1.2%	0.0%	0.0%	0.0%	0.0%	49.8%
1998	247	3,4,5,6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.7%	0.0%	44.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.9%	41.3%
1999	63	3,4,5,6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	23.8%	0.0%	30.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	9.5%	36.5%
2000	119	3,4,5,6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	23.5%	0.0%	41.2%	0.0%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	32.8%
2001	326	3,4,5,6	0.0%	0.0%	0.0%	0.0%	0.9%	1.8%	0.0%	0.0%	17.5%	0.0%	56.7%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.8%	19.9%
2002	151	4,5,6	0.0%	0.0%	0.0%	11.3%	0.0%	9.9%	0.0%	0.0%	11.9%	0.0%	19.2%	0.0%	3.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	44.4%
2003	152	3,5,6	0.0%	0.0%	0.0%	5.3%	0.0%	0.0%	7.2%	0.0%	12.5%	0.0%	59.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	15.1%
2004	12	3,4,6	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2005	214	3,4,5	0.0%	0.0%	0.0%	4.2%	0.0%	0.5%	0.0%	0.0%	4.7%	0.0%	56.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	0.0%	0.0%	7.5%	26.2%
2006	110	4,5,6	0.0%	0.0%	0.0%	0.0%	0.0%	7.3%	0.0%	0.0%	5.5%	0.0%	43.6%	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	42.7%
2007	20	5,6	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2008	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2009	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2010	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2011	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2012	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1979-2012	240		0.1%	0.0%	0.0%	1.5%	0.7%	2.0%	0.5%	0.3%	10.2%	0.0%	38.2%	0.0%	0.9%	0.0%	0.0%	0.1%	1.6%	0.0%	0.0%	3.0%	40.9%
1979-1984	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1985-1995	303		0.2%	0.0%	0.0%	0.1%	1.7%	2.0%	0.0%	0.9%	5.9%	0.0%	29.2%	0.0%	1.0%	0.0%	0.0%	0.0%	4.3%	0.0%	0.0%	2.9%	51.7%
1996-1998	316		0.0%	0.0%	0.0%	0.2%	0.4%	0.3%	0.1%	0.0%	7.8%	0.0%	40.0%	0.0%	0.4%	0.0%	0.0%	0.4%	0.7%	0.0%	0.0%	3.7%	46.1%
1999-2012	162		0.0%	0.0%	0.0%	3.0%	0.1%	2.8%	1.0%	0.0%	14.2%	0.0%	43.8%	0.0%	1.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	2.8%	31.1%

Appendix C9. Percent distribution of Elk River (Oregon Coast) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	30	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	270	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	1193	2,3,4	2.4%	0.1%	0.2%	3.2%	0.0%	4.0%	0.0%	0.0%	0.0%	0.6%	1.3%	0.0%	12.4%	0.0%	0.4%	0.3%	0.0%	0.0%	0.0%	66.9%	8.3%
1982	3181	2,3,4,5	1.0%	0.4%	0.2%	1.7%	0.0%	4.7%	0.0%	0.0%	0.0%	0.3%	0.6%	0.0%	16.9%	0.0%	0.8%	0.4%	0.0%	0.0%	0.0%	54.6%	18.3%
1983	3010	2,3,4,5	3.5%	0.1%	0.0%	6.4%	0.0%	7.6%	0.1%	0.0%	0.0%	1.4%	0.0%	0.0%	12.2%	0.0%	0.4%	0.0%	0.3%	0.0%	0.0%	27.3%	40.6%
1984	2360	2,3,4,5	3.1%	0.0%	0.0%	4.2%	0.1%	5.5%	0.0%	0.0%	0.0%	0.6%	0.2%	0.0%	8.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	20.1%	57.6%
1985	1990	2,3,4,5	1.8%	0.0%	0.0%	2.2%	0.0%	1.2%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	5.6%	0.0%	1.4%	0.0%	0.0%	0.0%	0.0%	32.1%	55.5%
1986	1068	2,3,4,5	1.9%	0.0%	0.0%	2.8%	0.0%	12.2%	0.5%	0.0%	0.5%	2.2%	0.0%	0.0%	34.9%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	13.4%	30.9%
1987	2140	2,3,4,5	0.8%	0.0%	0.0%	3.8%	0.0%	6.0%	0.7%	0.0%	0.0%	0.8%	0.0%	0.0%	24.9%	0.0%	1.1%	0.0%	0.0%	0.0%	0.0%	23.6%	38.3%
1988	2231	2,3,4,5	0.5%	0.0%	0.0%	2.9%	0.0%	3.8%	0.0%	0.0%	0.0%	0.2%	0.1%	0.0%	18.8%	0.0%	0.5%	0.0%	0.2%	0.0%	0.0%	35.5%	37.4%
1989	1390	2,3,4,5	0.7%	0.0%	0.3%	1.3%	0.4%	1.9%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	28.6%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	31.4%	34.7%
1990	561	2,3,4,5	1.1%	0.0%	0.0%	0.0%	0.0%	2.7%	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	17.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	37.8%	40.5%
1991	482	2,3,4,5	0.0%	1.0%	0.0%	2.5%	0.0%	6.2%	0.0%	0.0%	0.0%	0.0%	1.2%	0.0%	5.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	27.8%	55.4%
1992	726	2,3,4,5	3.2%	4.4%	0.0%	0.0%	0.0%	8.0%	0.8%	0.0%	0.0%	0.0%	0.3%	0.0%	13.2%	0.0%	0.4%	1.2%	0.0%	0.0%	0.0%	33.6%	34.8%
1993	1035	2,3,4,5	2.9%	0.0%	0.0%	2.6%	0.3%	6.1%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	24.6%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	21.9%	40.4%
1994	1703	2,3,4,5	3.7%	0.8%	0.0%	1.9%	0.5%	2.8%	0.0%	0.0%	0.0%	0.2%	0.6%	0.0%	17.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	34.8%	37.3%
1995	3473	2,3,4,5	2.4%	0.7%	0.6%	1.2%	0.2%	2.2%	0.3%	0.0%	0.0%	0.0%	0.9%	0.0%	13.6%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	32.8%	45.0%
1996	5120	2,3,4,5	2.2%	0.0%	0.0%	1.8%	0.2%	0.5%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	29.0%	0.0%	0.2%	0.0%	0.2%	0.0%	0.0%	12.0%	53.6%
1997	4216	2,3,4,5	15.5%	0.0%	0.1%	1.9%	0.4%	1.4%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	19.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	18.5%	42.7%
1998	6110	2,3,4,5	8.5%	0.0%	0.0%	3.4%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.9%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	9.7%	65.2%
1999	6412	2,3,4,5	7.7%	0.0%	0.4%	2.4%	0.3%	0.0%	0.2%	0.0%	0.0%	0.0%	0.1%	0.0%	17.7%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	15.9%	55.2%
2000	5379	2,3,4,5	7.9%	0.1%	0.1%	1.7%	0.6%	0.7%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	26.4%	0.0%	0.7%	0.1%	0.0%	0.0%	0.0%	13.9%	47.7%
2001	17231	2,3,4,5	3.2%	0.0%	0.2%	1.5%	0.0%	0.7%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	11.9%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	12.8%	68.7%
2002	11294	2,3,4,5	6.0%	0.0%	0.6%	4.2%	0.8%	0.9%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	12.8%	0.0%	1.1%	0.0%	0.0%	0.0%	0.0%	6.5%	66.8%
2003	6495	2,3,4,5	6.3%	0.0%	0.3%	3.7%	0.5%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	19.5%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	18.5%	50.1%
2004	11182	2,3,4,5	4.3%	0.0%	0.2%	2.0%	0.4%	1.9%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	13.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	6.3%	71.5%
2005	3078	2,3,4,5	10.0%	0.0%	0.2%	5.3%	1.9%	4.2%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	17.4%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	12.1%	47.2%
2006	2977	2,3,4,5	6.8%	0.0%	0.0%	5.0%	1.9%	5.2%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%	23.3%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	11.1%	44.4%
2007	2375	2,3,4,5	10.1%	0.1%	0.7%	4.9%	1.0%	1.6%	0.5%	0.0%	0.4%	0.0%	0.0%	0.0%	29.4%	0.0%	1.5%	0.0%	0.0%	0.0%	0.0%	17.9%	32.0%
2008	4160	2,3,4,5	4.9%	0.0%	0.0%	3.9%	1.9%	1.6%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	5.2%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	19.9%	61.7%
2009	3331	2,3,4,5	7.0%	0.0%	0.2%	4.6%	0.8%	1.7%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	0.0%	0.3%	0.0%	0.1%	0.0%	0.0%	16.2%	65.9%
2010	4290	2,3,4,5	5.5%	0.0%	0.4%	4.3%	0.2%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	10.1%	0.0%	1.0%	0.0%	0.0%	0.0%	0.0%	10.5%	67.7%
2011	2089	2,3,4,5	7.0%	0.0%	0.5%	4.3%	0.4%	2.0%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	30.0%	0.0%	0.5%	0.0%	0.2%	0.0%	0.0%	18.1%	35.9%
1979-2011	3945		4.6%	0.2%	0.2%	3.0%	0.4%	3.2%	0.3%	0.0%	0.0%	0.2%	0.2%	0.0%	17.3%	0.0%	0.5%	0.1%	0.0%	0.0%	0.0%	23.0%	46.8%
1979-1984	2436		2.5%	0.1%	0.1%	3.9%	0.0%	5.5%	0.0%	0.0%	0.0%	0.7%	0.5%	0.0%	12.5%	0.0%	0.4%	0.2%	0.1%	0.0%	0.0%	42.2%	31.2%
1985-1995	1527		1.7%	0.6%	0.1%	1.9%	0.1%	4.8%	0.3%	0.0%	0.0%	0.4%	0.3%	0.0%	18.6%	0.0%	0.5%	0.1%	0.0%	0.0%	0.0%	29.5%	40.9%
1996-1998	5149		8.7%	0.0%	0.0%	2.4%	0.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	20.4%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	13.4%	53.8%
1999-2011	6176		6.7%	0.0%	0.3%	3.7%	0.8%	1.6%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	16.8%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	13.8%	55.0%

Appendix C10. Percent distribution of Elwha River total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	71	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1985	272	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986	727	2,3,4	24.2%	3.0%	0.0%	2.6%	0.7%	17.6%	1.1%	0.8%	6.1%	1.0%	5.9%	0.0%	1.1%	0.0%	0.0%	11.0%	14.7%	0.0%	0.1%	0.0%	10.0%
1987	475	2,3,4,5	16.2%	0.0%	0.0%	5.1%	2.1%	15.8%	2.3%	0.8%	8.2%	2.5%	5.1%	0.0%	2.9%	0.2%	0.0%	5.5%	19.8%	0.0%	0.0%	0.0%	13.5%
1988	465	2,3,4,5	5.8%	0.9%	0.6%	3.9%	2.4%	15.5%	6.0%	0.4%	0.0%	1.5%	1.3%	0.0%	4.5%	0.0%	0.0%	7.7%	8.8%	0.0%	3.7%	0.0%	37.0%
1989	302	3,4,5	6.3%	6.3%	0.0%	4.6%	2.0%	5.6%	0.0%	0.0%	0.0%	3.0%	0.0%	0.0%	2.6%	0.0%	0.3%	8.6%	13.9%	0.0%	2.0%	0.0%	44.7%
1990	40	2,4,5	0.0%	0.0%	0.0%	12.5%	0.0%	15.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	12.5%	0.0%	5.0%	0.0%	50.0%
1991	26	2,3,5	3.8%	0.0%	0.0%	0.0%	0.0%	15.4%	0.0%	0.0%	3.8%	0.0%	3.8%	0.0%	7.7%	0.0%	0.0%	53.8%	11.5%	0.0%	0.0%	0.0%	0.0%
1992	75	2,3,4	2.7%	0.0%	0.0%	1.3%	0.0%	33.3%	4.0%	1.3%	4.0%	0.0%	8.0%	0.0%	12.0%	0.0%	0.0%	0.0%	30.7%	0.0%	0.0%	0.0%	2.7%
1993	157	2,3,4,5	12.1%	0.0%	0.0%	0.0%	0.0%	15.3%	10.2%	2.5%	11.5%	0.0%	0.0%	0.0%	2.5%	0.0%	0.0%	0.0%	28.7%	0.0%	2.5%	0.0%	14.6%
1994	87	2,3,4,5	8.0%	0.0%	0.0%	9.2%	0.0%	18.4%	0.0%	4.6%	3.4%	0.0%	8.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	48.3%
1995	153	2,3,4,5	0.0%	0.0%	0.0%	0.0%	2.6%	32.7%	2.6%	0.0%	0.0%	3.9%	6.5%	0.0%	1.3%	0.0%	0.0%	0.7%	13.7%	0.0%	0.0%	0.0%	35.9%
1996	313	2,3,4,5	4.2%	0.0%	0.0%	1.3%	0.0%	1.6%	3.2%	0.0%	3.8%	0.0%	2.9%	0.0%	0.6%	0.0%	0.0%	0.0%	7.3%	0.0%	0.0%	0.0%	75.1%
1997	194	3,4,5	14.9%	0.0%	0.5%	1.0%	0.0%	4.1%	0.0%	0.0%	6.7%	0.0%	4.1%	0.0%	1.0%	0.0%	0.0%	0.0%	13.9%	0.0%	0.0%	0.0%	53.6%
1998	172	4,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1999	27	5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2000	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2001	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2002	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2003	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2004	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2005	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2006	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2007	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2008	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2009	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2010	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2011	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1979-2011	251		8.2%	0.8%	0.1%	3.5%	0.8%	15.9%	2.5%	0.9%	4.0%	1.0%	3.8%	0.0%	3.0%	0.0%	0.0%	7.7%	14.6%	0.0%	1.1%	0.0%	32.1%
1979-1984	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1985-1995	251		7.9%	1.0%	0.1%	3.9%	1.0%	18.5%	2.6%	1.1%	3.7%	1.2%	3.9%	0.0%	3.5%	0.0%	0.0%	9.2%	15.4%	0.0%	1.3%	0.0%	25.7%
1996-1998	254		9.6%	0.0%	0.3%	1.2%	0.0%	2.9%	1.6%	0.0%	5.3%	0.0%	3.5%	0.0%	0.8%	0.0%	0.0%	0.0%	10.6%	0.0%	0.0%	0.0%	64.3%
1999-2011	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Appendix C11. Percent distribution of George Adams Fall Fingerling total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	70	4,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	405	2,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	710	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	855	2,3,4	0.0%	0.0%	0.0%	0.0%	0.0%	20.8%	0.0%	0.2%	4.1%	0.6%	0.8%	0.0%	2.9%	0.0%	0.5%	29.4%	12.5%	0.0%	7.8%	0.0%	20.4%
1983	932	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	12.2%	0.3%	0.0%	2.6%	1.2%	4.1%	0.0%	0.1%	0.0%	0.5%	19.3%	41.3%	0.0%	7.7%	0.0%	10.6%
1984	1071	3,4,5	0.0%	0.1%	0.0%	0.6%	0.5%	18.0%	0.0%	1.2%	4.4%	3.2%	1.8%	0.0%	2.3%	0.0%	0.4%	12.8%	22.4%	0.0%	17.8%	0.0%	14.6%
1985	363	4,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986	18	5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1987	243	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1988	940	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1989	2012	2,3,4	0.0%	0.5%	0.0%	0.0%	0.0%	10.0%	1.7%	0.0%	4.4%	0.0%	4.2%	0.0%	12.7%	0.2%	0.8%	17.3%	17.4%	0.0%	19.2%	1.4%	10.0%
1990	1552	2,3,4,5	0.7%	0.0%	0.0%	0.4%	0.0%	21.1%	4.6%	0.0%	5.0%	0.4%	1.5%	0.0%	15.3%	0.0%	0.4%	10.5%	18.2%	0.0%	15.7%	0.3%	5.9%
1991	1050	2,3,4,5	0.2%	0.0%	0.0%	0.0%	0.0%	19.4%	4.5%	0.0%	2.4%	0.0%	0.3%	0.0%	8.6%	0.0%	0.0%	18.1%	18.4%	0.0%	13.9%	0.9%	13.4%
1992	187	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	17.1%	0.0%	0.0%	1.6%	0.0%	5.9%	0.0%	19.8%	0.0%	0.0%	2.7%	38.5%	0.0%	7.0%	0.0%	7.5%
1993	125	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	31.2%	8.0%	1.6%	4.0%	0.0%	0.0%	0.0%	8.8%	0.0%	0.0%	4.8%	24.8%	0.0%	0.0%	0.0%	16.8%
1994	49	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	16.3%	12.2%	0.0%	0.0%	0.0%	63.3%
1995	269	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	9.3%	3.7%	0.0%	6.3%	0.0%	3.3%	0.0%	0.7%	0.0%	0.0%	4.1%	27.9%	0.0%	0.0%	0.0%	44.6%
1996	373	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	4.6%	0.0%	14.7%	0.0%	2.4%	0.0%	5.6%	0.0%	0.5%	0.0%	15.5%	0.0%	0.0%	0.0%	55.2%
1997	399	2,3,4,5	2.3%	0.0%	0.0%	0.0%	0.0%	4.8%	1.3%	0.0%	3.3%	0.0%	0.8%	0.0%	2.8%	0.0%	0.0%	0.8%	24.1%	0.0%	0.0%	0.0%	60.2%
1998	595	2,3,4,5	0.7%	0.2%	0.0%	0.0%	0.0%	0.2%	1.2%	0.0%	2.0%	0.0%	0.0%	0.0%	1.5%	0.0%	0.0%	2.0%	27.4%	0.0%	0.0%	0.0%	64.9%
1999	899	2,3,4,5	0.6%	0.0%	0.0%	0.0%	0.0%	0.9%	9.1%	0.0%	3.2%	0.0%	0.0%	0.0%	5.8%	0.0%	1.4%	2.2%	12.8%	0.0%	0.6%	0.0%	63.4%
2000	965	2,3,4,5	0.4%	0.0%	0.0%	0.4%	0.0%	20.2%	8.6%	0.0%	3.5%	0.0%	0.2%	0.0%	3.5%	0.0%	0.0%	0.3%	11.5%	0.0%	0.0%	12.3%	39.0%
2001	907	2,3,4,5	0.9%	0.0%	0.0%	0.0%	0.1%	12.2%	2.1%	0.0%	3.0%	0.0%	0.0%	0.0%	6.7%	0.0%	1.0%	5.4%	15.5%	0.0%	5.2%	0.6%	47.3%
2002	1051	2,3,4,5	1.7%	0.0%	0.0%	1.1%	0.0%	10.2%	11.0%	0.0%	2.2%	0.0%	0.0%	0.0%	4.4%	0.0%	1.0%	7.0%	7.1%	0.0%	3.7%	10.1%	40.3%
2003	1053	2,3,4,5	0.6%	0.4%	0.0%	0.0%	0.0%	11.1%	2.3%	0.0%	3.4%	0.0%	0.0%	0.0%	6.8%	0.0%	0.2%	4.1%	9.1%	0.0%	6.2%	12.6%	43.2%
2004	1469	2,3,4,5	0.5%	0.4%	0.0%	0.0%	0.0%	14.5%	3.3%	0.1%	3.1%	0.0%	0.6%	0.0%	6.6%	0.0%	0.5%	7.5%	8.6%	0.0%	4.8%	1.4%	48.1%
2005	1755	2,3,4,5	0.3%	0.1%	0.0%	0.1%	1.0%	11.3%	8.8%	0.0%	7.3%	0.0%	0.0%	0.0%	7.2%	0.0%	1.3%	2.5%	10.1%	0.0%	2.7%	6.5%	40.7%
2006	1203	2,3,4,5	0.4%	0.2%	0.0%	0.8%	0.0%	11.7%	2.0%	0.0%	5.4%	0.0%	0.0%	0.0%	5.7%	0.0%	0.4%	7.9%	11.1%	0.0%	6.4%	1.5%	46.4%
2007	2018	2,3,4,5	0.2%	0.7%	0.0%	0.0%	0.0%	9.1%	1.7%	0.0%	3.1%	0.0%	0.0%	0.0%	3.6%	0.0%	0.1%	2.5%	18.8%	0.0%	10.4%	12.9%	36.8%
2008	1246	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	4.6%	0.0%	3.4%	0.0%	0.0%	0.0%	1.5%	0.5%	0.7%	6.2%	12.6%	0.0%	10.2%	0.0%	56.3%
2009	1743	2,3,4,5	0.0%	0.0%	0.0%	0.2%	0.0%	5.2%	5.7%	0.0%	8.9%	0.0%	0.0%	0.0%	2.2%	0.0%	0.4%	3.6%	20.1%	0.0%	3.2%	0.0%	50.6%
2010	2010	2,3,4,5	0.2%	0.0%	0.0%	0.0%	0.0%	9.2%	5.3%	0.0%	1.7%	0.0%	0.0%	0.0%	4.7%	0.0%	0.4%	6.2%	12.4%	0.0%	13.2%	6.2%	40.4%
2011	3133	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	2.6%	2.2%	0.0%	2.8%	0.0%	0.0%	0.0%	2.0%	0.0%	0.3%	6.2%	17.8%	0.0%	11.8%	7.9%	46.4%
1979-2011	1112		0.4%	0.1%	0.0%	0.1%	0.1%	11.1%	3.7%	0.4%	4.1%	0.2%	1.0%	0.0%	5.5%	0.0%	0.4%	7.7%	18.0%	0.0%	6.4%	2.9%	37.9%
1979-1984	953		0.0%	0.0%	0.0%	0.2%	0.2%	17.0%	0.1%	0.5%	3.7%	1.6%	2.2%	0.0%	1.8%	0.0%	0.5%	20.5%	25.4%	0.0%	11.1%	0.0%	15.2%
1985-1995	749		0.1%	0.1%	0.0%	0.1%	0.0%	15.4%	3.2%	1.4%	3.4%	0.1%	2.2%	0.0%	9.4%	0.0%	0.2%	10.5%	22.5%	0.0%	8.0%	0.4%	23.1%
1996-1998	456		1.0%	0.1%	0.0%	0.0%	0.0%	2.1%	2.3%	0.0%	6.7%	0.0%	1.1%	0.0%	3.3%	0.0%	0.2%	0.9%	22.3%	0.0%	0.0%	0.0%	60.1%
1999-2011	1496		0.5%	0.1%	0.0%	0.2%	0.1%	9.4%	5.1%	0.0%	3.9%	0.0%	0.1%	0.0%	4.7%	0.0%	0.6%	4.7%	12.9%	0.0%	6.0%	5.5%	46.1%

Appendix C12. Percent distribution of Hanford Wild Brights total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1985	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1987	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1988	112	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1989	119	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1990	478	2,3,4	9.2%	1.0%	0.4%	5.0%	0.0%	8.8%	3.6%	0.0%	0.0%	0.4%	0.6%	0.0%	0.6%	0.0%	0.8%	0.0%	0.0%	0.0%	23.2%	6.3%	40.0%
1991	618	2,3,4,5	10.7%	0.0%	1.5%	10.5%	0.5%	5.2%	0.0%	0.0%	1.0%	0.2%	0.0%	0.0%	1.1%	0.0%	0.5%	0.0%	0.0%	0.0%	22.7%	3.9%	42.4%
1992	371	2,3,4,5	15.9%	15.6%	1.3%	6.2%	0.0%	15.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	0.0%	0.8%	0.0%	0.0%	0.0%	15.1%	1.3%	27.8%
1993	422	2,3,4,5	19.4%	0.0%	2.1%	3.1%	1.2%	6.2%	1.9%	0.0%	0.0%	0.0%	2.1%	0.0%	3.8%	0.0%	0.0%	0.0%	0.9%	0.0%	14.9%	7.1%	37.2%
1994	774	2,3,4,5	17.1%	3.4%	0.0%	5.3%	0.0%	4.8%	0.0%	0.0%	0.0%	0.3%	1.3%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	12.1%	5.3%	49.9%
1995	692	2,3,4,5	13.4%	0.0%	4.2%	5.5%	0.0%	2.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	9.4%	6.9%	57.7%
1996	626	2,3,4,5	12.9%	0.0%	0.0%	1.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	27.3%	7.7%	49.8%
1997	654	2,3,4,5	17.1%	1.2%	1.1%	3.1%	3.1%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	13.8%	7.0%	51.8%
1998	340	2,3,4,5	14.7%	0.0%	0.0%	11.2%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	17.4%	6.5%	49.4%
1999	279	2,3,4,5	13.3%	0.7%	2.2%	12.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.8%	6.1%	53.4%
2000	235	2,3,4,5	20.0%	0.4%	2.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	28.5%	5.5%	43.0%
2001	362	2,3,4,5	6.1%	0.8%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	21.3%	14.9%	54.4%
2002	897	2,3,4,5	17.9%	0.0%	1.4%	0.8%	0.6%	2.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	0.0%	0.2%	0.0%	0.0%	0.0%	9.7%	10.6%	54.5%
2003	1551	2,3,4,5	13.5%	0.0%	0.9%	4.1%	1.1%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	0.3%	0.0%	0.0%	0.0%	13.9%	9.2%	55.9%
2004	1903	2,3,4,5	18.6%	2.0%	3.0%	6.5%	3.8%	2.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.2%	0.4%	0.0%	0.0%	0.0%	13.0%	4.0%	45.2%
2005	467	2,3,4,5	13.3%	0.0%	0.0%	8.8%	3.0%	4.1%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	2.8%	0.0%	1.1%	0.0%	0.0%	0.0%	12.0%	15.4%	38.8%
2006	570	2,3,4,5	18.9%	0.0%	1.1%	5.3%	0.0%	2.6%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	14.7%	19.3%	34.9%
2007	314	2,3,4,5	22.9%	0.0%	1.3%	6.7%	7.6%	2.5%	0.0%	0.0%	0.0%	0.0%	1.6%	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	6.7%	16.6%	32.8%
2008	226	2,3,4,5	33.2%	0.0%	5.3%	1.8%	2.2%	3.1%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	17.7%	7.1%	27.9%
2009	232	2,3,4,5	20.3%	0.0%	0.9%	3.9%	2.2%	1.3%	6.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	49.6%	4.7%	11.2%
2010	516	2,3,4,5	16.1%	0.0%	4.5%	8.3%	3.7%	0.8%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%	0.0%	0.6%	0.0%	0.0%	0.0%	11.0%	5.6%	46.1%
2011	554	2,3,4,5	20.2%	0.9%	0.0%	1.8%	5.8%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.9%	1.1%	0.0%	0.0%	0.0%	21.7%	8.3%	36.5%
1979-2011	595		16.6%	1.2%	1.6%	5.1%	1.6%	3.0%	0.8%	0.0%	0.0%	0.0%	0.3%	0.0%	0.9%	0.0%	0.3%	0.0%	0.0%	0.0%	17.6%	8.2%	42.8%
1979-1984	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1985-1995	559		14.3%	3.3%	1.6%	5.9%	0.3%	7.1%	0.9%	0.0%	0.2%	0.1%	0.7%	0.0%	1.2%	0.0%	0.4%	0.0%	0.2%	0.0%	16.2%	5.1%	42.5%
1996-1998	540		14.9%	0.4%	0.4%	5.1%	1.3%	0.5%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	19.5%	7.1%	50.4%
1999-2011	624		18.0%	0.4%	1.9%	4.7%	2.3%	1.7%	1.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.9%	0.1%	0.3%	0.0%	0.0%	0.0%	17.8%	9.8%	41.1%

Appendix C13. Percent distribution of Harrison River (Fraser Late) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	1374	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	2963	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1985	1861	2,3,4	0.3%	0.0%	0.0%	1.2%	0.1%	25.2%	0.7%	8.9%	26.9%	1.8%	5.0%	0.0%	1.1%	0.0%	0.2%	4.5%	3.9%	0.0%	0.0%	0.3%	20.0%
1986	921	2,3,4,5	1.7%	0.0%	0.0%	0.4%	0.4%	18.2%	0.4%	19.2%	24.1%	2.8%	11.3%	0.0%	0.0%	0.0%	0.0%	1.2%	4.1%	0.0%	0.0%	0.0%	16.0%
1987	530	2,3,4,5	0.9%	0.0%	0.0%	0.0%	0.0%	10.4%	0.0%	9.4%	27.4%	0.8%	5.5%	0.0%	3.8%	0.0%	0.4%	10.0%	2.5%	0.0%	0.0%	0.9%	28.1%
1988	1318	2,3,4,5	0.5%	0.0%	0.8%	0.0%	0.9%	3.9%	3.6%	11.5%	34.3%	1.4%	6.7%	0.0%	4.8%	0.0%	0.0%	14.6%	7.0%	0.0%	0.0%	0.4%	9.6%
1989	2384	2,3,4,5	0.2%	0.0%	0.0%	0.3%	0.0%	24.3%	1.0%	5.5%	23.9%	0.7%	5.8%	0.0%	6.7%	0.0%	0.1%	5.2%	4.9%	0.0%	0.0%	0.0%	21.3%
1990	2959	2,3,4,5	0.5%	0.0%	0.0%	0.8%	0.0%	19.9%	1.4%	4.7%	11.9%	0.7%	2.8%	0.0%	6.1%	0.0%	0.1%	4.3%	6.0%	0.0%	0.0%	0.3%	40.4%
1991	1627	2,3,4,5	0.0%	0.1%	0.0%	0.0%	0.3%	29.9%	0.0%	8.9%	13.0%	0.4%	5.6%	0.0%	12.4%	0.0%	0.0%	2.8%	4.9%	0.0%	0.0%	0.4%	21.5%
1992	1714	2,3,4,5	0.0%	0.0%	0.0%	0.4%	0.0%	18.3%	0.0%	13.1%	12.5%	0.2%	1.9%	0.0%	13.1%	0.0%	0.0%	1.2%	7.1%	0.0%	0.0%	0.2%	31.9%
1993	1145	2,3,4,5	1.0%	0.0%	0.0%	0.3%	0.0%	19.0%	0.0%	6.6%	7.6%	0.4%	3.1%	0.0%	10.0%	0.0%	0.0%	0.5%	2.2%	0.0%	0.0%	0.0%	49.3%
1994	452	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	19.0%	2.0%	8.8%	6.4%	0.0%	5.1%	0.0%	3.3%	0.0%	0.0%	3.5%	2.2%	0.0%	0.0%	0.9%	48.7%
1995	355	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	22.0%	1.4%	0.0%	21.1%	0.0%	9.9%	0.0%	9.0%	0.0%	0.6%	6.2%	4.2%	0.0%	0.0%	0.8%	24.8%
1996	1099	2,3,4,5	0.0%	0.3%	0.0%	0.0%	0.0%	1.6%	0.2%	0.0%	23.1%	0.0%	1.3%	0.0%	4.4%	0.0%	0.0%	0.0%	7.6%	0.0%	0.0%	0.0%	61.5%
1997	872	2,3,4,5	1.5%	0.0%	0.0%	0.0%	0.3%	12.8%	3.6%	0.1%	18.8%	0.0%	4.5%	0.0%	9.4%	0.0%	0.0%	3.3%	6.3%	0.0%	0.0%	0.0%	39.3%
1998	1142	2,3,4,5	0.9%	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	3.5%	0.0%	0.6%	0.0%	5.1%	0.0%	0.0%	0.3%	0.4%	0.0%	0.0%	0.0%	88.7%
1999	1295	2,3,4,5	0.3%	0.5%	0.0%	0.5%	0.7%	0.6%	1.8%	0.0%	8.4%	0.3%	0.6%	0.0%	13.8%	0.0%	0.4%	0.9%	0.6%	0.0%	0.0%	0.2%	70.3%
2000	668	2,3,4,5	1.8%	0.0%	0.0%	0.4%	0.0%	12.0%	3.7%	0.0%	9.9%	0.0%	0.0%	0.0%	13.3%	0.0%	0.0%	0.7%	0.6%	0.0%	0.0%	0.0%	57.5%
2001	836	2,3,4,5	0.5%	0.0%	0.0%	0.0%	0.0%	6.8%	2.5%	0.0%	7.2%	0.0%	0.0%	0.0%	7.7%	0.0%	1.8%	1.6%	3.1%	0.0%	0.0%	0.0%	68.9%
2002	393	2,3,4,5	0.5%	0.0%	0.0%	0.0%	0.0%	11.7%	3.1%	0.0%	8.1%	0.0%	7.9%	0.0%	15.0%	0.0%	1.5%	3.3%	6.1%	0.0%	0.0%	0.0%	42.7%
2003	572	2,3,4,5	1.0%	0.0%	0.0%	0.0%	0.0%	7.9%	3.8%	0.0%	4.9%	0.0%	1.6%	0.0%	7.0%	0.0%	1.2%	0.3%	1.4%	0.0%	0.0%	0.0%	70.8%
2004	558	2,3,4,5	1.4%	0.0%	0.0%	0.9%	0.0%	18.1%	6.5%	0.0%	0.9%	0.0%	2.5%	0.0%	16.1%	0.0%	0.5%	0.2%	3.2%	0.0%	0.0%	0.0%	49.6%
2005	717	2,3,4,5	0.0%	0.0%	0.0%	0.3%	2.8%	14.4%	3.9%	0.0%	4.6%	0.0%	5.3%	0.0%	6.4%	0.0%	2.6%	0.6%	0.4%	0.0%	0.0%	0.0%	58.7%
2006	446	3,4,5	1.6%	0.0%	0.0%	0.4%	0.0%	22.2%	6.7%	0.0%	2.7%	0.0%	0.0%	0.0%	16.1%	0.0%	0.9%	0.0%	0.7%	0.0%	0.0%	0.0%	48.7%
2007	880	2,4,5	0.1%	0.0%	0.0%	0.0%	0.0%	11.8%	2.3%	0.0%	4.1%	0.0%	0.1%	0.0%	1.5%	0.0%	0.1%	0.8%	1.8%	0.0%	0.0%	0.0%	77.4%
2008	909	2,3,5	0.4%	0.3%	0.0%	0.0%	0.1%	29.2%	13.6%	0.0%	7.4%	0.0%	0.7%	0.0%	5.7%	0.0%	1.2%	2.3%	2.1%	0.0%	0.0%	0.0%	37.0%
2009	2315	2,3,4	0.1%	0.0%	0.0%	0.2%	0.3%	1.7%	4.3%	0.0%	5.5%	0.0%	1.6%	0.0%	1.7%	0.0%	0.3%	0.5%	3.3%	0.0%	0.0%	1.0%	79.7%
2010	2022	2,3,4,5	0.6%	0.0%	0.0%	0.1%	1.3%	3.9%	4.2%	0.0%	4.6%	0.0%	1.1%	0.0%	3.9%	0.0%	1.1%	0.6%	2.0%	0.0%	0.0%	0.3%	76.1%
2011	2718	2,3,4,5	0.2%	0.0%	0.0%	0.2%	1.0%	3.1%	6.1%	0.0%	3.3%	0.0%	2.5%	0.0%	3.0%	0.0%	0.6%	0.6%	2.4%	0.0%	0.0%	0.0%	76.9%
2012	2093	2,3,4,5	0.2%	0.0%	0.0%	0.0%	0.3%	1.3%	1.1%	0.0%	9.7%	0.0%	0.1%	0.0%	6.3%	0.0%	0.4%	0.3%	1.6%	0.0%	0.4%	1.0%	77.4%
1979-2012	1243		0.6%	0.0%	0.0%	0.2%	0.3%	13.2%	2.8%	3.5%	12.0%	0.3%	3.3%	0.0%	7.4%	0.0%	0.5%	2.5%	3.3%	0.0%	0.0%	0.2%	49.7%
1979-1984	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1985-1995	1388		0.5%	0.0%	0.1%	0.3%	0.2%	19.1%	1.0%	8.8%	19.0%	0.8%	5.7%	0.0%	6.4%	0.0%	0.1%	4.9%	4.4%	0.0%	0.0%	0.4%	28.3%
1996-1998	1038		0.8%	0.1%	0.0%	0.0%	0.1%	5.0%	1.2%	0.0%	15.1%	0.0%	2.1%	0.0%	6.3%	0.0%	0.0%	1.2%	4.8%	0.0%	0.0%	0.0%	63.2%
1999-2012	1173		0.6%	0.1%	0.0%	0.2%	0.5%	10.3%	4.5%	0.0%	5.8%	0.0%	1.7%	0.0%	8.4%	0.0%	0.9%	0.9%	2.1%	0.0%	0.0%	0.2%	63.7%

Appendix C14. Percent distribution of Hoko Fall Fingerling total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1985	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1987	10	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1988	141	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1989	356	2,3,4	11.2%	3.7%	0.3%	8.4%	0.0%	13.5%	0.0%	0.0%	1.7%	1.1%	16.0%	0.0%	0.6%	0.0%	0.6%	1.4%	21.1%	0.0%	0.0%	0.0%	20.5%
1990	679	3,4,5	18.1%	4.1%	0.6%	8.5%	0.0%	17.1%	0.0%	0.4%	0.3%	0.9%	3.7%	0.0%	0.6%	0.0%	0.0%	0.6%	14.4%	0.0%	0.1%	0.0%	30.5%
1991	1327	2,4,5,6	18.1%	0.0%	0.1%	5.2%	0.5%	7.1%	0.5%	0.0%	0.5%	1.1%	0.9%	0.0%	0.2%	0.0%	0.1%	0.9%	8.8%	0.0%	0.1%	0.0%	56.0%
1992	670	2,3,5,6	8.1%	10.4%	1.5%	5.2%	0.6%	9.7%	1.9%	0.0%	0.6%	1.0%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	2.5%	0.0%	0.1%	0.0%	56.9%
1993	349	2,3,4,6	11.7%	1.1%	2.3%	7.7%	0.0%	14.9%	0.0%	0.0%	0.9%	0.0%	4.6%	0.0%	0.0%	0.0%	0.6%	0.0%	4.3%	0.0%	0.3%	0.0%	51.6%
1994	405	2,3,4,5	19.3%	8.1%	2.7%	13.1%	0.0%	10.4%	2.0%	0.0%	2.0%	0.5%	2.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	39.3%
1995	827	2,3,4,5,6	15.7%	0.0%	4.7%	7.9%	0.6%	3.7%	0.0%	0.0%	1.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.0%	0.0%	0.0%	64.9%
1996	689	2,3,4,5,6	14.1%	0.0%	4.4%	0.7%	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	79.1%
1997	917	2,3,4,5,6	16.6%	0.0%	0.0%	1.6%	0.5%	1.1%	0.5%	0.0%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	78.8%
1998	1155	2,3,4,5,6	9.6%	0.0%	0.3%	7.2%	0.0%	0.0%	0.3%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	82.3%
1999	771	2,3,4,5,6	7.8%	0.0%	0.6%	7.8%	1.3%	0.0%	1.4%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	80.7%
2000	521	2,3,4,5,6	6.0%	0.2%	2.9%	0.0%	0.0%	0.2%	0.0%	0.0%	1.2%	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	88.9%
2001	541	2,3,4,5,6	8.3%	0.0%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	85.8%
2002	711	2,3,4,5,6	20.0%	0.0%	1.0%	4.8%	3.5%	1.4%	0.0%	0.0%	2.3%	0.3%	0.0%	0.0%	0.0%	0.0%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	65.7%
2003	981	2,3,4,5,6	15.0%	0.1%	2.9%	3.3%	0.0%	0.0%	0.6%	0.0%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	76.2%
2004	1090	2,3,4,5,6	12.7%	0.0%	1.2%	9.5%	2.1%	0.7%	0.9%	0.0%	2.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.6%	0.0%	0.0%	0.0%	69.4%
2005	642	2,3,4,5,6	13.6%	0.2%	1.2%	12.0%	6.2%	0.0%	1.2%	0.0%	5.5%	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	0.0%	0.9%	0.0%	0.0%	0.0%	58.4%
2006	799	2,3,4,5,6	10.8%	1.5%	2.4%	6.3%	3.9%	0.0%	1.4%	0.0%	0.8%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	71.8%
2007	306	2,3,4,5,6	17.0%	0.3%	4.6%	7.5%	5.9%	0.7%	0.0%	0.0%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	1.3%	0.0%	0.0%	0.0%	60.5%
2008	93	2,3,4,5,6	20.4%	0.0%	6.5%	7.5%	16.1%	0.0%	0.0%	0.0%	4.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	45.2%
2009	351	2,3,4,5,6	12.5%	0.0%	0.0%	8.3%	1.4%	0.0%	1.1%	0.0%	4.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.6%	0.0%	0.0%	0.0%	69.5%
2010	717	2,3,4,5,6	2.5%	0.0%	2.4%	4.9%	0.7%	0.7%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	86.5%
2011	1102	2,3,4,5,6	9.8%	1.0%	0.8%	2.3%	1.0%	1.1%	0.8%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	1.0%	0.0%	0.0%	0.0%	81.6%
1979-2011	696		13.0%	1.3%	2.0%	6.1%	1.9%	3.6%	0.6%	0.0%	1.5%	0.2%	1.3%	0.0%	0.2%	0.0%	0.2%	0.1%	2.6%	0.0%	0.0%	0.0%	65.2%
1979-1984	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1985-1995	659		14.6%	3.9%	1.7%	8.0%	0.2%	10.9%	0.6%	0.1%	1.0%	0.7%	4.2%	0.0%	0.2%	0.0%	0.2%	0.4%	7.4%	0.0%	0.1%	0.0%	45.7%
1996-1998	920		13.4%	0.0%	1.6%	3.2%	0.2%	0.8%	0.3%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	80.1%
1999-2011	663		12.0%	0.3%	2.3%	5.7%	3.2%	0.4%	0.7%	0.0%	2.1%	0.0%	0.0%	0.0%	0.2%	0.0%	0.2%	0.0%	0.5%	0.0%	0.0%	0.0%	72.3%

Appendix C15. Percent distribution of Kitsumkalum River Summer (North/Central B.C.) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	8	3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	28	3,4	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984[1]	83	3,4,5	56.6%	0.0%	0.0%	19.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	24.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1985	195	4,5,6	29.2%	0.0%	1.5%	7.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	48.7%
1986	216	3,5,6	10.2%	0.0%	0.0%	13.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.3%	64.8%
1987	266	3,4,6	13.2%	0.0%	2.6%	9.8%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.3%	62.0%
1988	204	3,4,5	24.0%	1.5%	4.9%	7.4%	3.9%	0.0%	0.0%	0.0%	0.0%	0.0%	18.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.4%	36.8%
1989	854	3,4,5,6	14.3%	0.8%	6.9%	5.3%	3.4%	0.0%	0.0%	0.0%	0.0%	0.0%	10.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.4%	55.4%
1990	637	3,4,5,6	11.6%	0.0%	3.3%	7.8%	2.0%	0.0%	0.0%	0.0%	0.0%	0.3%	6.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.4%	61.7%
1991	335	3,4,5,6	19.4%	0.0%	4.2%	10.7%	6.6%	0.0%	0.0%	0.0%	0.0%	0.9%	14.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.6%	36.7%
1992	695	3,4,5,6	15.3%	0.0%	2.0%	7.9%	5.6%	0.4%	0.0%	0.0%	0.0%	0.0%	9.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	58.4%
1993	242	3,4,5,6	11.6%	1.7%	2.1%	11.6%	4.5%	0.0%	0.0%	0.0%	0.0%	0.0%	17.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.8%
1994	132	3,4,5,6	13.6%	0.0%	0.0%	6.8%	6.1%	0.0%	0.0%	0.0%	0.0%	0.0%	18.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	55.3%
1995	218	3,4,5,6	13.3%	0.0%	2.8%	9.6%	3.2%	0.0%	0.0%	0.0%	0.0%	0.0%	31.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.1%	35.8%
1996	558	3,4,5,6	10.4%	0.2%	6.6%	0.2%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	20.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.9%	57.7%
1997	656	3,4,5,6	12.2%	0.0%	8.8%	0.0%	5.9%	0.0%	0.0%	0.0%	0.0%	0.0%	8.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	59.6%
1998	509	3,4,5,6	10.4%	0.0%	3.5%	0.0%	2.6%	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.5%	78.6%
1999	744	3,4,5,6	13.7%	0.0%	10.2%	0.0%	11.8%	0.0%	0.0%	0.0%	0.0%	0.0%	2.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%	60.3%
2000	365	3,4,5,6	10.4%	0.0%	10.1%	0.0%	7.7%	0.0%	0.0%	0.0%	0.0%	0.0%	7.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.6%	60.8%
2001	641	3,4,5,6	10.9%	0.0%	9.0%	0.6%	5.3%	0.0%	0.0%	0.0%	0.0%	0.0%	20.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.3%	51.6%
2002	1035	3,4,5,6	14.6%	0.4%	6.2%	1.6%	11.9%	0.0%	0.0%	0.0%	0.6%	0.0%	7.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%	55.6%
2003	638	3,4,5,6	15.7%	0.0%	1.9%	5.8%	6.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.3%	66.1%
2004	974	3,4,5,6	8.5%	3.4%	5.6%	0.9%	10.2%	0.0%	0.0%	0.0%	0.0%	0.0%	2.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	67.9%
2005	345	3,4,5,6	17.1%	0.0%	2.9%	2.6%	7.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.1%	63.8%
2006	311	3,4,5,6	14.1%	3.9%	2.3%	2.9%	6.4%	0.0%	0.0%	0.0%	0.0%	0.0%	6.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.1%	58.5%
2007	552	3,4,5,6	13.0%	0.7%	3.3%	1.6%	9.6%	0.0%	0.0%	0.0%	0.0%	0.0%	3.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	67.0%
2008	535	3,4,5,6	6.7%	0.4%	2.1%	2.6%	16.3%	0.0%	0.0%	0.0%	0.0%	0.0%	12.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.4%	48.0%
2009	707	3,4,5,6	13.2%	2.7%	5.4%	1.3%	7.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	68.3%
2010	1024	3,4,5,6	5.6%	0.4%	4.0%	2.2%	12.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.5%	69.8%
2011	553	3,4,5,6	11.6%	0.0%	0.9%	1.6%	15.4%	0.0%	0.0%	0.0%	0.0%	0.0%	7.8%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	60.4%
2012	215	4,5,6	17.2%	1.9%	2.3%	1.4%	16.3%	0.0%	0.0%	0.0%	0.0%	0.0%	7.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	53.0%
1979-2012	498		15.1%	0.6%	4.0%	4.9%	6.7%	0.0%	0.0%	0.0%	0.0%	0.0%	10.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	55.6%
1979-1984	83		56.6%	0.0%	0.0%	19.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	24.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1985-1995	363		16.0%	0.4%	2.8%	9.0%	3.5%	0.0%	0.0%	0.0%	0.0%	0.1%	14.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.7%	51.5%
1996-1998	574		11.0%	0.1%	6.3%	0.1%	3.4%	0.0%	0.0%	0.0%	0.0%	0.0%	10.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.8%	65.3%
1999-2012	617		12.3%	1.0%	4.7%	1.8%	10.3%	0.0%	0.0%	0.0%	0.0%	0.0%	5.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.2%	60.8%

[1] Estimates for this year can only be used for distribution of fishing mortalities because the escapement data are insufficient.

Appendix C16. Percent distribution of Lower River Hatchery Tule (Lower Bonneville Hatchery) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	163	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	676	2,3,4	0.4%	0.0%	0.0%	0.1%	0.0%	29.1%	1.0%	0.0%	2.1%	0.7%	5.3%	0.0%	23.7%	0.7%	9.0%	2.8%	9.6%	0.0%	3.8%	0.0%	11.4%
1981	3208	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	31.9%	0.3%	0.0%	1.7%	0.5%	2.3%	0.0%	24.8%	0.0%	8.0%	0.6%	3.7%	0.0%	1.2%	0.2%	24.7%
1982	3559	2,3,4,5	0.0%	0.0%	0.0%	0.3%	0.0%	27.2%	0.5%	0.0%	0.8%	1.9%	0.3%	0.0%	20.6%	0.2%	7.6%	2.2%	1.4%	0.0%	13.3%	0.1%	23.7%
1983	2039	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.1%	36.4%	0.4%	0.0%	1.4%	2.5%	0.8%	0.0%	12.4%	0.0%	4.4%	1.6%	5.3%	0.0%	5.2%	0.0%	29.6%
1984	1632	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	51.5%	0.2%	0.5%	0.8%	3.4%	1.5%	0.0%	6.3%	0.0%	1.2%	0.9%	1.4%	0.0%	10.6%	1.5%	20.2%
1985	1105	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	30.0%	0.7%	0.0%	1.1%	0.9%	1.5%	0.0%	17.7%	0.3%	3.8%	1.4%	1.6%	0.0%	2.4%	0.5%	37.9%
1986	1927	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.2%	8.7%	2.4%	0.0%	2.1%	0.0%	6.7%	0.0%	6.2%	0.0%	1.9%	1.9%	21.6%	0.0%	10.9%	4.3%	33.2%
1987	9041	2,3,4,5	0.0%	0.0%	0.0%	0.2%	0.0%	33.0%	2.2%	0.0%	0.4%	1.9%	0.2%	0.0%	17.3%	0.5%	3.6%	0.6%	1.5%	0.0%	17.4%	3.4%	17.6%
1988	2693	2,3,4,5	0.3%	0.0%	0.0%	0.3%	0.0%	31.7%	2.4%	0.0%	1.0%	0.6%	0.0%	0.0%	11.8%	0.5%	0.9%	0.3%	0.5%	0.0%	22.4%	1.8%	25.5%
1989	277	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	17.0%	0.0%	0.0%	0.0%	0.0%	1.8%	0.0%	25.3%	0.0%	2.2%	0.0%	2.5%	0.0%	5.4%	0.7%	45.1%
1990	323	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	22.9%	0.0%	0.0%	0.0%	0.0%	1.9%	0.0%	18.3%	0.0%	7.1%	0.0%	1.9%	0.0%	0.3%	2.8%	44.9%
1991	515	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	11.7%	2.3%	0.0%	2.5%	0.2%	2.3%	0.0%	10.7%	0.0%	4.7%	0.4%	2.7%	0.0%	2.5%	10.3%	49.7%
1992	1326	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	19.5%	1.8%	0.0%	0.0%	0.6%	0.8%	0.0%	30.5%	0.0%	5.2%	0.0%	2.0%	0.0%	0.8%	3.5%	35.1%
1993	531	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	20.9%	4.3%	0.0%	0.0%	0.8%	0.0%	0.0%	20.9%	0.0%	2.4%	0.0%	4.5%	0.0%	1.9%	4.3%	39.9%
1994	31	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	29.0%	0.0%	0.0%	12.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	58.1%
1995	31	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.2%	12.9%	83.9%
1996	66	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	4.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.6%	0.0%	0.0%	0.0%	0.0%	0.0%	7.6%	0.0%	80.3%
1997	226	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	21.7%	3.5%	0.0%	3.1%	0.0%	0.0%	0.0%	8.0%	0.0%	3.1%	0.0%	0.0%	0.0%	0.9%	8.8%	50.9%
1998	116	2,3,4,5	0.0%	0.0%	0.0%	0.0%	5.2%	0.9%	10.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	0.0%	1.7%	0.0%	0.0%	0.0%	1.7%	22.4%	56.9%
1999	334	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	9.3%	0.0%	0.0%	0.0%	0.0%	0.0%	7.8%	0.0%	3.3%	0.0%	0.0%	0.0%	3.6%	6.3%	67.7%
2000	282	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	16.0%	12.1%	0.0%	4.6%	0.0%	0.0%	0.0%	2.1%	0.0%	0.0%	0.0%	3.9%	0.0%	2.5%	3.2%	55.7%
2001	1234	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	8.3%	2.4%	0.0%	0.5%	0.0%	0.0%	0.0%	20.7%	0.0%	3.6%	0.1%	1.1%	0.0%	1.4%	4.7%	57.2%
2002	2032	2,3,4,5	0.4%	0.0%	0.0%	0.0%	0.0%	9.0%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	21.0%	0.0%	7.2%	0.1%	0.0%	0.0%	7.4%	2.8%	49.1%
2003	2133	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	13.1%	5.7%	0.0%	0.5%	0.0%	0.0%	0.0%	14.8%	0.0%	6.2%	0.0%	0.8%	0.0%	6.0%	2.0%	51.1%
2004	1623	2,3,4,5	0.5%	0.0%	0.0%	0.3%	0.3%	21.2%	8.8%	0.0%	0.5%	0.0%	0.0%	0.0%	8.5%	0.0%	3.6%	0.0%	0.1%	0.0%	15.4%	1.2%	39.6%
2005	625	2,3,4,5	0.0%	0.0%	0.0%	0.3%	0.0%	29.0%	7.4%	0.0%	0.0%	0.0%	0.0%	0.0%	6.7%	0.0%	2.1%	0.0%	0.0%	0.0%	16.3%	0.2%	38.1%
2006	89	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	15.7%	15.7%	0.0%	0.0%	0.0%	0.0%	0.0%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	10.1%	1.1%	55.1%
2007	166	2,3,4,5	0.0%	1.2%	0.0%	0.0%	0.0%	10.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.6%	0.0%	2.4%	0.0%	0.0%	0.0%	5.4%	3.0%	70.5%
2008	402	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	11.2%	9.7%	0.0%	0.0%	0.0%	0.0%	0.0%	4.5%	0.0%	7.0%	0.0%	0.0%	0.0%	24.1%	3.5%	40.0%
2009	620	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	3.9%	9.2%	0.0%	5.5%	0.0%	0.0%	0.0%	3.9%	0.0%	4.7%	0.0%	10.0%	0.0%	30.5%	2.7%	29.7%
2010	1602	2,3,4,5	0.1%	0.0%	0.0%	0.2%	1.4%	6.6%	6.3%	0.0%	1.4%	0.0%	0.0%	0.0%	18.4%	0.3%	5.4%	0.0%	0.4%	0.0%	29.2%	3.4%	26.9%
2011	881	2,3,4,5	0.0%	0.0%	0.0%	0.0%	1.2%	9.2%	6.1%	0.0%	1.0%	0.0%	0.0%	0.0%	6.6%	3.0%	7.5%	0.0%	3.5%	0.0%	19.2%	3.2%	39.5%
1979-2011	1292		0.1%	0.0%	0.0%	0.1%	0.3%	18.2%	4.0%	0.0%	1.4%	0.4%	0.8%	0.0%	12.1%	0.2%	3.7%	0.4%	2.5%	0.0%	8.8%	3.6%	43.4%
1979-1984	2223		0.1%	0.0%	0.0%	0.1%	0.0%	35.2%	0.5%	0.1%	1.3%	1.8%	2.1%	0.0%	17.5%	0.2%	6.0%	1.6%	4.3%	0.0%	6.8%	0.4%	21.9%
1985-1995	1618		0.0%	0.0%	0.0%	0.0%	0.0%	20.4%	1.5%	0.0%	1.8%	0.5%	1.4%	0.0%	14.4%	0.1%	2.9%	0.4%	3.5%	0.0%	6.1%	4.1%	42.8%
1996-1998	136		0.0%	0.0%	0.0%	0.0%	1.7%	9.0%	4.6%	0.0%	1.0%	0.0%	0.0%	0.0%	5.5%	0.0%	1.6%	0.0%	0.0%	0.0%	3.4%	10.4%	62.7%
1999-2011	925		0.1%	0.1%	0.0%	0.1%	0.2%	12.0%	7.4%	0.0%	1.1%	0.0%	0.0%	0.0%	9.5%	0.3%	4.1%	0.0%	1.5%	0.0%	13.2%	2.9%	47.7%

Appendix C17. Percent distribution of Lewis River Wild (Lewis River Wild) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	193	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	302	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	1208	2,3,4	7.5%	0.0%	0.0%	3.6%	2.2%	7.0%	0.0%	0.0%	0.0%	1.6%	1.0%	0.0%	2.6%	0.0%	2.9%	0.2%	0.2%	0.0%	4.8%	12.7%	53.7%
1982	970	3,4,5	7.6%	0.8%	0.1%	3.3%	0.0%	11.1%	0.0%	0.4%	0.0%	1.5%	1.4%	0.0%	4.3%	0.8%	7.6%	0.6%	0.8%	0.0%	4.6%	15.1%	39.7%
1983	1081	4,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	379	2,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1985	381	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986	694	2,3,4	6.1%	0.0%	0.0%	2.3%	0.0%	8.1%	2.6%	0.0%	0.0%	2.2%	1.0%	0.0%	3.7%	0.0%	0.6%	0.0%	0.0%	0.0%	26.8%	11.0%	35.7%
1987	1209	2,3,4,5	5.5%	0.0%	0.0%	5.2%	0.0%	9.3%	0.9%	0.0%	0.0%	1.4%	0.0%	0.0%	2.8%	0.4%	0.9%	0.0%	0.3%	0.0%	26.6%	4.8%	41.8%
1988	1036	2,3,4,5	5.1%	0.0%	0.0%	3.4%	0.0%	10.4%	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	4.8%	0.0%	1.1%	0.0%	1.4%	0.0%	24.2%	14.5%	34.6%
1989	1358	2,3,4,5	2.4%	0.7%	0.3%	5.1%	0.4%	5.8%	0.5%	0.0%	0.0%	0.2%	1.5%	0.0%	5.4%	0.3%	0.7%	0.0%	0.0%	0.0%	9.6%	6.8%	60.2%
1990	1216	2,3,4,5	7.6%	0.0%	0.0%	1.9%	0.6%	13.4%	0.8%	0.0%	0.0%	0.5%	0.7%	0.0%	4.2%	0.0%	1.9%	0.0%	1.3%	0.0%	3.4%	2.2%	61.6%
1991	921	2,3,4,5	7.2%	0.2%	0.0%	4.1%	1.2%	6.4%	0.0%	0.0%	0.0%	0.4%	0.7%	0.0%	2.5%	0.0%	1.1%	0.0%	0.0%	0.0%	15.6%	6.3%	54.3%
1992	581	2,3,4,5	1.7%	0.0%	0.0%	4.3%	0.7%	6.7%	0.0%	0.0%	0.0%	1.9%	0.0%	0.0%	3.1%	0.0%	0.7%	0.0%	1.0%	0.0%	5.0%	22.5%	52.3%
1993	406	2,3,4,5	4.4%	0.0%	1.2%	5.7%	0.0%	8.4%	0.0%	0.0%	0.0%	0.0%	1.7%	0.0%	1.5%	0.0%	0.5%	0.0%	0.0%	0.0%	7.1%	8.6%	60.8%
1994	265	2,3,4,5	9.1%	0.0%	0.0%	4.9%	0.0%	3.8%	0.0%	0.0%	0.0%	0.0%	1.5%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%	0.0%	78.5%
1995	556	2,3,4,5	7.4%	0.0%	2.3%	4.0%	0.0%	6.5%	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	24.6%	54.7%
1996	333	2,3,4,5	9.3%	0.0%	0.0%	0.3%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	4.8%	81.7%
1997	233	3,4,5	15.0%	0.0%	0.0%	4.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	77.3%
1998	101	2,4,5	7.9%	0.0%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	2.0%	83.2%
1999	62	2,3,5	17.7%	0.0%	1.6%	8.1%	0.0%	1.6%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	67.7%
2000	73	2,3,4	6.8%	0.0%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.7%	0.0%	0.0%	0.0%	0.0%	0.0%	15.1%	2.7%	71.2%
2001	237	2,3,4,5	5.9%	0.0%	1.7%	0.0%	0.0%	8.9%	3.8%	0.0%	0.0%	0.0%	0.0%	0.0%	6.3%	0.0%	3.0%	0.0%	0.0%	0.0%	2.5%	3.0%	65.0%
2002	391	2,3,4,5	14.6%	0.0%	1.8%	0.0%	0.0%	5.4%	5.6%	0.0%	0.0%	0.0%	0.0%	0.0%	6.6%	0.0%	2.3%	0.0%	0.0%	0.0%	4.9%	2.6%	56.3%
2003	477	2,3,4,5	10.5%	0.0%	0.0%	1.7%	1.3%	4.8%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	10.3%	0.0%	1.0%	0.0%	0.0%	0.0%	6.7%	5.9%	56.6%
2004	2181	2,3,4,5	6.7%	0.0%	0.6%	3.3%	0.9%	2.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	0.0%	0.1%	0.0%	0.0%	0.0%	2.5%	1.9%	81.2%
2005	393	2,3,4,5	4.1%	0.0%	0.0%	13.0%	7.4%	4.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.8%	0.0%	0.8%	0.0%	0.0%	0.0%	11.7%	8.9%	48.1%
2006	594	2,3,4,5	14.5%	0.0%	0.5%	6.6%	1.9%	8.4%	1.0%	0.0%	1.9%	0.0%	0.0%	0.0%	1.5%	0.0%	0.5%	0.0%	0.0%	0.0%	5.6%	19.2%	38.6%
2007	209	2,3,4,5	37.3%	0.0%	1.0%	6.7%	0.0%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.2%	0.0%	2.9%	0.0%	0.0%	0.0%	2.9%	0.0%	40.2%
2008	142	2,3,4,5	7.7%	0.0%	0.0%	0.0%	4.9%	12.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.6%	0.0%	0.7%	0.0%	5.6%	0.0%	0.0%	4.9%	57.7%
2009	179	2,3,4,5	20.1%	0.0%	0.0%	3.4%	3.9%	6.1%	19.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	0.0%	0.0%	0.0%	0.6%	3.9%	41.9%
2010	201	2,3,4,5	6.5%	0.0%	0.0%	5.0%	2.5%	1.5%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.5%	0.0%	4.5%	0.0%	0.0%	0.0%	2.0%	8.0%	63.7%
2011	226	2,3,4,5	11.9%	0.0%	1.3%	11.9%	1.3%	4.9%	4.4%	0.0%	0.0%	0.0%	0.0%	0.0%	3.1%	0.0%	6.2%	0.0%	0.0%	0.0%	1.8%	20.8%	32.3%
1979-2011	588		9.6%	0.1%	0.5%	4.2%	1.0%	5.7%	1.6%	0.0%	0.1%	0.3%	0.4%	0.0%	3.2%	0.1%	1.5%	0.0%	0.4%	0.0%	6.7%	7.9%	56.8%
1979-1984	1089		7.6%	0.4%	0.1%	3.5%	1.1%	9.1%	0.0%	0.2%	0.0%	1.6%	1.2%	0.0%	3.4%	0.4%	5.3%	0.4%	0.5%	0.0%	4.7%	13.9%	46.7%
1985-1995	824		5.6%	0.1%	0.4%	4.1%	0.3%	7.9%	0.5%	0.0%	0.0%	0.7%	0.8%	0.0%	2.9%	0.1%	0.7%	0.0%	0.4%	0.0%	12.0%	10.1%	53.5%
1996-1998	222		10.8%	0.0%	0.0%	3.3%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	3.3%	80.7%
1999-2011	413		12.6%	0.0%	0.8%	4.6%	1.8%	4.8%	3.0%	0.0%	0.1%	0.0%	0.0%	0.0%	4.0%	0.0%	1.8%	0.0%	0.4%	0.0%	4.3%	6.3%	55.4%

Appendix C18. Percent distribution of Lyons Ferry Fingerling (Lyons Ferry Hatchery) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1985	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986	332	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1987	770	3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1988	761	2,4	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1989	404	2,3,5	1.7%	0.0%	0.0%	5.9%	0.0%	17.6%	1.7%	0.0%	0.0%	0.0%	3.0%	0.0%	14.9%	0.0%	5.2%	0.0%	0.0%	0.0%	19.6%	1.7%	28.7%
1990	543	2,3,4	2.9%	0.0%	0.0%	2.6%	0.0%	18.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	13.4%	0.0%	4.2%	0.0%	0.0%	0.0%	24.9%	1.1%	32.2%
1991	311	2,3,4,5	2.6%	0.0%	2.3%	4.8%	0.0%	13.2%	0.0%	0.0%	0.0%	0.0%	1.3%	0.0%	3.5%	0.0%	2.3%	0.0%	0.0%	0.0%	12.5%	1.0%	56.6%
1992	268	3,4,5	1.9%	0.0%	0.0%	7.1%	1.5%	11.9%	4.1%	0.0%	0.0%	0.0%	0.0%	0.0%	7.1%	0.0%	0.0%	0.0%	1.5%	0.0%	6.7%	6.0%	52.2%
1993	235	4,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1994	103	5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1996	39	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1997	42	3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1998	160	4	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1999	122	5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2000	807	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2001	1704	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2002	1151	3,4	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2003	417	2,4,5	9.8%	0.0%	0.0%	2.2%	0.2%	4.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	13.7%	0.0%	2.9%	0.0%	0.2%	0.0%	15.6%	1.4%	49.4%
2004	358	2,3,5	6.4%	0.0%	0.0%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.6%	0.0%	2.8%	0.0%	0.6%	0.0%	9.8%	1.7%	74.0%
2005	293	2,3,4	5.1%	0.3%	0.0%	4.4%	3.1%	5.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.5%	0.0%	4.1%	0.0%	3.4%	0.0%	19.1%	1.7%	46.8%
2006	222	2,3,4,5	8.6%	0.0%	0.0%	0.9%	5.9%	1.4%	2.7%	0.0%	0.0%	0.0%	0.0%	0.0%	11.7%	0.0%	2.7%	0.0%	0.0%	0.0%	15.8%	2.3%	48.2%
2007	583	2,3,4,5	0.3%	0.3%	0.0%	0.5%	0.0%	4.1%	1.0%	0.0%	3.3%	0.0%	0.0%	0.0%	1.2%	0.0%	0.7%	0.0%	3.9%	0.0%	11.3%	5.5%	67.8%
2008	1111	2,3,4,5	0.5%	0.0%	0.0%	0.4%	1.2%	13.7%	3.3%	0.0%	0.8%	0.0%	0.0%	0.0%	9.2%	0.0%	5.0%	0.1%	0.4%	0.0%	19.4%	5.9%	40.3%
2009	1496	2,3,4,5	2.1%	0.1%	0.5%	1.9%	0.0%	4.0%	4.5%	0.0%	0.8%	0.0%	0.0%	0.0%	3.7%	0.0%	3.0%	0.0%	0.9%	0.0%	31.6%	9.5%	37.2%
2010	1921	2,3,4,5	1.7%	0.2%	0.0%	2.1%	0.3%	7.6%	7.2%	0.0%	0.0%	0.0%	0.0%	0.0%	17.1%	0.0%	12.6%	0.0%	0.7%	0.0%	30.6%	6.6%	13.2%
2011	1326	3,4,5	3.3%	0.0%	0.2%	2.0%	0.8%	8.7%	6.3%	0.0%	0.0%	0.0%	0.0%	0.0%	10.5%	0.0%	5.5%	0.0%	1.7%	0.0%	37.0%	10.4%	13.5%
1979-2011	712		3.6%	0.1%	0.2%	2.8%	1.0%	8.5%	2.4%	0.0%	0.4%	0.0%	0.4%	0.0%	8.9%	0.0%	3.9%	0.0%	1.0%	0.0%	19.5%	4.2%	43.1%
1979-1984	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1985-1995	382		2.3%	0.0%	0.6%	5.1%	0.4%	15.2%	1.5%	0.0%	0.0%	0.0%	1.2%	0.0%	9.7%	0.0%	2.9%	0.0%	0.4%	0.0%	15.9%	2.4%	42.4%
1996-1998	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1999-2011	859		4.2%	0.1%	0.1%	1.7%	1.3%	5.5%	2.8%	0.0%	0.5%	0.0%	0.0%	0.0%	8.6%	0.0%	4.4%	0.0%	1.3%	0.0%	21.1%	5.0%	43.4%

Appendix C19. Percent distribution of Lyons Ferry Yearling total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1985	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986	175	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1987	464	3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1988	1810	2,4	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1989	1782	2,3,5	0.3%	0.6%	0.0%	1.6%	0.0%	8.9%	6.7%	0.1%	0.0%	0.5%	3.4%	0.0%	13.9%	0.0%	2.9%	0.7%	2.2%	0.0%	15.9%	2.6%	39.7%
1990	3827	2,3,4	0.5%	0.0%	0.0%	0.6%	0.0%	16.8%	3.2%	0.0%	0.1%	0.7%	1.2%	0.0%	19.8%	0.0%	5.1%	0.4%	2.8%	0.0%	13.7%	1.3%	33.7%
1991	2918	3,4,5	0.2%	0.0%	0.0%	0.7%	0.0%	12.0%	2.0%	0.2%	0.2%	0.1%	1.8%	0.0%	12.5%	0.0%	2.1%	0.4%	1.1%	0.0%	15.7%	1.1%	50.0%
1992	2198	4,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1993	722	2,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1994	413	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	3373	2,3,4	0.3%	0.0%	0.0%	0.8%	0.2%	1.0%	0.6%	0.0%	0.0%	0.1%	0.9%	0.0%	0.9%	0.0%	0.2%	0.4%	0.1%	0.0%	6.0%	4.5%	84.0%
1996	3270	2,3,4,5	0.6%	0.1%	0.0%	1.4%	0.2%	0.8%	0.6%	0.0%	0.0%	0.0%	1.3%	0.0%	6.3%	0.0%	0.1%	0.0%	0.1%	0.0%	16.8%	3.5%	68.3%
1997	3615	2,3,4,5	1.6%	0.1%	0.0%	1.0%	0.2%	4.3%	1.0%	0.0%	0.0%	0.4%	0.6%	0.0%	7.1%	0.0%	0.8%	0.0%	0.1%	0.0%	12.7%	4.6%	65.6%
1998	5888	2,3,4,5	1.6%	0.1%	0.2%	2.4%	1.3%	0.1%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	2.9%	0.0%	0.4%	0.0%	0.1%	0.0%	10.2%	5.9%	74.7%
1999	7278	2,3,4,5	1.4%	0.1%	0.3%	0.9%	0.6%	1.2%	1.4%	0.0%	0.0%	0.1%	0.1%	0.0%	13.4%	0.0%	2.5%	0.0%	0.0%	0.0%	8.1%	4.1%	65.8%
2000	6680	2,3,4,5	1.6%	0.0%	0.1%	0.1%	0.1%	6.2%	3.8%	0.0%	0.0%	0.0%	0.0%	0.0%	6.3%	0.0%	4.2%	0.0%	0.0%	0.0%	11.5%	4.3%	61.9%
2001	10143	2,3,4,5	0.7%	0.0%	0.1%	0.0%	0.4%	7.4%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	20.4%	0.0%	5.1%	0.0%	0.6%	0.0%	13.7%	3.8%	45.9%
2002	7057	2,3,4,5	1.3%	0.2%	0.0%	0.8%	0.7%	6.9%	1.6%	0.0%	0.0%	0.0%	0.4%	0.0%	18.1%	0.0%	10.8%	0.2%	0.2%	0.0%	11.5%	4.4%	43.0%
2003	7780	2,3,4,5	0.8%	0.0%	0.1%	0.2%	0.1%	8.6%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	10.7%	0.0%	4.4%	0.0%	0.4%	0.0%	11.5%	3.2%	58.2%
2004	10170	2,3,4,5	0.5%	0.0%	0.0%	0.4%	0.3%	5.3%	1.2%	0.0%	0.1%	0.0%	0.0%	0.0%	12.8%	0.0%	4.5%	0.0%	0.9%	0.0%	7.7%	3.2%	63.0%
2005	7058	2,3,4,5	0.4%	0.0%	0.0%	0.6%	0.7%	10.4%	2.9%	0.0%	0.0%	0.0%	0.0%	0.0%	14.2%	0.0%	7.7%	0.0%	0.3%	0.0%	12.9%	2.3%	47.7%
2006	4121	2,3,4,5	0.6%	0.0%	0.1%	1.8%	1.2%	6.4%	2.6%	0.0%	0.1%	0.0%	0.0%	0.0%	9.3%	0.0%	3.4%	0.1%	0.6%	0.0%	14.7%	2.6%	56.4%
2007	5192	2,3,4,5	1.4%	0.4%	0.1%	0.7%	0.2%	7.9%	2.5%	0.0%	0.2%	0.0%	0.1%	0.0%	8.6%	0.0%	4.8%	0.0%	0.9%	0.0%	11.6%	3.1%	57.5%
2008	3541	2,3,4,5	0.5%	0.0%	0.0%	0.2%	0.6%	6.1%	3.2%	0.0%	0.5%	0.0%	0.0%	0.0%	6.4%	0.0%	2.5%	0.3%	0.5%	0.0%	19.8%	4.3%	55.3%
2009	5511	2,3,4,5	0.3%	0.1%	0.0%	0.4%	0.3%	3.2%	7.8%	0.0%	1.1%	0.0%	0.0%	0.0%	6.1%	0.0%	9.8%	0.1%	5.6%	0.0%	21.0%	6.9%	37.3%
2010	5103	2,3,4,5	1.0%	0.2%	0.0%	1.4%	0.6%	8.3%	4.6%	0.0%	0.2%	0.0%	0.0%	0.0%	16.5%	0.0%	12.7%	0.0%	0.6%	0.0%	35.4%	4.3%	14.0%
2011	3818	3,4,5	0.8%	0.0%	0.0%	0.6%	0.2%	5.8%	4.6%	0.0%	0.0%	0.0%	0.0%	0.0%	10.3%	0.1%	11.8%	0.0%	1.3%	0.0%	33.1%	12.5%	19.0%
1979-2011	5406		0.8%	0.1%	0.0%	0.8%	0.4%	6.4%	2.7%	0.0%	0.1%	0.1%	0.5%	0.0%	10.8%	0.0%	4.8%	0.1%	0.9%	0.0%	15.2%	4.1%	52.0%
1979-1984	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1985-1995	2975		0.3%	0.1%	0.0%	0.9%	0.0%	9.7%	3.1%	0.1%	0.1%	0.3%	1.8%	0.0%	11.8%	0.0%	2.6%	0.5%	1.5%	0.0%	12.8%	2.4%	51.9%
1996-1998	4258		1.3%	0.1%	0.1%	1.6%	0.6%	1.7%	0.5%	0.0%	0.0%	0.1%	0.7%	0.0%	5.4%	0.0%	0.4%	0.0%	0.1%	0.0%	13.2%	4.6%	69.5%
1999-2011	6419		0.9%	0.1%	0.1%	0.6%	0.5%	6.4%	3.1%	0.0%	0.2%	0.0%	0.0%	0.0%	11.8%	0.0%	6.5%	0.1%	0.9%	0.0%	16.3%	4.5%	48.1%

Appendix C20. Percent distribution of Nanaimo River Fall (Lower Strait of Georgia Natural) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	285	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	1572	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	1879	3,4	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	539	2,4,5	4.3%	0.0%	0.0%	1.9%	2.8%	1.7%	0.7%	1.1%	37.5%	12.6%	19.1%	0.0%	0.0%	0.0%	0.0%	0.4%	1.1%	0.0%	0.0%	5.8%	11.1%
1985	58	3,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986	29	4	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1987	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1988	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1989	29	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1990	431	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1991	1188	2,3,4	0.2%	0.4%	0.0%	0.8%	2.1%	1.8%	0.7%	7.0%	48.3%	1.0%	8.2%	0.0%	0.7%	0.0%	0.0%	2.7%	0.9%	0.0%	0.2%	6.2%	18.9%
1992	2283	2,3,4,5	0.1%	0.0%	0.0%	0.8%	2.6%	5.2%	0.3%	8.2%	43.4%	1.3%	5.6%	0.0%	0.4%	0.0%	0.1%	0.8%	0.8%	0.0%	0.0%	1.9%	28.6%
1993	1632	2,3,4,5	0.1%	0.4%	0.0%	1.8%	1.5%	2.7%	0.5%	6.1%	53.3%	1.3%	4.4%	0.0%	0.6%	0.0%	0.0%	0.2%	1.0%	0.0%	0.0%	2.9%	23.3%
1994	518	2,3,4,5	0.6%	0.0%	0.0%	0.8%	1.9%	3.3%	1.2%	0.8%	38.8%	0.0%	7.5%	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	0.0%	0.0%	1.0%	42.5%
1995	1651	2,3,4,5	0.0%	0.0%	0.0%	0.0%	1.0%	1.5%	0.8%	0.0%	30.5%	0.0%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%	0.0%	0.2%	7.3%	53.8%
1996	971	2,3,4,5	0.0%	1.8%	0.0%	0.0%	0.7%	0.3%	0.4%	0.0%	61.6%	0.0%	2.3%	0.0%	0.2%	0.0%	0.0%	0.5%	3.1%	0.0%	3.5%	5.1%	20.5%
1997	286	2,3,4,5	5.6%	0.0%	0.0%	4.2%	0.0%	0.7%	0.3%	0.0%	38.1%	2.8%	2.4%	0.0%	0.0%	1.4%	0.0%	4.5%	4.2%	0.0%	0.0%	3.1%	32.5%
1998	259	2,3,4,5	1.2%	5.4%	0.0%	5.8%	3.9%	0.4%	0.0%	0.0%	27.8%	0.0%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	15.1%	37.8%
1999	303	2,3,4,5	0.0%	0.0%	0.0%	0.0%	2.3%	0.0%	2.0%	0.0%	33.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.3%	3.0%	0.0%	1.0%	3.3%	52.1%
2000	178	3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	2.8%	6.2%	0.0%	27.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.1%	20.2%	38.8%
2001	547	2,4,5	0.2%	0.0%	0.0%	0.0%	0.5%	0.9%	0.0%	0.0%	37.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.4%	9.1%	0.0%	2.4%	0.2%	44.4%
2002	949	2,3,5	0.4%	0.1%	0.0%	0.0%	1.8%	0.9%	0.1%	0.0%	39.7%	0.0%	2.5%	0.0%	0.1%	0.0%	0.0%	2.5%	3.9%	0.0%	4.1%	0.3%	43.4%
2003	864	2,3,4	0.6%	0.7%	0.1%	0.2%	7.1%	3.8%	0.8%	0.0%	19.4%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	2.0%	3.1%	0.0%	2.1%	0.5%	59.5%
2004	871	2,3,4,5	1.4%	0.0%	0.0%	0.7%	8.4%	5.1%	2.2%	0.0%	10.7%	0.0%	0.0%	0.0%	0.9%	0.0%	0.0%	1.5%	2.8%	0.0%	5.7%	1.4%	59.4%
2005	517	3,4,5	0.6%	0.0%	0.6%	1.5%	10.8%	6.2%	1.7%	0.0%	7.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.5%	1.0%	0.0%	19.3%	0.0%	48.0%
2006	1492	2,4,5	0.3%	0.0%	0.0%	0.1%	0.7%	0.5%	0.5%	0.0%	14.3%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.6%	1.8%	0.0%	4.8%	1.0%	75.4%
2007	1087	3,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2008	261	4	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2009	6	5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2010	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2011	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2012	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1979-2012	885		0.9%	0.5%	0.0%	1.1%	2.8%	2.2%	1.1%	1.4%	33.5%	1.1%	3.3%	0.0%	0.2%	0.1%	0.0%	1.5%	2.3%	0.0%	2.9%	4.4%	40.6%
1979-1984	539		4.3%	0.0%	0.0%	1.9%	2.8%	1.7%	0.7%	1.1%	37.5%	12.6%	19.1%	0.0%	0.0%	0.0%	0.0%	0.4%	1.1%	0.0%	0.0%	5.8%	11.1%
1985-1995	1454		0.2%	0.2%	0.0%	0.8%	1.8%	2.9%	0.7%	4.4%	42.9%	0.7%	5.7%	0.0%	0.3%	0.0%	0.0%	0.7%	1.3%	0.0%	0.1%	3.9%	33.4%
1996-1998	505		2.3%	2.4%	0.0%	3.3%	1.5%	0.5%	0.3%	0.0%	42.5%	0.9%	2.2%	0.0%	0.1%	0.5%	0.0%	1.7%	2.4%	0.0%	1.4%	7.8%	30.3%
1999-2012	715		0.4%	0.1%	0.1%	0.3%	3.9%	2.5%	1.7%	0.0%	23.7%	0.0%	0.3%	0.0%	0.2%	0.0%	0.0%	2.1%	3.1%	0.0%	5.6%	3.4%	52.6%

Appendix C21. Percent distribution of Nicola River Spring (Fraser Early) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1985	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1987	19	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1988	181	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1989	1271	2,3,4	0.0%	0.0%	0.0%	0.3%	1.2%	1.3%	0.0%	0.0%	12.4%	0.0%	12.5%	0.0%	0.9%	0.0%	0.0%	1.1%	2.1%	0.0%	0.0%	4.2%	64.0%
1990	279	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	2.5%	0.0%	0.0%	3.2%	0.0%	14.3%	0.0%	1.8%	0.0%	0.0%	0.0%	3.2%	0.0%	0.0%	15.4%	59.5%
1991	1311	2,3,4,5	0.2%	0.5%	0.0%	0.0%	0.6%	4.1%	0.0%	0.3%	5.9%	0.2%	14.3%	0.0%	0.8%	0.0%	0.0%	0.2%	1.6%	0.0%	0.0%	8.4%	62.9%
1992	559	2,3,4,5	0.0%	0.0%	0.0%	5.0%	1.8%	5.0%	0.0%	0.0%	9.5%	2.3%	7.2%	0.0%	5.7%	0.0%	0.0%	0.0%	6.1%	0.0%	0.0%	9.1%	48.3%
1993	1175	2,3,4,5	0.0%	0.0%	0.0%	3.1%	1.3%	5.7%	1.2%	0.0%	5.9%	0.0%	11.5%	0.0%	2.0%	0.0%	0.0%	0.0%	2.4%	0.0%	0.0%	5.7%	61.3%
1994	2047	2,3,4,5	0.0%	0.0%	0.0%	0.2%	0.0%	3.6%	0.4%	0.0%	3.6%	0.0%	1.5%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.2%	82.2%
1995	1882	2,3,4,5	0.0%	0.0%	0.0%	0.2%	0.8%	1.2%	0.5%	0.0%	2.8%	0.0%	5.6%	0.0%	0.1%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	3.6%	84.8%
1996	74	2,3,4,5	0.0%	0.0%	0.0%	4.1%	0.0%	1.4%	0.0%	0.0%	0.0%	0.0%	18.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	75.7%
1997	237	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.5%	0.0%	4.6%	0.0%	0.0%	0.0%	0.0%	0.0%	12.2%	0.0%	0.0%	5.9%	66.7%
1998	849	2,3,4,5	0.0%	0.0%	0.0%	0.0%	1.9%	0.0%	0.0%	0.0%	1.6%	0.0%	6.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.5%	82.0%
1999	2424	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	0.0%	6.9%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.2%	89.4%
2000	1774	2,3,4,5	0.0%	0.0%	0.0%	0.0%	2.0%	0.0%	0.0%	0.0%	5.0%	0.0%	10.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.3%	77.5%
2001	2174	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.5%	0.1%	0.0%	0.0%	4.3%	0.0%	7.0%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.6%	82.8%
2002	2140	2,3,4,5	0.0%	0.0%	0.0%	1.4%	0.3%	0.7%	0.0%	0.0%	1.3%	0.0%	4.5%	0.0%	0.8%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	2.7%	88.1%
2003	1782	2,3,4,5	0.1%	0.0%	0.0%	2.4%	0.0%	1.0%	0.6%	0.0%	2.6%	0.0%	0.6%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.8%	85.4%
2004	445	2,3,4,5	0.0%	0.0%	0.0%	2.2%	0.0%	2.0%	0.0%	0.0%	4.3%	0.0%	23.6%	0.0%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%
2005	381	2,3,4,5	0.0%	0.0%	0.0%	1.3%	0.0%	3.9%	0.0%	0.0%	7.3%	0.0%	7.9%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	16.0%	63.0%
2006	395	2,3,4,5	0.0%	0.0%	0.0%	1.8%	0.0%	2.0%	0.0%	0.0%	3.8%	0.0%	5.3%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.6%	75.9%
2007	112	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	0.0%	0.0%	0.0%	0.0%	5.4%	0.0%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	29.5%	55.4%
2008	611	2,3,4,5	0.0%	0.0%	0.0%	1.3%	1.0%	0.0%	0.0%	0.0%	5.9%	0.0%	7.5%	0.0%	2.3%	0.0%	0.3%	0.0%	0.0%	0.0%	0.5%	3.6%	77.6%
2009	258	2,3,4,5	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	13.2%	0.0%	6.6%	0.0%	3.9%	0.0%	0.0%	0.0%	1.6%	0.0%	0.0%	22.9%	51.6%
2010	2312	2,3,4,5	0.3%	0.0%	0.0%	1.3%	0.8%	0.0%	0.1%	0.0%	1.2%	0.0%	4.5%	0.0%	0.7%	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	0.1%	90.5%
2011	708	2,3,4,5	0.0%	0.0%	0.0%	0.7%	0.8%	0.0%	0.6%	0.0%	5.2%	0.0%	4.9%	0.0%	2.1%	0.0%	0.3%	0.0%	1.7%	0.0%	0.0%	2.4%	81.2%
2012	676	3,4,5	0.0%	0.0%	0.0%	0.4%	1.9%	0.0%	0.0%	0.0%	2.5%	0.0%	17.8%	0.0%	3.3%	0.0%	0.0%	0.0%	1.3%	0.0%	0.0%	0.9%	71.9%
1979-2012	1078		0.0%	0.0%	0.0%	1.1%	0.6%	1.8%	0.1%	0.0%	4.7%	0.1%	8.7%	0.0%	1.3%	0.0%	0.0%	0.1%	1.4%	0.0%	0.0%	7.4%	72.7%
1979-1984	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1985-1995	1218		0.0%	0.1%	0.0%	1.3%	0.8%	3.3%	0.3%	0.0%	6.2%	0.4%	9.6%	0.0%	1.7%	0.0%	0.0%	0.2%	2.3%	0.0%	0.0%	7.8%	66.1%
1996-1998	387		0.0%	0.0%	0.0%	1.4%	0.6%	0.5%	0.0%	0.0%	4.1%	0.0%	9.9%	0.0%	0.0%	0.0%	0.0%	0.0%	4.1%	0.0%	0.0%	4.8%	74.8%
1999-2012	1157		0.0%	0.0%	0.0%	0.9%	0.5%	1.3%	0.1%	0.0%	4.1%	0.0%	8.0%	0.0%	1.4%	0.0%	0.1%	0.0%	0.4%	0.0%	0.0%	7.7%	75.5%

Appendix C22. Percent distribution of Nisqually Fall Fingerling total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	25	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	99	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983[1]	301	2,3,4	0.0%	0.0%	0.0%	1.7%	0.0%	13.0%	0.0%	1.7%	7.3%	0.0%	4.7%	0.0%	3.0%	0.0%	0.0%	8.3%	56.5%	0.0%	3.0%	0.0%	1.0%
1984[1]	251	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	30.3%	0.0%	0.0%	1.2%	0.0%	2.0%	0.0%	1.2%	0.0%	0.0%	15.5%	23.9%	0.0%	21.1%	0.0%	4.8%
1985[1]	82	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	26.8%	3.7%	0.0%	0.0%	0.0%	3.7%	0.0%	6.1%	0.0%	0.0%	22.0%	23.2%	0.0%	11.0%	0.0%	3.7%
1986	126	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	15.9%	0.0%	0.0%	12.7%	0.0%	1.6%	0.0%	0.0%	0.0%	0.0%	11.1%	19.0%	0.0%	22.2%	0.0%	17.5%
1987	191	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	12.6%	0.0%	1.0%	11.0%	2.6%	1.6%	0.0%	5.8%	0.0%	0.0%	1.0%	18.3%	0.0%	33.5%	2.6%	9.9%
1988	479	2,3,4,5	0.0%	0.0%	0.0%	0.6%	2.1%	4.6%	0.0%	2.9%	28.8%	1.7%	3.5%	0.0%	6.5%	0.0%	0.0%	6.5%	16.1%	0.0%	9.4%	0.0%	17.3%
1989	1157	2,3,4,5	0.0%	0.0%	0.0%	0.4%	0.0%	5.4%	6.0%	0.0%	3.0%	0.0%	3.8%	0.0%	14.6%	2.2%	0.3%	11.6%	18.5%	0.0%	26.6%	0.4%	7.2%
1990	1390	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	23.5%	5.9%	0.0%	3.2%	0.2%	0.1%	0.0%	10.4%	0.0%	0.1%	2.0%	13.0%	0.0%	33.9%	0.0%	7.6%
1991	277	2,3,4,5	0.0%	0.0%	0.0%	2.2%	0.0%	9.0%	1.8%	0.0%	3.6%	0.0%	2.2%	0.0%	17.0%	0.0%	0.7%	6.1%	25.6%	0.0%	15.9%	0.0%	15.9%
1992	544	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.6%	6.6%	3.3%	0.0%	5.3%	0.0%	2.0%	0.0%	6.6%	0.0%	0.0%	11.4%	27.6%	0.0%	8.8%	0.0%	27.8%
1993	718	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	13.8%	1.7%	0.4%	4.5%	0.0%	2.8%	0.0%	2.9%	0.0%	0.7%	3.8%	20.2%	0.0%	20.9%	0.0%	28.4%
1994	1540	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	3.7%	0.4%	0.0%	4.3%	0.0%	2.4%	0.0%	0.6%	0.0%	0.0%	4.9%	36.4%	0.0%	16.6%	0.4%	30.4%
1995	2033	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.4%	7.8%	2.9%	0.0%	2.1%	0.0%	0.6%	0.0%	2.4%	0.0%	0.0%	1.4%	27.7%	0.0%	29.4%	0.0%	25.3%
1996	1090	2,3,4,5	0.2%	0.0%	0.0%	0.0%	0.0%	0.6%	1.2%	0.0%	3.9%	0.0%	1.0%	0.0%	1.6%	0.0%	0.0%	1.5%	26.1%	0.0%	38.0%	0.0%	26.0%
1997	757	2,3,4,5	0.0%	0.5%	0.0%	0.0%	0.5%	3.2%	4.1%	0.0%	0.8%	0.0%	0.7%	0.0%	0.7%	0.0%	0.9%	0.8%	29.1%	0.0%	18.9%	1.5%	38.4%
1998	1549	2,3,4,5	0.2%	0.0%	0.0%	0.0%	0.4%	0.3%	0.6%	0.0%	2.3%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.5%	24.0%	0.0%	36.7%	0.8%	33.9%
1999	1682	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	2.6%	0.0%	3.4%	0.0%	0.0%	0.0%	3.1%	0.0%	0.3%	1.2%	23.5%	0.0%	41.1%	0.0%	24.4%
2000	740	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	13.4%	3.0%	0.0%	3.6%	0.0%	0.0%	0.0%	1.6%	0.0%	1.4%	2.2%	28.4%	0.0%	35.5%	0.0%	10.9%
2001	1200	2,3,4,5	0.3%	0.0%	0.0%	0.0%	0.0%	3.0%	2.8%	0.0%	1.8%	0.0%	0.0%	0.0%	4.3%	0.0%	0.4%	0.4%	25.9%	0.0%	26.8%	0.0%	34.3%
2002	1559	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	6.4%	3.5%	0.0%	1.1%	0.0%	0.0%	0.0%	3.6%	0.0%	0.6%	0.6%	12.3%	0.0%	40.7%	3.3%	28.0%
2003	1772	2,3,4,5	0.1%	0.0%	0.0%	0.0%	0.6%	5.1%	1.9%	0.0%	1.3%	0.0%	0.0%	0.0%	4.6%	0.0%	0.0%	0.4%	15.1%	0.0%	42.3%	1.9%	26.8%
2004	1896	2,3,4,5	0.0%	0.1%	0.0%	0.0%	0.0%	5.5%	1.2%	0.0%	1.5%	0.0%	0.0%	0.0%	7.1%	0.0%	0.6%	0.6%	12.5%	0.0%	32.6%	0.0%	38.3%
2005	1373	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	5.3%	2.0%	0.0%	5.5%	0.0%	0.3%	0.0%	4.0%	0.0%	1.9%	0.7%	13.5%	0.0%	10.9%	0.0%	55.9%
2006	3228	2,3,4,5	0.1%	0.0%	0.0%	0.0%	0.0%	6.0%	1.7%	0.0%	2.4%	0.0%	0.0%	0.0%	5.6%	0.0%	0.3%	0.8%	8.4%	0.0%	40.7%	0.0%	34.0%
2007	3347	2,3,4,5	0.0%	0.0%	0.0%	0.1%	0.0%	9.7%	1.5%	0.0%	1.0%	0.0%	0.0%	0.0%	4.9%	0.0%	0.4%	0.8%	14.1%	0.0%	35.6%	0.0%	32.1%
2008	1169	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	4.9%	3.3%	0.0%	5.0%	0.0%	0.0%	0.0%	1.7%	0.0%	0.4%	0.8%	15.4%	0.0%	46.7%	0.0%	21.8%
2009	1777	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%	3.7%	0.0%	0.0%	0.0%	0.0%	0.0%	2.2%	0.0%	0.1%	0.8%	13.9%	0.0%	42.0%	0.0%	35.3%
2010	1944	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	4.5%	1.6%	0.0%	0.2%	0.0%	0.0%	0.0%	4.1%	0.0%	0.4%	0.2%	1.7%	0.0%	41.2%	4.4%	41.7%
2011	1538	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	2.7%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	3.6%	0.0%	0.8%	1.6%	7.4%	0.0%	24.7%	3.4%	55.3%
1979-2011	1231		0.0%	0.0%	0.0%	0.2%	0.2%	8.5%	2.1%	0.2%	4.2%	0.2%	1.1%	0.0%	4.5%	0.1%	0.4%	4.1%	20.6%	0.0%	27.8%	0.6%	25.3%
1979-1984	276		0.0%	0.0%	0.0%	0.8%	0.0%	21.6%	0.0%	0.8%	4.3%	0.0%	3.3%	0.0%	2.1%	0.0%	0.0%	11.9%	40.2%	0.0%	12.1%	0.0%	2.9%
1985-1995	776		0.0%	0.0%	0.0%	0.3%	0.3%	11.8%	2.3%	0.4%	7.1%	0.4%	2.2%	0.0%	6.6%	0.2%	0.2%	7.4%	22.3%	0.0%	20.7%	0.3%	17.4%
1996-1998	1132		0.1%	0.2%	0.0%	0.0%	0.3%	1.4%	2.0%	0.0%	2.3%	0.0%	0.6%	0.0%	0.9%	0.0%	0.3%	0.9%	26.4%	0.0%	31.2%	0.7%	32.8%
1999-2011	1787		0.0%	0.0%	0.0%	0.0%	0.0%	5.3%	2.3%	0.0%	2.1%	0.0%	0.0%	0.0%	3.9%	0.0%	0.6%	0.9%	14.8%	0.0%	35.5%	1.0%	33.7%

[1] Estimates for this year can only be used for distribution of fishing mortalities because the escapement data are insufficient.

Appendix C23. Percent distribution of Nooksack Spring Yearling (Nooksack Spring Yearling) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	45	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	226	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1985	201	3,4	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986	255	2,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	0.8%	2.4%	15.7%	0.4%	4.3%	0.0%	0.4%	0.0%	0.0%	7.1%	3.5%	0.0%	0.0%	0.0%	63.5%
1987	558	3,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1988	562	2,4	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1989	128	2,3,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	13.3%	9.4%	0.0%	0.8%	0.0%	66.4%
1990	87	2,3,4	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	1.1%	0.0%	39.1%	1.1%	10.3%	0.0%	1.1%	0.0%	0.0%	2.3%	23.0%	0.0%	0.0%	0.0%	13.8%
1991	383	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	6.0%	0.0%	43.6%	0.0%	6.0%	0.0%	2.1%	0.0%	0.0%	5.7%	6.3%	0.0%	1.3%	0.0%	26.9%
1992	1035	2,3,4,5	1.6%	1.9%	0.0%	0.0%	0.3%	18.8%	2.2%	1.6%	14.3%	1.0%	1.6%	0.0%	1.0%	0.0%	0.0%	0.4%	9.5%	0.0%	0.0%	0.0%	45.7%
1993	672	3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	4.8%	7.6%	3.3%	15.5%	0.0%	5.7%	0.0%	0.7%	0.0%	0.0%	5.1%	12.2%	0.0%	0.0%	0.0%	45.2%
1994	539	2,4,5	0.6%	0.0%	0.0%	0.0%	0.0%	5.0%	0.0%	5.9%	30.6%	0.0%	1.1%	0.0%	0.2%	0.0%	0.0%	5.9%	3.9%	0.0%	0.0%	0.0%	46.8%
1995	197	2,3,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	26.4%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	3.0%	11.7%	0.0%	0.0%	0.0%	58.4%
1996	203	2,3,4	0.0%	0.0%	0.0%	0.0%	1.0%	0.5%	3.0%	0.0%	16.3%	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	5.4%	0.0%	0.5%	0.0%	72.9%
1997	131	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.3%	0.0%	16.8%	0.0%	2.3%	0.0%	0.0%	0.0%	0.0%	3.1%	22.1%	0.0%	0.0%	0.0%	50.4%
1998	134	2,3,4,5	0.0%	0.0%	0.0%	0.0%	4.5%	0.0%	6.0%	0.0%	21.6%	0.0%	5.2%	0.0%	0.0%	0.0%	0.0%	1.5%	8.2%	0.0%	2.2%	0.0%	50.7%
1999	210	3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	2.4%	1.4%	0.0%	27.1%	0.0%	0.0%	0.0%	2.9%	0.0%	0.0%	1.4%	1.9%	0.0%	2.9%	0.0%	60.0%
2000	156	4,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2001	31	5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2002	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2003	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2004	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2005	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2006	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2007	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2008	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2009	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2010	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2011	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1979-2011	331		0.2%	0.2%	0.0%	0.0%	0.5%	3.6%	2.8%	1.1%	23.1%	0.2%	3.1%	0.0%	0.7%	0.0%	0.0%	4.1%	9.8%	0.0%	0.6%	0.0%	50.1%
1979-1984	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1985-1995	412		0.3%	0.2%	0.0%	0.0%	0.0%	5.1%	2.2%	1.7%	24.4%	0.3%	3.7%	0.0%	0.7%	0.0%	0.0%	5.4%	9.9%	0.0%	0.3%	0.0%	45.8%
1996-1998	156		0.0%	0.0%	0.0%	0.0%	1.8%	0.2%	4.8%	0.0%	18.2%	0.0%	2.5%	0.0%	0.2%	0.0%	0.0%	1.5%	11.9%	0.0%	0.9%	0.0%	58.0%
1999-2011	210		0.0%	0.0%	0.0%	0.0%	0.0%	2.4%	1.4%	0.0%	27.1%	0.0%	0.0%	0.0%	2.9%	0.0%	0.0%	1.4%	1.9%	0.0%	2.9%	0.0%	60.0%

Appendix C24. Percent distribution of Nooksack Spring Fingerling (Nooksack Spring Yearling) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1985	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1987	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1988	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1989	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1990	11	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1991	195	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1992	512	3,4	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1993	367	4,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1994	67	2,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	503	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1996	1134	2,3,4	3.3%	0.0%	0.2%	0.0%	1.1%	1.1%	4.0%	0.0%	20.7%	0.0%	5.7%	0.0%	0.7%	0.0%	0.0%	0.2%	9.3%	0.0%	0.1%	0.0%	53.7%
1997	2078	2,3,4,5	4.0%	0.4%	0.8%	0.3%	0.1%	2.2%	2.9%	0.0%	11.5%	0.8%	1.3%	0.0%	0.5%	0.0%	0.0%	0.4%	6.5%	0.0%	0.8%	0.0%	67.4%
1998	1526	2,3,4,5	8.8%	0.2%	0.0%	0.0%	0.0%	1.8%	3.5%	0.0%	3.8%	0.0%	0.2%	0.0%	0.2%	0.0%	0.0%	0.1%	1.1%	0.0%	0.0%	0.0%	80.2%
1999	1660	2,3,4,5	2.0%	0.2%	0.0%	0.0%	1.0%	2.5%	5.8%	0.0%	4.6%	0.0%	0.0%	0.0%	1.5%	0.0%	0.0%	0.0%	1.1%	0.0%	0.0%	0.0%	81.2%
2000	946	2,3,4,5	5.1%	0.3%	0.0%	0.0%	0.0%	20.6%	5.0%	0.0%	15.1%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.2%	0.6%	0.0%	0.0%	0.0%	52.9%
2001	1411	2,3,4,5	1.9%	0.0%	0.0%	0.0%	0.0%	10.9%	4.9%	0.0%	5.3%	0.0%	0.0%	0.0%	1.1%	0.0%	0.0%	0.5%	1.6%	0.0%	0.3%	0.0%	73.4%
2002	1270	2,3,4,5	6.3%	0.0%	0.6%	0.9%	1.4%	17.0%	2.4%	0.0%	1.5%	0.0%	0.0%	0.0%	0.2%	0.0%	0.5%	0.2%	0.7%	0.0%	0.0%	0.0%	68.3%
2003	782	2,3,4,5	3.7%	0.0%	0.0%	0.0%	0.6%	13.6%	2.9%	0.0%	7.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	3.3%	0.0%	0.9%	0.0%	66.6%
2004	695	2,3,4,5	1.6%	0.0%	0.0%	0.3%	0.0%	31.5%	5.3%	0.0%	11.2%	0.0%	0.0%	0.0%	3.0%	0.0%	0.0%	0.0%	1.6%	0.0%	0.4%	0.0%	45.0%
2005	857	2,3,4,5	3.6%	0.2%	0.0%	0.2%	0.0%	32.6%	4.3%	0.0%	8.8%	0.0%	0.5%	0.0%	0.5%	0.0%	0.2%	0.0%	1.1%	0.0%	0.8%	0.0%	47.3%
2006	567	2,3,4,5	2.3%	0.0%	0.5%	1.2%	0.0%	31.6%	6.7%	0.0%	9.7%	0.0%	0.0%	0.0%	1.2%	0.0%	0.0%	0.2%	3.7%	0.0%	2.3%	0.7%	39.9%
2007	612	2,3,4,5	5.4%	0.2%	0.5%	0.3%	0.0%	24.3%	9.5%	0.0%	11.3%	0.0%	0.2%	0.0%	0.3%	0.0%	0.0%	0.0%	6.0%	0.0%	0.7%	0.3%	41.0%
2008	1070	2,3,4,5	1.4%	0.2%	0.0%	0.4%	0.0%	19.8%	13.5%	0.0%	16.2%	0.0%	0.0%	0.0%	1.3%	0.0%	0.5%	0.4%	7.1%	0.0%	1.7%	0.2%	37.5%
2009	838	2,3,4,5	3.3%	0.6%	0.0%	0.0%	0.0%	7.4%	10.9%	0.0%	16.1%	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	0.0%	4.5%	0.0%	1.4%	0.0%	54.9%
2010	851	2,3,4,5	3.6%	0.4%	0.0%	0.8%	1.6%	21.7%	10.9%	0.0%	2.0%	0.0%	0.0%	0.0%	2.5%	0.0%	0.5%	0.2%	3.6%	0.0%	0.5%	0.0%	51.6%
2011	511	2,3,4,5	3.5%	0.0%	0.0%	0.0%	0.4%	15.5%	5.7%	0.0%	17.2%	0.0%	0.4%	0.0%	1.2%	0.0%	0.0%	0.0%	4.1%	0.0%	2.5%	0.0%	49.5%
1979-2011	1050		3.7%	0.2%	0.2%	0.3%	0.4%	15.9%	6.1%	0.0%	10.2%	0.1%	0.5%	0.0%	1.0%	0.0%	0.1%	0.2%	3.5%	0.0%	0.8%	0.1%	56.9%
1979-1984	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1985-1995	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1996-1998	1579		5.4%	0.2%	0.3%	0.1%	0.4%	1.7%	3.5%	0.0%	12.0%	0.3%	2.4%	0.0%	0.5%	0.0%	0.0%	0.2%	5.6%	0.0%	0.3%	0.0%	67.1%
1999-2011	928		3.4%	0.2%	0.1%	0.3%	0.4%	19.2%	6.7%	0.0%	9.8%	0.0%	0.1%	0.0%	1.1%	0.0%	0.1%	0.2%	3.0%	0.0%	0.9%	0.1%	54.5%

Appendix C25. Percent distribution of Puntledge River Summer (Lower Strait of Georgia Hatchery) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	1539	2,3,4	1.9%	0.3%	0.3%	2.7%	0.4%	1.0%	0.0%	19.8%	17.2%	8.6%	12.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	35.3%
1980	817	2,3,4,5	2.6%	0.0%	0.5%	2.2%	1.5%	5.8%	0.0%	16.3%	23.3%	6.4%	10.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	31.2%
1981	541	2,3,4,5	0.9%	0.0%	0.0%	5.0%	4.3%	0.0%	0.0%	21.6%	37.5%	7.9%	8.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	14.0%
1982	561	2,3,4,5	1.1%	0.5%	0.0%	4.1%	1.6%	2.1%	0.0%	5.7%	15.7%	16.0%	23.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	30.1%
1983	531	2,3,4,5	2.1%	0.2%	0.0%	8.5%	3.0%	2.6%	0.0%	12.6%	13.4%	17.3%	7.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	32.4%
1984	317	2,3,4,5	0.0%	0.9%	0.0%	2.2%	1.3%	2.2%	0.0%	5.7%	18.9%	5.7%	6.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	57.1%
1985	156	2,3,4,5	13.5%	1.3%	3.8%	6.4%	6.4%	0.0%	0.0%	0.0%	31.4%	1.3%	13.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	22.4%
1986	204	2,3,4,5	5.9%	0.0%	5.4%	2.9%	0.0%	2.9%	0.0%	12.3%	31.9%	4.4%	11.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	23.0%
1987	162	2,3,4,5	3.1%	1.2%	0.0%	15.4%	10.5%	0.0%	4.3%	0.0%	16.7%	2.5%	6.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	40.1%
1988	108	2,3,4,5	11.1%	0.0%	0.0%	0.0%	14.8%	0.0%	0.0%	0.0%	25.0%	0.0%	5.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	43.5%
1989	75	2,3,4,5	2.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	57.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%
1990	103	2,3,4,5	9.7%	0.0%	0.0%	0.0%	3.9%	0.0%	0.0%	0.0%	9.7%	3.9%	15.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	57.3%
1991	131	2,3,4,5	6.1%	7.6%	0.0%	0.0%	9.9%	0.0%	0.0%	0.0%	36.6%	0.0%	9.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	29.8%
1992	103	2,3,4,5	0.0%	0.0%	0.0%	0.0%	3.9%	0.0%	0.0%	3.9%	40.8%	0.0%	19.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	32.0%
1993	82	2,3,4,5	0.0%	0.0%	0.0%	0.0%	9.8%	0.0%	0.0%	0.0%	56.1%	0.0%	6.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	28.0%
1994	34	2,3,4,5	8.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	58.8%	0.0%	8.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	23.5%
1995	57	2,3,4,5	3.5%	5.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.9%	0.0%	10.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	29.8%
1996	51	2,3,4,5	0.0%	0.0%	0.0%	0.0%	5.9%	0.0%	0.0%	0.0%	37.3%	0.0%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	54.9%
1997	28	3,4,5	0.0%	0.0%	0.0%	0.0%	10.7%	0.0%	0.0%	0.0%	7.1%	0.0%	7.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	75.0%
1998	12	2,4,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1999	50	2,3,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	16.0%	0.0%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	80.0%
2000	64	2,3,4	1.6%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	84.4%
2001	215	2,3,4,5	3.3%	0.5%	0.0%	0.0%	1.4%	2.3%	0.0%	0.0%	3.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	89.3%
2002	123	2,3,4,5	5.7%	0.0%	0.0%	0.0%	11.4%	0.0%	11.4%	0.0%	4.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%
2003	114	2,3,4,5	0.0%	0.0%	0.0%	0.0%	11.4%	0.0%	0.0%	0.0%	7.0%	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	80.7%
2004	108	2,3,4,5	16.7%	0.9%	0.0%	0.0%	0.0%	2.8%	0.0%	0.0%	13.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%
2005	335	2,3,4,5	1.8%	0.0%	0.0%	1.5%	11.3%	0.6%	0.0%	0.0%	15.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	69.0%
2006	226	2,3,4,5	10.6%	3.1%	0.0%	1.3%	3.5%	0.0%	2.2%	0.0%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	75.2%
2007	207	2,3,4,5	21.3%	16.4%	2.9%	1.4%	7.2%	0.0%	0.0%	0.0%	1.9%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	48.3%
2008	133	2,3,4,5	3.0%	2.3%	0.0%	0.0%	6.8%	0.0%	9.8%	0.0%	23.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	54.9%
2009	613	2,3,4,5	5.5%	1.8%	0.2%	1.1%	4.9%	0.0%	0.0%	0.0%	10.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	76.0%
2010	502	2,3,4,5	7.4%	1.0%	0.0%	0.0%	11.6%	1.6%	1.2%	0.0%	6.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	70.7%
2011	341	2,3,4,5	6.7%	4.4%	0.3%	1.5%	14.1%	0.0%	0.0%	0.0%	7.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	65.1%
2012	105	2,3,4,5	21.9%	0.0%	0.0%	0.0%	23.8%	0.0%	5.7%	0.0%	31.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	17.1%
1979-2012	265		5.4%	1.5%	0.4%	1.7%	5.9%	0.7%	1.0%	3.0%	22.5%	2.2%	5.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	49.8%
1979-1984	718		1.4%	0.3%	0.1%	4.1%	2.0%	2.3%	0.0%	13.6%	21.0%	10.3%	11.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	33.4%
1985-1995	110		5.9%	1.4%	0.8%	2.3%	5.4%	0.3%	0.4%	1.5%	37.7%	1.1%	9.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	33.6%
1996-1998	40		0.0%	0.0%	0.0%	0.0%	8.3%	0.0%	0.0%	0.0%	22.2%	0.0%	4.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	65.0%
1999-2012	224		7.5%	2.3%	0.2%	0.5%	7.7%	0.5%	2.2%	0.0%	11.3%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	67.4%

Appendix C26. Percent distribution of Quinsam River Fall (Upper Strait of Georgia) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	1686	2,3,4,5	6.5%	4.4%	1.1%	6.2%	3.3%	0.1%	0.0%	2.4%	4.2%	10.9%	22.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	38.3%
1980	1703	2,3,4,5,6	15.3%	4.8%	3.2%	10.5%	5.6%	0.0%	0.0%	1.5%	5.0%	16.6%	21.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	16.1%
1981	1712	2,3,4,5,6	11.7%	4.4%	1.8%	13.1%	5.7%	0.6%	0.0%	2.1%	9.8%	12.3%	16.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	21.9%
1982	1263	2,3,4,5,6	19.6%	6.4%	5.4%	8.5%	2.3%	0.3%	0.0%	0.0%	3.6%	6.4%	26.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	21.5%
1983	1332	2,3,4,5,6	25.3%	1.2%	0.3%	14.4%	2.9%	0.7%	0.0%	0.2%	4.4%	11.5%	24.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	15.0%
1984	1278	2,3,4,5,6	17.1%	4.6%	5.6%	6.5%	4.1%	0.9%	0.0%	0.9%	6.7%	5.0%	20.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	27.9%
1985	1791	2,3,4,5,6	28.3%	8.5%	4.4%	4.9%	1.0%	0.1%	0.0%	0.0%	4.0%	3.5%	18.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	27.2%
1986	1915	2,3,4,5,6	15.2%	10.1%	3.1%	6.6%	3.1%	0.0%	0.0%	0.2%	5.7%	7.3%	24.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	24.4%
1987	1624	2,3,4,5,6	15.3%	8.6%	2.8%	7.0%	5.9%	0.4%	0.3%	0.2%	3.4%	6.9%	20.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	28.3%
1988	1712	2,3,4,5,6	19.4%	4.9%	1.3%	6.8%	3.0%	0.8%	0.9%	0.2%	4.0%	2.6%	9.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	46.7%
1989	1927	2,3,4,5,6	13.9%	9.1%	2.8%	4.0%	3.1%	0.3%	0.0%	0.0%	7.8%	2.0%	16.2%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	40.7%
1990	1300	2,3,4,5,6	17.2%	5.5%	0.5%	6.8%	8.8%	1.4%	0.0%	1.6%	2.0%	4.9%	13.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	37.5%
1991	852	2,3,4,5,6	11.6%	5.8%	1.5%	6.3%	11.0%	0.6%	0.7%	0.7%	4.2%	10.1%	13.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	34.3%
1992	688	2,3,4,5,6	15.1%	2.6%	2.6%	11.0%	6.4%	0.3%	0.0%	0.4%	3.5%	9.9%	9.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	38.2%
1993	395	2,3,4,5,6	8.4%	6.3%	1.3%	6.3%	7.8%	1.3%	0.0%	1.0%	12.2%	6.6%	20.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	28.4%
1994	603	2,3,4,5,6	3.8%	49.6%	2.3%	5.8%	1.8%	0.0%	0.0%	0.0%	3.8%	0.8%	9.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	22.7%
1995	308	2,3,4,5,6	7.5%	13.3%	0.0%	10.7%	6.5%	0.0%	0.0%	0.0%	7.8%	0.0%	16.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	37.7%
1996	295	2,3,4,5,6	7.1%	1.4%	0.0%	1.4%	4.1%	0.0%	0.0%	0.0%	8.5%	0.0%	19.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	58.3%
1997	478	2,3,4,5,6	11.3%	5.0%	3.1%	3.6%	7.9%	0.4%	5.0%	0.0%	10.9%	2.5%	3.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	47.1%
1998	616	2,3,4,5,6	15.1%	4.1%	2.3%	0.0%	10.1%	0.0%	0.0%	0.0%	7.1%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	60.6%
1999	1009	2,3,4,5,6	9.4%	4.2%	4.9%	2.2%	20.6%	0.0%	0.0%	0.0%	1.8%	0.4%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	55.4%
2000	850	2,3,4,5,6	14.1%	3.4%	5.5%	0.4%	6.1%	0.0%	0.0%	0.0%	3.4%	0.0%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	65.4%
2001	1280	2,3,4,5,6	10.7%	2.5%	2.0%	0.1%	5.3%	0.0%	0.0%	0.0%	2.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	76.8%
2002	947	2,3,4,5,6	15.7%	3.7%	1.0%	0.6%	13.6%	0.0%	0.0%	0.0%	2.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	62.7%
2003	543	2,3,4,5,6	19.9%	2.2%	0.9%	0.0%	23.9%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	52.7%
2004	845	2,3,4,5,6	8.3%	19.4%	1.8%	0.2%	17.4%	0.0%	0.0%	0.0%	0.8%	0.0%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	49.8%
2005	911	2,3,4,5,6	17.1%	2.2%	3.1%	0.4%	17.7%	0.0%	0.0%	0.0%	1.5%	0.0%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	56.8%
2006	837	2,3,4,5,6	17.3%	5.1%	1.3%	0.7%	8.7%	0.0%	0.8%	0.0%	4.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	61.2%
2007	637	2,3,4,5,6	20.6%	5.3%	1.1%	3.1%	14.1%	0.0%	0.0%	0.0%	6.9%	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	47.9%
2008	411	2,3,4,5,6	12.4%	2.4%	0.2%	0.7%	8.3%	0.0%	0.0%	0.0%	4.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	71.5%
2009	454	2,3,4,5,6	12.6%	4.4%	2.4%	0.9%	13.0%	0.0%	1.5%	0.0%	10.6%	0.0%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	53.1%
2010	653	2,3,4,5,6	5.7%	5.5%	0.8%	0.0%	14.2%	0.0%	0.0%	0.0%	10.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	62.5%
2011	805	2,3,4,5,6	10.8%	8.6%	0.6%	0.0%	18.4%	0.0%	0.0%	0.0%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	60.2%
2012	818	2,3,4,5,6	17.5%	8.1%	2.1%	0.9%	14.4%	0.0%	0.0%	0.0%	2.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	54.3%
1979-2012	1014		14.0%	7.0%	2.2%	4.4%	8.8%	0.2%	0.3%	0.3%	5.1%	3.5%	9.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	44.2%
1979-1984	1496		15.9%	4.3%	2.9%	9.9%	4.0%	0.4%	0.0%	1.2%	5.6%	10.4%	21.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	23.5%
1985-1995	1192		14.1%	11.3%	2.1%	6.9%	5.3%	0.5%	0.2%	0.4%	5.3%	5.0%	15.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%
1996-1998	463		11.2%	3.5%	1.8%	1.6%	7.4%	0.1%	1.7%	0.0%	8.8%	0.8%	7.6%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	55.3%
1999-2012	786		13.7%	5.5%	2.0%	0.7%	14.0%	0.0%	0.2%	0.0%	3.8%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	59.3%

Appendix C27. Percent distribution of Queets Fall Fingerling (Washington Coastal Wild) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	2	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	14	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	110	2,3,4	12.7%	0.0%	0.0%	16.4%	0.0%	11.8%	0.0%	0.0%	0.0%	1.8%	2.7%	0.0%	1.8%	0.0%	0.0%	0.0%	3.6%	0.0%	28.2%	0.0%	20.9%
1982	240	2,3,4,5	15.0%	1.7%	0.0%	18.8%	1.3%	12.9%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	26.3%	0.0%	23.3%
1983	196	2,3,4,5,6	45.4%	0.0%	0.0%	13.3%	0.0%	5.1%	0.0%	0.0%	0.0%	0.0%	2.0%	0.0%	0.5%	0.0%	0.0%	1.5%	0.0%	0.0%	16.8%	0.0%	15.3%
1984	149	2,3,4,5,6	16.8%	0.7%	0.0%	20.1%	2.0%	8.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	28.2%	0.0%	22.1%
1985	286	2,3,4,5,6	20.3%	0.0%	0.0%	32.2%	0.0%	2.1%	0.0%	0.0%	0.0%	0.0%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	0.0%	12.9%	0.0%	29.4%
1986	328	3,4,5,6	25.3%	0.0%	1.2%	11.3%	0.0%	7.0%	0.0%	0.0%	0.0%	1.5%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	9.1%	0.0%	43.6%
1987	618	2,4,5,6	28.0%	1.8%	0.0%	11.7%	1.0%	1.5%	0.0%	0.0%	0.0%	0.8%	0.5%	0.0%	0.5%	0.0%	0.0%	0.0%	0.8%	0.0%	19.9%	0.0%	33.7%
1988	828	2,3,5,6	17.9%	1.7%	1.6%	9.4%	0.2%	5.6%	1.0%	0.0%	0.0%	2.4%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	3.4%	0.0%	15.0%	0.0%	41.5%
1989	661	2,3,4,6	16.6%	0.3%	0.2%	10.6%	1.1%	8.9%	0.0%	0.0%	0.0%	0.6%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	0.0%	24.4%	0.0%	35.4%
1990	1366	2,3,4,5	15.1%	0.7%	0.1%	6.4%	2.4%	7.0%	0.0%	0.0%	0.0%	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	13.2%	0.0%	54.5%
1991	1203	2,3,4,5,6	24.4%	0.3%	1.2%	10.1%	1.4%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	14.6%	0.0%	42.4%
1992	777	2,3,4,5,6	13.8%	5.8%	2.3%	8.5%	1.8%	17.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	0.0%	16.0%	0.0%	33.8%
1993	715	2,3,4,5,6	18.9%	2.2%	0.7%	15.0%	2.0%	13.3%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.4%	0.0%	1.8%	0.0%	1.0%	0.0%	14.0%	0.0%	30.5%
1994	1219	2,3,4,5,6	23.5%	1.3%	0.4%	21.2%	1.4%	4.0%	1.0%	0.0%	0.2%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	18.6%	0.0%	27.9%
1995	836	2,3,4,5,6	22.1%	0.0%	1.8%	7.4%	3.8%	0.8%	0.4%	0.0%	0.2%	0.0%	0.2%	0.0%	0.7%	0.0%	0.0%	0.4%	0.0%	0.0%	29.8%	0.0%	32.3%
1996	804	2,3,4,5,6	18.0%	0.0%	1.5%	1.1%	0.1%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	15.9%	0.5%	62.3%
1997	946	2,3,4,5,6	37.3%	0.6%	0.0%	5.5%	0.0%	0.3%	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	20.1%	0.0%	35.6%
1998	673	2,3,4,5,6	25.4%	0.0%	3.1%	19.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	0.0%	0.0%	0.0%	11.6%	4.5%	35.1%
1999	821	2,3,4,5,6	12.9%	0.0%	1.7%	6.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	8.3%	0.0%	70.2%
2000	496	2,3,4,5,6	26.0%	0.0%	12.1%	13.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.6%	0.0%	44.8%
2001	501	2,3,4,5,6	28.3%	0.0%	6.8%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	0.0%	0.6%	0.0%	0.0%	0.0%	38.1%	0.0%	20.0%
2002	1784	2,3,4,5,6	29.3%	0.0%	3.6%	5.1%	2.9%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	23.2%	0.0%	35.4%
2003	1577	2,3,4,5,6	22.8%	0.1%	3.9%	11.9%	5.8%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	0.0%	19.9%	0.0%	34.6%
2004	2767	2,3,4,5,6	17.3%	1.0%	3.2%	7.2%	8.3%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	11.1%	0.0%	49.8%
2005	2626	2,3,4,5,6	15.8%	0.0%	3.5%	7.2%	3.1%	3.5%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.1%	0.0%	0.5%	0.0%	0.0%	0.0%	19.4%	0.0%	46.5%
2006	1168	2,3,4,5,6	26.2%	0.2%	2.9%	13.7%	3.8%	4.1%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	0.2%	0.0%	0.0%	0.0%	16.1%	0.0%	31.7%
2007	712	2,3,4,5,6	32.3%	0.0%	4.5%	11.2%	15.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.4%	0.3%	0.1%	0.0%	0.0%	0.0%	14.2%	0.0%	19.4%
2008	1084	2,3,4,5,6	17.0%	0.0%	1.3%	7.9%	4.8%	0.7%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	20.3%	0.0%	47.0%
2009	1711	2,3,4,5,6	25.8%	1.6%	3.0%	9.2%	3.2%	0.1%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	15.7%	0.0%	40.3%
2010	2043	2,3,4,5,6	25.0%	0.0%	4.9%	5.2%	5.5%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.3%	0.0%	0.0%	0.0%	19.4%	0.0%	38.8%
2011	2012	3,4,5,6	28.1%	0.2%	4.2%	7.5%	6.4%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.1%	0.0%	0.0%	0.0%	16.8%	0.0%	35.9%
1979-2011	1008		22.7%	0.7%	2.2%	11.3%	2.5%	3.9%	0.2%	0.0%	0.0%	0.3%	0.3%	0.0%	0.3%	0.0%	0.2%	0.1%	0.4%	0.0%	18.1%	0.2%	36.6%
1979-1984	174		22.5%	0.6%	0.0%	17.1%	0.8%	9.5%	0.0%	0.0%	0.0%	0.5%	1.3%	0.0%	1.1%	0.0%	0.0%	0.5%	0.9%	0.0%	24.9%	0.0%	20.4%
1985-1995	803		20.5%	1.3%	0.9%	13.1%	1.4%	6.6%	0.2%	0.0%	0.0%	0.6%	0.4%	0.0%	0.1%	0.0%	0.2%	0.0%	0.8%	0.0%	17.0%	0.0%	36.8%
1996-1998	808		26.9%	0.2%	1.5%	8.7%	0.0%	0.3%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	15.9%	1.7%	44.3%
1999-2011	1485		23.6%	0.2%	4.3%	8.6%	4.5%	0.8%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.2%	0.0%	0.0%	0.0%	17.4%	0.0%	39.6%

Appendix C28. Percent distribution of Robertson Creek Fall (WCVI Hatchery and Natural) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	5485	2,3,4,5	21.5%	0.6%	0.7%	11.9%	0.3%	8.3%	0.1%	0.5%	1.1%	11.2%	9.4%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	4.9%	29.2%
1980	5100	2,3,4,5	28.1%	6.3%	1.1%	8.5%	0.1%	7.3%	0.5%	0.0%	0.1%	8.6%	5.8%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	9.5%	3.0%	20.9%
1981	3127	2,3,4,5	31.8%	1.8%	1.0%	13.8%	0.6%	5.8%	0.5%	0.4%	0.7%	8.2%	5.8%	0.0%	0.0%	0.0%	0.0%	1.3%	0.1%	0.0%	10.3%	4.5%	13.5%
1982	4734	2,3,4,5	29.1%	3.7%	1.6%	14.6%	0.1%	6.0%	0.3%	0.1%	0.7%	7.0%	5.8%	0.0%	0.0%	0.0%	0.0%	0.7%	0.1%	0.0%	12.5%	5.8%	11.7%
1983	4108	2,3,4,5	41.5%	2.8%	0.4%	11.0%	0.2%	5.6%	0.0%	0.0%	0.2%	7.9%	2.9%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	14.8%	4.7%	7.7%
1984	3320	2,3,4,5	30.1%	4.3%	0.1%	13.7%	0.0%	6.6%	0.0%	0.0%	1.0%	3.9%	3.5%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	14.9%	14.6%	7.1%
1985	1700	2,3,4,5	19.8%	13.8%	0.0%	15.9%	0.0%	1.4%	0.0%	0.0%	0.6%	0.9%	5.6%	0.0%	0.0%	0.0%	0.0%	1.4%	0.2%	0.0%	1.1%	15.2%	24.1%
1986	919	2,3,4,5	15.8%	8.5%	0.5%	8.1%	0.8%	6.0%	0.7%	0.0%	0.5%	0.9%	3.9%	0.0%	0.0%	0.0%	0.0%	0.3%	1.4%	0.0%	0.3%	28.0%	24.4%
1987	1625	2,3,4,5	10.5%	3.3%	1.0%	7.4%	0.6%	2.6%	0.2%	0.0%	0.5%	3.4%	3.3%	0.0%	0.0%	0.0%	0.0%	0.3%	0.1%	0.0%	0.0%	19.4%	47.4%
1988	3135	2,3,4,5	11.4%	4.4%	1.3%	7.7%	1.0%	4.9%	4.6%	0.0%	1.0%	1.4%	2.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.3%	0.0%	6.6%	12.8%	40.2%
1989	6705	2,3,4,5	10.0%	8.2%	0.4%	9.4%	0.7%	2.5%	1.8%	0.0%	1.2%	1.6%	2.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	16.2%	16.4%	29.5%
1990	11203	2,3,4,5	19.0%	2.5%	2.0%	9.1%	1.0%	6.2%	1.4%	0.0%	0.3%	2.3%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	7.4%	8.1%	38.4%
1991	13871	2,3,4,5	19.5%	2.5%	3.2%	9.7%	0.9%	4.9%	1.3%	0.0%	0.4%	2.6%	1.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	14.2%	12.7%	26.8%
1992	11417	2,3,4,5	15.3%	16.1%	1.6%	6.8%	1.3%	17.0%	1.9%	0.0%	0.1%	2.8%	1.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.3%	4.9%	30.7%
1993	6717	2,3,4,5	15.9%	2.2%	2.4%	7.7%	1.3%	14.6%	2.4%	0.0%	0.5%	2.1%	1.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	6.8%	12.4%	30.3%
1994	3820	2,3,4,5	17.8%	6.8%	3.9%	9.2%	0.8%	4.9%	3.8%	0.0%	0.4%	1.2%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	11.1%	15.8%	23.2%
1995	1383	2,3,4,5	16.6%	0.0%	4.7%	3.3%	2.1%	1.7%	3.0%	0.0%	1.7%	0.4%	0.7%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	6.4%	9.8%	49.5%
1996	803	2,3,4,5	9.1%	0.1%	4.5%	2.7%	2.4%	0.7%	0.0%	0.0%	3.4%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	74.5%
1997	2268	2,3,4,5	15.2%	4.1%	4.6%	4.9%	3.4%	0.1%	1.8%	0.0%	0.6%	1.8%	0.6%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	5.8%	17.0%	40.0%
1998	3325	2,3,4,5	16.5%	2.0%	5.0%	5.4%	3.4%	0.0%	4.7%	0.0%	0.6%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	3.9%	16.3%	42.1%
1999	1269	2,3,4,5	12.1%	1.3%	7.5%	5.4%	7.2%	0.0%	3.3%	0.0%	0.8%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.1%	18.1%	37.9%
2000	258	2,3,4,5	6.6%	0.0%	0.0%	0.0%	6.2%	0.0%	0.0%	0.0%	7.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	79.8%
2001	969	2,3,4,5	4.2%	0.0%	3.0%	0.0%	0.6%	0.0%	2.4%	0.0%	4.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%	83.8%
2002	2059	2,3,4,5	13.2%	0.6%	1.8%	3.9%	4.5%	0.3%	3.1%	0.0%	0.7%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.1%	15.3%	49.0%
2003	2998	2,3,4,5	14.0%	2.2%	3.5%	0.8%	5.3%	0.0%	2.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.2%	15.2%	48.4%
2004	5078	2,3,4,5	13.2%	8.4%	2.9%	2.7%	5.9%	0.1%	1.4%	0.0%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	11.2%	13.3%	39.2%
2005	3301	2,3,4,5	14.8%	1.9%	4.1%	3.0%	12.1%	0.0%	1.8%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	29.5%	8.2%	23.8%
2006	2852	2,3,4,5	11.7%	2.7%	2.7%	2.6%	6.1%	0.0%	3.8%	0.0%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	24.7%	11.2%	33.0%
2007	2284	2,3,4,5	16.8%	3.4%	3.7%	5.3%	7.9%	0.1%	4.2%	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	25.4%	12.5%	19.9%
2008	1606	2,3,4,5	10.0%	0.5%	1.6%	2.6%	6.2%	0.0%	1.3%	0.0%	2.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	20.2%	13.3%	42.3%
2009	1469	2,3,4,5	13.1%	6.9%	2.8%	2.1%	12.5%	0.0%	4.3%	0.0%	2.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.2%	12.7%	37.3%
2010	1317	2,3,4,5	7.8%	0.2%	4.3%	3.3%	10.6%	0.7%	2.7%	0.0%	1.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	4.4%	3.3%	61.4%
2011	2232	2,3,4,5	14.9%	2.5%	1.6%	3.7%	9.5%	0.2%	5.5%	0.0%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	9.8%	17.5%	32.1%
2012	1947	2,3,4,5	14.0%	5.4%	1.3%	2.7%	7.2%	0.2%	4.5%	0.0%	2.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	14.9%	15.9%	31.1%
1979-2012	3659		16.5%	3.8%	2.4%	6.4%	3.6%	3.2%	2.0%	0.0%	1.3%	2.0%	1.7%	0.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.0%	9.1%	11.4%	36.2%
1979-1984	4312		30.3%	3.3%	0.8%	12.2%	0.2%	6.6%	0.2%	0.2%	0.6%	7.8%	5.5%	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	10.3%	6.3%	15.0%
1985-1995	5681		15.6%	6.2%	1.9%	8.6%	0.9%	6.1%	1.9%	0.0%	0.7%	1.8%	2.2%	0.0%	0.0%	0.0%	0.0%	0.3%	0.2%	0.0%	6.4%	14.1%	33.1%
1996-1998	2132		13.6%	2.1%	4.7%	4.3%	3.1%	0.3%	2.2%	0.0%	1.5%	0.8%	0.2%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	3.2%	11.8%	52.2%
1999-2012	2117		11.9%	2.6%	2.9%	2.7%	7.3%	0.1%	2.9%	0.0%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	12.0%	11.3%	44.2%

Appendix C29. Percent distribution of Samish Fall Fingerling (Nooksack Fall Fingerling) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	1964	4,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	83	5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	1513	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	5385	3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	6364	4	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	369	5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1985	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1987	75	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1988	1014	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1989	2075	2,3,4	0.2%	0.0%	0.0%	0.2%	0.2%	9.0%	1.8%	1.3%	18.3%	0.2%	3.3%	0.0%	7.9%	0.0%	0.0%	32.6%	11.0%	0.0%	0.0%	0.0%	14.1%
1990	2558	2,3,4,5	2.2%	0.0%	0.0%	0.6%	0.0%	20.1%	2.0%	3.5%	10.5%	0.1%	1.5%	0.0%	9.4%	0.0%	0.1%	27.2%	8.1%	0.0%	0.3%	0.0%	14.3%
1991	1047	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	14.2%	3.3%	1.9%	10.9%	0.1%	2.9%	0.0%	9.3%	0.0%	0.8%	20.1%	10.0%	0.0%	1.3%	1.3%	23.9%
1992	776	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.6%	10.8%	0.8%	2.3%	18.2%	0.0%	1.8%	0.0%	9.3%	0.0%	0.6%	13.3%	21.3%	0.0%	0.0%	0.6%	20.4%
1993	1248	2,3,4,5	0.0%	0.0%	0.0%	0.3%	0.2%	13.5%	7.9%	3.7%	19.6%	0.2%	2.4%	0.0%	4.0%	0.0%	0.1%	15.0%	13.5%	0.0%	0.0%	0.0%	19.7%
1994	1048	2,3,4,5	0.5%	0.0%	0.0%	0.5%	0.0%	13.1%	5.4%	1.3%	14.7%	0.0%	2.4%	0.0%	2.1%	0.0%	0.0%	36.5%	4.1%	0.0%	0.0%	0.5%	19.0%
1995	838	2,3,4,5	0.2%	0.0%	0.0%	0.0%	0.0%	7.2%	3.1%	0.0%	6.7%	0.0%	1.6%	0.0%	3.0%	0.0%	0.0%	23.9%	20.4%	0.0%	0.0%	2.3%	31.7%
1996	1420	2,3,4,5	0.0%	0.1%	0.0%	0.1%	0.0%	0.9%	0.6%	0.0%	14.7%	0.0%	0.5%	0.0%	1.5%	0.0%	0.0%	31.5%	13.9%	0.0%	0.0%	14.2%	22.0%
1997	1410	2,3,4,5	0.8%	0.1%	0.0%	0.2%	0.1%	2.6%	1.7%	0.0%	9.6%	0.6%	1.2%	0.0%	0.9%	0.0%	0.1%	33.6%	11.4%	0.0%	0.0%	0.4%	36.6%
1998	739	2,3,4,5	3.4%	0.0%	0.0%	0.0%	0.0%	1.6%	3.2%	0.0%	12.2%	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	42.4%	4.9%	0.0%	0.0%	0.7%	31.0%
1999	283	2,3,4,5	4.2%	0.0%	0.0%	2.1%	3.5%	1.4%	10.2%	0.0%	13.8%	0.0%	0.0%	0.0%	1.8%	0.0%	0.0%	35.3%	5.7%	0.0%	0.0%	0.0%	21.9%
2000	383	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	9.9%	9.1%	0.0%	16.7%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	35.2%	6.0%	0.0%	0.0%	0.0%	22.7%
2001	1745	2,3,4,5	0.0%	0.3%	0.0%	0.0%	0.1%	4.9%	5.3%	0.0%	9.6%	0.0%	0.5%	0.0%	2.6%	0.0%	0.1%	37.3%	7.9%	0.0%	0.5%	0.0%	31.0%
2002	1624	2,3,4,5	0.9%	0.0%	0.0%	0.7%	0.0%	8.2%	7.2%	0.0%	7.8%	0.0%	0.0%	0.0%	3.0%	0.0%	0.6%	35.5%	6.2%	0.0%	0.3%	0.0%	29.7%
2003	769	2,3,4,5	0.9%	0.0%	0.0%	0.0%	0.0%	13.4%	3.1%	0.0%	6.2%	0.0%	0.3%	0.0%	6.6%	0.0%	0.5%	37.3%	3.1%	0.0%	0.3%	0.0%	28.2%
2004	565	2,3,4,5	0.5%	0.0%	0.0%	0.0%	0.0%	7.6%	6.5%	0.0%	6.5%	0.0%	0.0%	0.0%	11.7%	0.0%	0.4%	28.0%	8.7%	0.0%	1.8%	0.0%	28.3%
2005	784	2,3,4,5	0.4%	0.1%	0.0%	0.4%	0.0%	10.3%	7.5%	0.0%	18.8%	0.0%	0.0%	0.0%	7.1%	0.0%	0.8%	29.6%	6.9%	0.0%	0.8%	0.0%	17.3%
2006	1624	2,3,4,5	1.0%	0.1%	0.0%	0.2%	0.0%	7.8%	5.5%	0.0%	6.8%	0.0%	0.0%	0.0%	6.8%	0.0%	1.2%	49.6%	7.3%	0.0%	0.5%	0.0%	13.3%
2007	2250	2,3,4,5	0.5%	0.0%	0.0%	0.0%	0.0%	8.7%	4.4%	0.0%	7.8%	0.0%	0.0%	0.0%	2.7%	0.0%	0.4%	29.4%	6.1%	0.0%	0.5%	21.2%	18.4%
2008	1803	2,3,4,5	0.2%	0.0%	0.0%	0.0%	0.0%	6.1%	4.9%	0.0%	7.1%	0.0%	0.0%	0.0%	4.3%	0.0%	0.3%	41.7%	11.1%	0.0%	0.3%	0.0%	24.0%
2009	1719	2,3,4,5	0.0%	0.1%	0.0%	0.0%	0.0%	3.1%	5.5%	0.0%	5.1%	0.0%	0.0%	0.0%	3.4%	0.0%	0.3%	31.7%	13.5%	0.0%	0.6%	0.0%	36.7%
2010	1827	2,3,4,5	0.0%	0.0%	0.1%	0.0%	0.6%	7.1%	6.7%	0.0%	5.4%	0.0%	0.0%	0.0%	10.5%	0.0%	0.7%	30.6%	9.9%	0.0%	0.8%	0.0%	27.8%
2011	1555	2,3,4,5	0.1%	0.0%	0.0%	0.0%	0.8%	4.4%	4.5%	0.0%	13.6%	0.0%	0.0%	0.0%	2.7%	0.0%	0.3%	35.2%	10.7%	0.0%	0.7%	0.0%	26.9%
1979-2011	1308		0.7%	0.0%	0.0%	0.2%	0.3%	8.1%	4.8%	0.6%	11.3%	0.1%	0.8%	0.0%	4.8%	0.0%	0.3%	31.8%	9.6%	0.0%	0.4%	1.8%	24.3%
1979-1984	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1985-1995	1370		0.4%	0.0%	0.0%	0.2%	0.2%	12.5%	3.5%	2.0%	14.1%	0.1%	2.3%	0.0%	6.4%	0.0%	0.2%	24.1%	12.6%	0.0%	0.2%	0.7%	20.4%
1996-1998	1190		1.4%	0.1%	0.0%	0.1%	0.0%	1.7%	1.9%	0.0%	12.2%	0.2%	0.6%	0.0%	1.0%	0.0%	0.0%	35.8%	10.1%	0.0%	0.0%	5.1%	29.9%
1999-2011	1302		0.7%	0.1%	0.0%	0.3%	0.4%	7.2%	6.2%	0.0%	9.6%	0.0%	0.1%	0.0%	4.9%	0.0%	0.4%	35.1%	7.9%	0.0%	0.5%	1.6%	25.1%

Appendix C30. Percent distribution of Lower Shuswap River Summer (Fraser Early) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1985	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986	120	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1987	842	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1988	1936	2,3,4	8.2%	0.2%	0.1%	10.3%	1.2%	5.4%	0.1%	0.0%	2.3%	1.8%	8.3%	0.0%	0.0%	0.0%	0.1%	1.7%	0.3%	0.0%	0.0%	2.2%	58.0%
1989	1568	2,3,4,5	5.5%	4.7%	0.0%	7.7%	0.0%	1.1%	0.0%	0.0%	0.4%	0.6%	13.5%	0.0%	0.0%	0.0%	0.0%	1.7%	0.1%	0.0%	0.0%	0.4%	64.2%
1990	1209	2,3,4,5	28.7%	0.0%	0.9%	20.1%	1.3%	3.9%	3.1%	0.0%	1.7%	1.8%	11.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	1.6%	25.3%
1991	654	2,3,4,5	32.9%	0.0%	0.6%	21.6%	1.4%	2.9%	0.0%	0.0%	0.5%	1.4%	11.0%	0.0%	0.0%	0.0%	0.0%	3.8%	0.0%	0.0%	0.0%	0.6%	23.4%
1992	265	2,3,4,5	15.1%	0.0%	0.0%	20.0%	1.5%	4.9%	0.0%	0.0%	7.5%	7.2%	11.7%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	0.0%	0.0%	4.9%	24.2%
1993	593	2,3,4,5	10.5%	1.5%	0.0%	10.3%	0.7%	8.1%	0.0%	0.0%	0.3%	0.8%	12.8%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.9%	51.8%
1994	1078	2,3,4,5	9.1%	0.0%	1.1%	17.0%	2.7%	7.9%	0.0%	0.9%	0.9%	9.7%	14.1%	0.0%	0.0%	0.0%	0.0%	4.0%	0.0%	0.0%	0.0%	0.0%	32.6%
1995	462	2,3,4,5	18.4%	0.0%	4.3%	13.0%	8.9%	3.9%	0.0%	0.0%	1.9%	0.9%	9.7%	0.0%	0.0%	0.0%	0.0%	4.3%	0.0%	0.0%	0.2%	0.4%	34.0%
1996	692	2,3,4,5	17.6%	0.0%	0.0%	0.6%	3.3%	0.3%	1.2%	0.0%	3.6%	0.0%	8.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	1.3%	62.9%
1997	576	2,3,4,5	14.2%	1.0%	0.0%	9.0%	4.5%	0.7%	0.0%	0.0%	5.9%	0.2%	17.9%	0.0%	0.0%	0.0%	0.0%	3.1%	0.0%	0.0%	0.2%	0.0%	43.2%
1998	760	2,3,4,5	21.3%	0.5%	9.1%	7.0%	16.7%	0.0%	0.8%	0.0%	7.0%	0.0%	5.5%	0.0%	0.0%	0.0%	0.0%	0.9%	0.0%	0.0%	0.7%	0.7%	29.9%
1999	782	2,3,4,5	16.6%	0.0%	6.8%	0.8%	7.0%	0.0%	0.0%	0.0%	3.2%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.4%	60.1%
2000	738	2,3,4,5	10.7%	0.0%	9.9%	0.0%	5.0%	0.0%	0.0%	0.0%	5.6%	0.0%	6.6%	0.0%	0.0%	0.0%	0.5%	0.1%	0.0%	0.0%	0.4%	1.4%	59.8%
2001	1175	2,3,4,5	8.0%	1.4%	0.3%	0.0%	5.1%	0.0%	0.0%	0.1%	6.6%	0.3%	1.4%	0.0%	0.1%	0.0%	0.0%	0.2%	0.0%	0.0%	1.2%	1.5%	73.9%
2002	1543	2,3,4,5	18.4%	0.0%	3.4%	12.8%	6.9%	1.3%	0.0%	0.0%	3.1%	0.1%	8.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.5%	44.6%
2003	2071	2,3,4,5	8.9%	0.8%	1.8%	7.0%	5.0%	0.0%	0.2%	0.0%	4.7%	1.2%	3.2%	0.0%	0.3%	0.0%	0.0%	0.5%	0.0%	0.0%	1.0%	2.1%	63.3%
2004	1181	2,3,4,5	17.4%	0.0%	1.9%	9.1%	10.9%	0.8%	0.0%	0.0%	5.0%	0.0%	11.3%	0.0%	0.3%	0.0%	0.0%	1.3%	0.0%	0.0%	0.4%	2.7%	39.0%
2005	825	2,3,4,5	15.0%	0.0%	0.8%	12.4%	17.1%	0.4%	3.2%	0.0%	4.5%	0.0%	6.9%	0.0%	0.2%	0.0%	0.0%	0.4%	0.0%	0.0%	0.1%	3.8%	35.3%
2006	1314	2,3,4,5	12.1%	0.0%	2.1%	13.2%	13.4%	0.3%	1.0%	0.0%	7.1%	0.0%	6.7%	0.0%	0.2%	0.0%	0.0%	0.8%	0.0%	0.0%	0.5%	3.2%	39.3%
2007	518	2,3,4,5	7.5%	0.2%	7.7%	3.1%	9.8%	0.0%	1.0%	0.0%	8.7%	0.0%	4.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.2%	52.7%
2008	1780	2,3,4,5	8.8%	0.0%	0.5%	7.9%	9.0%	0.0%	1.6%	0.0%	6.8%	0.0%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	3.0%	59.5%
2009	1730	2,3,4,5	9.0%	0.0%	1.3%	6.3%	6.1%	0.8%	2.3%	0.0%	8.1%	0.0%	9.4%	0.0%	0.1%	0.0%	0.0%	0.0%	0.3%	0.0%	1.0%	6.1%	49.2%
2010	2033	2,3,4,5	9.9%	0.0%	1.5%	10.4%	8.3%	0.0%	0.5%	0.0%	5.3%	0.0%	8.7%	0.0%	0.3%	0.0%	0.1%	1.7%	0.0%	0.0%	0.6%	2.4%	50.2%
2011	1884	2,3,4,5	8.2%	0.1%	1.8%	7.4%	6.1%	1.3%	0.8%	0.0%	7.5%	0.0%	10.8%	0.0%	0.5%	0.0%	0.0%	0.4%	0.7%	0.0%	1.0%	2.9%	50.6%
2012	1968	2,3,4,5	6.6%	0.0%	2.1%	7.3%	7.1%	1.1%	1.8%	0.0%	12.6%	0.0%	4.4%	0.0%	0.2%	0.0%	0.3%	0.2%	0.5%	0.0%	0.7%	4.7%	50.6%
1979-2012	1173		13.6%	0.4%	2.3%	9.4%	6.4%	1.8%	0.7%	0.0%	4.8%	1.0%	8.5%	0.0%	0.1%	0.0%	0.0%	1.0%	0.2%	0.0%	0.4%	2.2%	47.1%
1979-1984	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1985-1995	971		16.0%	0.8%	0.9%	15.0%	2.2%	4.8%	0.4%	0.1%	2.0%	3.0%	11.5%	0.0%	0.0%	0.0%	0.0%	1.9%	0.5%	0.0%	0.0%	1.6%	39.2%
1996-1998	676		17.7%	0.5%	3.0%	5.5%	8.2%	0.3%	0.6%	0.0%	5.5%	0.1%	10.7%	0.0%	0.0%	0.0%	0.0%	1.3%	0.0%	0.0%	0.5%	0.7%	45.3%
1999-2012	1396		11.2%	0.2%	3.0%	7.0%	8.3%	0.4%	0.9%	0.0%	6.3%	0.1%	6.3%	0.0%	0.2%	0.0%	0.1%	0.4%	0.1%	0.0%	0.6%	2.8%	52.0%

Appendix C31. Percent distribution of Skagit Spring Fingerling total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1985	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1987	32	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1988	70	3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1989	38	4	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1990	4	5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1991	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1992	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1993	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1994	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	83	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1996	559	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1997	984	2,3,4	1.5%	0.0%	0.0%	0.2%	0.8%	2.0%	4.3%	0.0%	10.9%	0.3%	2.8%	0.0%	0.0%	0.0%	0.0%	0.8%	9.0%	0.0%	0.5%	0.0%	66.8%
1998	780	2,3,4,5	1.9%	0.0%	0.0%	0.0%	1.2%	0.0%	5.0%	0.0%	16.2%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.4%	5.8%	0.0%	1.2%	0.0%	67.7%
1999	1809	2,3,4,5	0.9%	0.2%	0.0%	0.3%	0.8%	2.3%	6.4%	0.0%	6.4%	0.0%	0.1%	0.0%	0.4%	0.0%	0.0%	0.5%	2.8%	0.0%	1.0%	0.0%	77.9%
2000	1243	2,3,4,5	1.9%	0.0%	0.6%	0.0%	0.6%	6.4%	7.2%	0.0%	13.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.1%	5.0%	0.0%	0.1%	0.0%	64.9%
2001	2005	2,3,4,5	1.7%	0.1%	0.3%	0.3%	0.9%	5.6%	4.0%	0.0%	6.7%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.2%	9.6%	0.0%	0.4%	0.0%	69.8%
2002	1811	2,3,4,5	2.8%	0.0%	0.6%	0.6%	0.9%	5.5%	5.1%	0.0%	8.1%	0.0%	0.1%	0.0%	0.3%	0.0%	0.1%	0.0%	3.8%	0.0%	0.6%	0.0%	71.6%
2003	705	2,3,4,5	2.4%	0.0%	1.0%	1.3%	0.9%	18.4%	0.9%	0.0%	6.8%	0.0%	0.3%	0.0%	1.4%	0.0%	0.0%	0.1%	1.8%	0.0%	0.7%	0.0%	64.0%
2004	1180	2,3,4,5	0.0%	0.0%	0.0%	0.5%	0.0%	11.9%	3.0%	0.0%	9.7%	0.0%	0.0%	0.0%	2.7%	0.0%	0.0%	0.0%	2.6%	0.0%	1.4%	0.0%	68.1%
2005	1319	2,3,4,5	1.6%	0.2%	0.0%	0.0%	1.8%	11.1%	6.0%	0.0%	7.7%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	0.0%	0.3%	4.1%	66.1%
2006	1883	2,3,4,5	0.4%	0.1%	0.0%	0.3%	0.5%	6.3%	3.0%	0.0%	8.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.5%	3.5%	0.0%	1.0%	20.8%	55.5%
2007	2678	2,3,4,5	0.4%	0.2%	0.0%	0.0%	0.0%	8.8%	6.6%	0.0%	7.8%	0.0%	0.0%	0.0%	0.9%	0.0%	0.0%	0.3%	3.7%	0.0%	1.3%	21.2%	48.9%
2008	1568	2,3,4,5	0.4%	0.0%	0.0%	0.0%	0.3%	3.6%	6.4%	0.0%	5.5%	0.0%	0.3%	0.0%	0.7%	0.0%	0.0%	1.1%	8.1%	0.0%	12.1%	15.9%	45.5%
2009	993	2,3,4,5	0.9%	0.0%	0.0%	0.0%	0.0%	2.7%	5.6%	0.0%	5.4%	0.0%	0.0%	0.0%	1.1%	0.0%	0.0%	0.0%	9.5%	0.0%	16.6%	11.2%	46.9%
2010	1729	2,3,4,5	0.1%	0.0%	0.0%	0.0%	1.9%	2.0%	3.6%	0.0%	3.8%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.2%	2.3%	0.0%	17.2%	13.5%	55.2%
2011	1606	2,3,4,5	0.4%	0.1%	0.0%	0.0%	0.3%	1.1%	4.2%	0.0%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	7.9%	0.0%	15.9%	7.7%	58.0%
1979-2011	1486		1.2%	0.1%	0.2%	0.2%	0.7%	5.9%	4.8%	0.0%	8.0%	0.0%	0.3%	0.0%	0.5%	0.0%	0.0%	0.3%	5.1%	0.0%	4.7%	6.3%	61.8%
1979-1984	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1985-1995	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1996-1998	882		1.7%	0.0%	0.0%	0.1%	1.0%	1.0%	4.6%	0.0%	13.5%	0.2%	1.8%	0.0%	0.0%	0.0%	0.0%	0.6%	7.4%	0.0%	0.8%	0.0%	67.2%
1999-2011	1579		1.1%	0.1%	0.2%	0.2%	0.7%	6.6%	4.8%	0.0%	7.1%	0.0%	0.1%	0.0%	0.6%	0.0%	0.0%	0.2%	4.7%	0.0%	5.3%	7.3%	61.0%

Appendix C32. Percent distribution of Skagit Spring Yearling total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	7	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	77	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1985	131	2,3,4	0.0%	0.0%	0.0%	0.0%	0.0%	6.9%	0.0%	0.0%	29.8%	0.0%	25.2%	0.0%	0.0%	0.0%	0.0%	9.2%	18.3%	0.0%	0.0%	0.0%	10.7%
1986	229	2,3,4,5	1.7%	0.0%	0.0%	0.0%	0.0%	6.1%	5.7%	6.1%	36.2%	3.9%	9.2%	0.0%	0.0%	0.0%	0.0%	3.1%	9.2%	0.0%	0.0%	0.0%	18.8%
1987	164	2,3,4,5	0.0%	0.0%	0.0%	4.9%	0.0%	3.0%	0.0%	0.0%	8.5%	0.0%	9.1%	0.0%	1.2%	0.0%	0.0%	17.1%	40.9%	0.0%	0.0%	0.0%	15.2%
1988	591	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	2.4%	9.1%	0.5%	18.4%	0.0%	12.4%	0.0%	2.0%	0.0%	0.0%	19.1%	16.1%	0.0%	0.0%	0.0%	20.0%
1989	867	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	3.9%	1.8%	0.0%	21.1%	0.8%	3.3%	0.0%	4.6%	0.0%	0.0%	11.2%	10.3%	0.0%	16.7%	0.0%	26.2%
1990	733	3,4,5	0.0%	0.0%	0.0%	0.0%	1.1%	5.0%	8.6%	3.3%	12.0%	0.4%	5.5%	0.0%	3.7%	0.0%	0.0%	12.8%	24.3%	0.0%	1.8%	0.0%	21.6%
1991	502	4,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1992	103	2,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1993	422	3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1994	754	4	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	184	2,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1996	192	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1997	643	2,3,4	0.3%	0.0%	0.0%	0.0%	0.5%	3.1%	8.7%	0.0%	22.2%	0.0%	3.9%	0.0%	0.0%	0.0%	0.0%	0.9%	30.0%	0.0%	0.8%	0.0%	29.5%
1998	1242	2,3,4,5	0.6%	0.2%	0.0%	0.0%	3.2%	1.1%	9.8%	0.0%	10.2%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	2.3%	20.8%	0.0%	0.6%	0.0%	50.8%
1999	2537	2,3,4,5	0.7%	0.0%	0.0%	0.0%	0.4%	5.6%	4.4%	0.0%	7.8%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.1%	12.0%	0.0%	1.1%	0.0%	67.8%
2000	575	2,3,4,5	0.7%	0.0%	0.0%	0.0%	0.5%	6.6%	3.1%	0.0%	16.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	19.8%	0.0%	0.5%	0.0%	51.3%
2001	349	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	2.6%	2.0%	0.0%	19.8%	0.0%	0.0%	0.0%	2.6%	0.0%	0.0%	0.0%	24.1%	0.0%	1.4%	0.0%	47.6%
2002	320	2,3,4,5	0.9%	0.0%	0.0%	0.0%	0.0%	0.6%	14.4%	0.0%	19.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	13.1%	0.0%	0.6%	0.0%	50.0%
2003	964	2,3,4,5	0.0%	0.0%	0.0%	0.9%	0.4%	19.3%	4.6%	0.0%	11.3%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.5%	10.3%	0.0%	0.2%	0.0%	52.4%
2004	1654	2,3,4,5	0.2%	0.0%	0.0%	0.0%	0.5%	12.9%	4.1%	0.0%	6.4%	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	0.2%	5.7%	0.0%	0.8%	0.1%	68.3%
2005	1251	2,3,4,5	1.1%	0.0%	0.0%	0.2%	0.0%	7.4%	5.6%	0.0%	12.0%	0.0%	0.3%	0.0%	0.2%	0.0%	0.2%	0.1%	8.6%	0.0%	0.9%	7.0%	56.3%
2006	822	2,3,4,5	0.5%	0.0%	0.0%	0.0%	0.0%	8.4%	6.2%	0.0%	13.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.5%	4.7%	0.0%	1.0%	33.8%	31.3%
2007	851	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	2.4%	8.1%	0.0%	5.2%	0.0%	0.0%	0.0%	0.5%	0.0%	0.2%	0.9%	17.6%	0.0%	0.4%	25.4%	39.4%
2008	773	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	3.8%	0.0%	6.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	12.7%	0.0%	11.5%	21.7%	41.9%
2009	394	2,3,4,5	1.0%	0.0%	0.0%	0.0%	3.8%	1.5%	13.2%	0.0%	0.0%	0.0%	0.0%	0.0%	1.8%	0.0%	0.0%	0.3%	10.7%	0.0%	14.5%	13.7%	39.6%
2010	495	2,3,4,5	0.2%	0.0%	0.0%	0.0%	1.0%	0.0%	2.6%	0.0%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	9.5%	0.0%	15.4%	30.9%	39.4%
2011	607	3,4,5	0.0%	0.0%	0.0%	0.0%	0.7%	2.1%	4.3%	0.0%	8.2%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.5%	12.5%	0.0%	10.7%	21.4%	39.4%
1979-2011	771		0.4%	0.0%	0.0%	0.3%	0.6%	4.9%	5.7%	0.5%	13.6%	0.2%	3.3%	0.0%	0.9%	0.0%	0.1%	3.8%	15.8%	0.0%	3.8%	7.3%	38.9%
1979-1984	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1985-1995	452		0.3%	0.0%	0.0%	0.8%	0.2%	4.6%	4.2%	1.6%	21.0%	0.9%	10.8%	0.0%	1.9%	0.0%	0.0%	12.1%	19.8%	0.0%	3.1%	0.0%	18.7%
1996-1998	942		0.5%	0.1%	0.0%	0.0%	1.8%	2.1%	9.3%	0.0%	16.2%	0.0%	2.1%	0.0%	0.0%	0.0%	0.0%	1.6%	25.4%	0.0%	0.7%	0.0%	40.2%
1999-2011	892		0.4%	0.0%	0.0%	0.1%	0.6%	5.5%	5.9%	0.0%	9.8%	0.0%	0.0%	0.0%	0.5%	0.0%	0.1%	0.4%	12.4%	0.0%	4.5%	11.9%	48.0%

Appendix C33. Percent distribution of Skykomish Fall Fingerling (Snohomish Wild) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1985	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1987	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1988	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1989	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1990	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1991	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1992	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1993	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1994	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1996	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1997	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1998	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1999	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2000	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2001	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2002	21	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2003	133	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2004	611	2,3,4	0.5%	0.0%	0.0%	0.0%	2.0%	16.2%	3.6%	0.0%	8.5%	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	0.5%	8.2%	0.0%	0.0%	0.0%	60.1%
2005	553	2,3,4,5	0.9%	0.0%	0.0%	0.4%	0.0%	18.3%	8.9%	0.0%	6.7%	0.0%	0.7%	0.0%	3.3%	0.0%	0.5%	0.0%	3.8%	0.0%	0.0%	0.0%	56.6%
2006	657	2,3,4,5	1.2%	0.0%	0.0%	0.3%	0.0%	14.0%	4.1%	0.0%	9.7%	0.0%	0.2%	0.0%	5.0%	0.0%	0.0%	0.9%	8.4%	0.0%	0.0%	0.0%	56.2%
2007	1157	2,3,4,5	0.5%	0.0%	0.0%	0.2%	1.3%	15.0%	6.6%	0.0%	4.8%	0.0%	0.0%	0.0%	3.2%	0.0%	0.0%	1.6%	7.5%	0.0%	0.0%	0.0%	59.4%
2008	749	2,3,4,5	0.3%	0.0%	0.0%	0.0%	0.0%	9.1%	2.9%	0.0%	3.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	8.5%	0.0%	0.0%	0.0%	74.8%
2009	358	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	2.2%	4.7%	0.0%	4.7%	0.0%	0.0%	0.0%	1.4%	0.0%	0.0%	0.0%	17.0%	0.0%	0.0%	0.0%	69.8%
2010	411	2,3,4,5	0.0%	0.2%	0.0%	0.0%	0.0%	2.7%	2.4%	0.0%	3.2%	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	1.7%	8.5%	0.0%	0.0%	2.9%	77.6%
2011	518	2,3,4,5	0.4%	0.6%	0.0%	0.0%	0.0%	1.9%	3.5%	0.0%	7.7%	0.0%	0.0%	0.0%	1.5%	0.0%	0.6%	0.8%	19.7%	0.0%	0.0%	9.7%	53.7%
1979-2011	627		0.5%	0.1%	0.0%	0.1%	0.4%	9.9%	4.6%	0.0%	6.1%	0.0%	0.1%	0.0%	2.0%	0.0%	0.1%	0.8%	10.2%	0.0%	0.0%	1.6%	63.5%
1979-1984	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1985-1995	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1996-1998	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1999-2011	627		0.5%	0.1%	0.0%	0.1%	0.4%	9.9%	4.6%	0.0%	6.1%	0.0%	0.1%	0.0%	2.0%	0.0%	0.1%	0.8%	10.2%	0.0%	0.0%	1.6%	63.5%

Appendix C34. Percent distribution of Sooes Fall Fingerling (Washington Coastal Wild) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1985	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1987	17	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1988	33	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1989	230	2,3,4	8.3%	20.4%	0.4%	2.6%	0.0%	3.9%	6.1%	0.0%	0.4%	0.0%	4.8%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%	51.7%
1990	170	3,4,5	11.8%	5.9%	4.1%	16.5%	0.0%	17.6%	0.0%	0.0%	6.5%	1.8%	2.4%	0.0%	1.8%	0.0%	2.9%	0.0%	0.0%	0.0%	0.0%	0.0%	28.8%
1991	375	2,4,5,6	13.6%	0.0%	0.3%	10.7%	0.0%	7.2%	0.0%	0.0%	0.3%	0.3%	3.5%	0.0%	0.0%	0.0%	0.0%	0.0%	5.1%	0.0%	0.0%	0.0%	59.2%
1992	327	2,3,5,6	10.7%	0.3%	0.3%	10.7%	0.0%	20.5%	1.5%	0.0%	1.2%	2.1%	3.1%	0.0%	0.3%	0.0%	0.6%	0.0%	1.8%	0.0%	0.0%	0.0%	46.8%
1993	253	2,3,4,6	7.1%	0.4%	0.0%	7.9%	2.0%	17.0%	0.0%	0.0%	0.0%	2.0%	2.0%	0.0%	0.4%	0.0%	0.0%	0.0%	1.2%	0.0%	0.0%	0.0%	60.1%
1994	244	2,3,4,5	18.0%	14.8%	3.3%	9.0%	0.8%	7.0%	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	45.5%
1995	180	2,3,4,5,6	13.9%	0.0%	0.0%	6.1%	0.0%	12.8%	0.0%	0.0%	0.0%	0.0%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.8%	0.0%	62.8%
1996	226	2,3,4,5,6	15.5%	0.0%	0.0%	0.9%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	82.3%
1997	310	2,3,4,5,6	11.9%	0.0%	5.8%	4.8%	0.0%	0.0%	2.6%	0.0%	1.6%	0.6%	0.6%	0.0%	1.0%	0.0%	0.0%	3.9%	0.0%	0.0%	21.0%	0.0%	46.1%
1998	284	2,3,4,5,6	10.2%	0.0%	1.8%	20.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	68.0%
1999	236	2,3,4,5,6	13.1%	0.0%	13.1%	6.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	65.7%
2000	89	2,3,4,5,6	0.0%	0.0%	5.6%	0.0%	0.0%	0.0%	12.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	82.0%
2001	314	2,3,4,5,6	9.2%	0.0%	2.9%	0.0%	0.0%	0.0%	2.5%	0.0%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	83.1%
2002	566	2,3,4,5,6	13.1%	0.2%	1.6%	3.4%	3.7%	0.7%	0.0%	0.0%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	75.4%
2003	804	2,3,4,5,6	14.1%	0.1%	0.0%	5.5%	2.7%	0.0%	0.0%	0.0%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	0.9%	0.0%	25.1%	0.0%	49.6%
2004	937	2,3,4,5,6	19.3%	0.7%	2.1%	16.2%	0.0%	0.7%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.4%	0.0%	0.9%	0.0%	57.3%
2005	525	2,3,4,5,6	27.4%	0.0%	2.3%	25.3%	8.0%	1.0%	0.0%	0.0%	1.7%	0.0%	0.0%	0.0%	0.8%	0.0%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	31.6%
2006	234	2,3,4,5,6	22.6%	4.3%	2.6%	26.1%	2.1%	1.7%	3.0%	0.0%	5.1%	0.0%	0.0%	0.0%	0.4%	0.0%	1.3%	0.0%	2.1%	0.0%	0.0%	0.0%	28.6%
2007	87	2,3,4,5,6	11.5%	0.0%	0.0%	17.2%	14.9%	0.0%	0.0%	0.0%	13.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	42.5%
2008	116	2,3,4,5,6	8.6%	0.0%	0.0%	14.7%	12.1%	0.0%	9.5%	0.0%	0.0%	0.0%	0.0%	0.0%	2.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	52.6%
2009	562	2,3,4,5,6	11.4%	1.2%	1.2%	8.0%	3.9%	0.0%	4.6%	0.0%	2.7%	0.0%	0.0%	0.0%	2.3%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	64.1%
2010	442	2,3,4,5,6	4.3%	0.0%	2.3%	5.4%	1.4%	0.9%	1.1%	0.0%	4.5%	0.0%	0.0%	0.0%	0.2%	0.0%	3.2%	0.2%	1.8%	0.0%	0.0%	0.0%	74.7%
2011	1122	2,3,4,5,6	9.8%	0.5%	1.0%	4.4%	3.6%	1.7%	2.0%	0.0%	1.2%	0.0%	0.0%	0.0%	0.4%	0.0%	1.7%	0.0%	0.6%	0.0%	0.0%	0.0%	73.1%
1979-2011	375		12.4%	2.1%	2.2%	9.7%	2.4%	4.0%	2.0%	0.0%	1.9%	0.3%	0.8%	0.0%	0.4%	0.0%	0.6%	0.3%	0.7%	0.0%	2.2%	0.0%	57.9%
1979-1984	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1985-1995	254		11.9%	6.0%	1.2%	9.1%	0.4%	12.3%	1.1%	0.0%	1.2%	1.0%	2.5%	0.0%	0.4%	0.0%	0.5%	0.1%	1.3%	0.0%	0.4%	0.0%	50.7%
1996-1998	273		12.5%	0.0%	2.5%	8.6%	0.0%	0.1%	0.9%	0.0%	0.5%	0.2%	0.4%	0.0%	0.3%	0.0%	0.1%	1.3%	0.0%	0.0%	7.0%	0.0%	65.5%
1999-2011	464		12.7%	0.5%	2.7%	10.2%	4.0%	0.5%	2.8%	0.0%	2.6%	0.0%	0.0%	0.0%	0.5%	0.0%	0.8%	0.1%	0.5%	0.0%	2.0%	0.0%	60.0%

Appendix C35. Percent distribution of Spring Creek Tule (Spring Creek Hatchery) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	5253	2,3,4,5	0.0%	0.0%	0.0%	0.1%	0.0%	24.7%	0.1%	0.2%	1.1%	0.7%	2.5%	0.0%	17.9%	0.7%	7.3%	1.9%	6.0%	0.0%	21.2%	0.0%	15.8%
1980	6885	2,3,4,5	0.1%	0.0%	0.0%	0.1%	0.0%	26.7%	0.1%	0.1%	2.5%	0.6%	1.0%	0.0%	24.9%	2.2%	5.1%	0.8%	5.8%	0.0%	19.6%	0.0%	10.4%
1981	7388	2,3,4,5	0.0%	0.0%	0.0%	0.1%	0.0%	21.5%	0.1%	0.1%	1.3%	0.2%	1.9%	0.0%	24.4%	0.3%	10.9%	0.5%	2.2%	0.0%	20.7%	0.0%	15.8%
1982	4812	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	22.6%	0.0%	0.0%	1.0%	0.5%	0.2%	0.0%	22.1%	0.1%	7.1%	1.1%	1.1%	0.0%	32.7%	0.0%	11.4%
1983	898	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	30.8%	0.4%	0.0%	1.2%	0.4%	0.0%	0.0%	8.9%	0.0%	4.1%	0.3%	8.0%	0.0%	19.7%	0.0%	25.9%
1984	1184	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	26.3%	0.3%	0.0%	0.0%	2.3%	1.2%	0.0%	5.8%	0.0%	1.0%	0.9%	9.2%	0.0%	25.8%	2.6%	24.6%
1985	1262	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	14.6%	0.6%	0.0%	0.0%	0.2%	0.2%	0.0%	16.2%	0.0%	2.5%	0.7%	1.4%	0.0%	26.7%	0.2%	36.8%
1986	355	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	24.2%	2.5%	0.0%	2.0%	2.8%	1.7%	0.0%	2.5%	0.0%	2.5%	1.1%	4.8%	0.0%	33.5%	1.1%	21.1%
1987	154	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	9.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	14.9%	0.0%	7.8%	22.7%	5.2%	0.0%	18.8%	6.5%	14.3%
1988	908	2,3,4,5	0.0%	0.0%	0.0%	0.4%	0.0%	23.9%	2.0%	0.0%	2.0%	0.2%	1.7%	0.0%	15.6%	0.0%	2.8%	1.9%	4.7%	0.0%	29.0%	4.0%	11.9%
1989	2430	2,3,4,5	0.0%	0.0%	0.0%	0.2%	0.0%	16.1%	3.1%	0.0%	0.6%	0.0%	0.4%	0.0%	26.2%	0.0%	3.1%	0.2%	1.9%	0.0%	32.8%	3.2%	12.3%
1990	2537	2,3,4,5	0.0%	0.0%	0.0%	0.2%	0.0%	19.2%	4.4%	0.3%	0.6%	0.4%	0.9%	0.0%	15.0%	0.0%	6.8%	0.4%	5.5%	0.0%	23.3%	2.1%	20.9%
1991	3022	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	14.9%	1.4%	0.0%	0.3%	0.3%	0.5%	0.0%	18.3%	0.0%	4.6%	0.6%	3.2%	0.0%	32.3%	3.7%	19.8%
1992	3205	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	14.1%	2.4%	0.2%	0.5%	0.3%	0.5%	0.0%	28.8%	0.0%	5.1%	0.0%	3.4%	0.0%	14.1%	3.4%	27.2%
1993	1263	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	19.6%	4.1%	0.0%	0.0%	0.0%	0.3%	0.0%	19.2%	0.0%	2.9%	0.0%	5.5%	0.0%	20.5%	3.0%	24.9%
1994	992	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	21.2%	3.8%	0.0%	0.0%	0.0%	0.9%	0.0%	3.3%	0.0%	0.0%	0.0%	1.0%	0.0%	31.7%	0.0%	38.1%
1995	972	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	10.1%	2.8%	0.0%	0.0%	0.0%	0.4%	0.0%	1.9%	0.0%	0.0%	0.5%	0.0%	0.0%	39.5%	0.0%	44.9%
1996	932	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.7%	0.0%	1.2%	0.0%	0.9%	0.0%	57.3%	1.5%	29.1%
1997	640	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	13.6%	2.7%	0.0%	0.0%	0.0%	0.0%	0.0%	5.2%	0.0%	1.3%	0.0%	3.9%	0.0%	24.2%	6.9%	42.3%
1998	871	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	2.8%	0.0%	1.8%	0.0%	1.3%	0.0%	21.6%	14.2%	56.5%
1999	1654	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	3.9%	0.0%	0.4%	0.0%	0.0%	0.0%	19.4%	0.0%	2.7%	0.0%	0.3%	0.0%	36.3%	6.5%	30.2%
2000	1016	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	5.3%	0.0%	0.0%	0.0%	0.0%	0.0%	5.4%	0.0%	1.9%	0.0%	1.8%	0.0%	26.0%	7.6%	48.0%
2001	6776	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	3.6%	0.9%	0.0%	0.4%	0.0%	0.0%	0.0%	16.3%	0.0%	3.1%	0.0%	1.2%	0.0%	24.0%	2.2%	48.3%
2002	4706	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	10.4%	1.4%	0.0%	0.3%	0.0%	0.0%	0.0%	18.8%	0.0%	8.2%	0.0%	0.6%	0.0%	25.3%	2.5%	32.5%
2003	6414	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	10.2%	3.1%	0.0%	0.0%	0.0%	0.0%	0.0%	12.2%	0.0%	3.8%	0.0%	0.2%	0.0%	23.3%	2.3%	45.0%
2004	6401	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	12.1%	3.1%	0.0%	0.0%	0.0%	0.0%	0.0%	10.4%	0.0%	3.3%	0.0%	0.4%	0.0%	19.0%	1.9%	49.8%
2005	2466	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	24.4%	3.1%	0.0%	0.0%	0.0%	0.0%	0.0%	7.2%	0.0%	1.1%	0.0%	0.0%	0.0%	27.8%	0.9%	35.5%
2006	752	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	16.6%	4.9%	0.0%	0.0%	0.0%	0.0%	0.0%	5.9%	0.0%	1.9%	0.0%	1.2%	0.0%	38.0%	1.1%	30.5%
2007	1318	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	5.4%	3.0%	0.0%	1.2%	0.0%	0.0%	0.0%	2.7%	0.0%	3.6%	0.0%	4.7%	0.0%	46.0%	1.5%	31.9%
2008	2318	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	6.7%	0.0%	0.4%	0.0%	0.0%	0.0%	7.5%	0.0%	2.9%	0.0%	1.8%	0.0%	41.8%	2.7%	31.1%
2009	2861	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.3%	1.2%	2.3%	0.0%	0.6%	0.0%	0.0%	0.0%	1.5%	0.0%	3.4%	0.0%	6.2%	0.0%	40.5%	2.4%	41.5%
2010	4358	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.2%	4.6%	3.1%	0.0%	0.6%	0.0%	0.0%	0.0%	15.5%	0.1%	5.2%	0.0%	0.9%	0.0%	37.0%	1.4%	31.3%
2011	2444	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	5.5%	6.0%	0.0%	0.3%	0.0%	0.0%	0.0%	7.6%	0.9%	6.2%	0.0%	0.6%	0.0%	45.1%	1.3%	26.6%
1979-2011	2711		0.0%	0.0%	0.0%	0.0%	0.0%	13.9%	2.5%	0.0%	0.5%	0.3%	0.4%	0.0%	12.4%	0.1%	3.8%	1.0%	2.9%	0.0%	29.5%	2.6%	29.9%
1979-1984	4403		0.0%	0.0%	0.0%	0.0%	0.0%	25.4%	0.2%	0.1%	1.2%	0.8%	1.1%	0.0%	17.3%	0.5%	5.9%	0.9%	5.4%	0.0%	23.3%	0.4%	17.3%
1985-1995	1555		0.0%	0.0%	0.0%	0.1%	0.0%	17.1%	2.5%	0.0%	0.5%	0.4%	0.7%	0.0%	14.7%	0.0%	3.5%	2.6%	3.3%	0.0%	27.5%	2.5%	24.7%
1996-1998	814		0.0%	0.0%	0.0%	0.0%	0.0%	5.1%	2.4%	0.0%	0.0%	0.0%	0.0%	0.0%	4.5%	0.0%	1.4%	0.0%	2.0%	0.0%	34.4%	7.5%	42.6%
1999-2011	3345		0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	3.6%	0.0%	0.3%	0.0%	0.0%	0.0%	10.0%	0.1%	3.6%	0.0%	1.5%	0.0%	33.1%	2.6%	37.1%

Appendix C36. Percent distribution of South Puget Sound Fall Fingerling (Puget Sound Hatchery Fingerling) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	1027	4,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	621	2,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	1276	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	3230	2,3,4	0.2%	0.1%	0.0%	0.2%	0.1%	22.5%	0.1%	2.1%	10.6%	0.9%	1.8%	0.0%	2.8%	0.0%	0.1%	17.3%	24.6%	0.0%	7.1%	0.0%	9.4%
1983	5023	2,3,4,5	0.1%	0.0%	0.0%	0.7%	0.1%	17.3%	0.2%	0.2%	3.7%	1.7%	2.7%	0.0%	1.6%	0.0%	0.0%	19.3%	34.7%	0.0%	6.5%	0.2%	10.9%
1984	3996	2,3,4,5	0.1%	0.2%	0.0%	0.7%	0.1%	21.0%	0.3%	1.3%	7.1%	1.4%	1.1%	0.0%	1.5%	0.0%	0.1%	14.6%	24.5%	0.0%	9.0%	0.2%	16.7%
1985	1522	2,3,4,5	0.8%	0.0%	0.0%	0.0%	0.2%	18.3%	0.9%	0.3%	6.0%	0.3%	1.9%	0.0%	1.9%	0.0%	0.0%	17.3%	20.8%	0.0%	11.2%	0.0%	20.2%
1986	555	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	18.9%	0.0%	0.0%	7.4%	0.0%	2.9%	0.0%	4.0%	0.0%	1.3%	9.0%	26.7%	0.0%	0.7%	0.0%	29.2%
1987	594	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	20.9%	0.0%	0.0%	12.0%	0.0%	3.4%	0.0%	8.8%	0.8%	0.2%	10.6%	15.2%	0.0%	0.0%	0.0%	28.3%
1988	2811	2,3,4,5	0.3%	0.0%	0.0%	0.2%	0.4%	9.2%	3.0%	0.1%	17.1%	0.9%	3.2%	0.0%	7.0%	0.0%	0.5%	19.2%	20.4%	0.0%	1.0%	0.0%	17.4%
1989	5623	2,3,4,5	0.1%	0.0%	0.0%	0.3%	0.0%	8.8%	2.4%	0.2%	5.2%	0.4%	3.7%	0.0%	12.2%	0.0%	0.4%	14.6%	17.1%	0.0%	5.8%	0.0%	28.8%
1990	5950	2,3,4,5	0.0%	0.1%	0.1%	0.3%	0.0%	23.8%	4.3%	0.3%	3.7%	0.3%	1.2%	0.0%	9.2%	0.0%	0.4%	13.3%	13.0%	0.0%	9.2%	0.5%	20.5%
1991	1912	2,3,4,5	0.5%	0.0%	0.0%	0.0%	0.0%	16.4%	2.7%	0.2%	1.8%	0.1%	0.9%	0.0%	12.2%	0.0%	0.4%	11.3%	14.0%	0.0%	14.0%	0.3%	25.3%
1992	1632	2,3,4,5	0.6%	0.4%	0.0%	0.0%	0.0%	17.2%	2.0%	0.3%	4.4%	0.9%	2.8%	0.0%	8.9%	0.0%	0.6%	12.6%	23.2%	0.0%	8.6%	0.0%	17.6%
1993	1623	2,3,4,5	0.3%	0.1%	0.0%	0.0%	0.0%	17.9%	4.4%	1.0%	3.8%	0.1%	2.6%	0.0%	5.9%	0.0%	0.2%	7.8%	22.7%	0.0%	7.0%	0.0%	26.3%
1994	1906	2,3,4,5	0.0%	0.0%	0.0%	0.5%	0.0%	9.4%	1.3%	0.0%	4.9%	0.0%	4.9%	0.0%	0.6%	0.0%	0.0%	10.9%	16.4%	0.0%	4.9%	0.3%	46.0%
1995	4022	2,3,4,5	0.2%	0.1%	0.0%	0.1%	0.0%	5.3%	1.1%	0.0%	2.8%	0.0%	1.7%	0.0%	1.3%	0.0%	0.0%	4.7%	17.5%	0.0%	1.0%	0.0%	64.2%
1996	5215	2,3,4,5	0.2%	0.0%	0.0%	0.0%	0.1%	0.9%	1.7%	0.0%	5.0%	0.0%	0.5%	0.0%	2.8%	0.0%	0.0%	3.7%	18.1%	0.0%	2.6%	0.0%	64.3%
1997	2741	2,3,4,5	0.5%	0.0%	0.0%	0.5%	0.0%	6.6%	1.5%	0.0%	2.0%	0.0%	0.9%	0.0%	1.6%	0.0%	0.1%	2.1%	16.1%	0.0%	0.7%	0.2%	67.1%
1998	1914	2,3,4,5	1.4%	0.0%	0.0%	0.6%	0.1%	0.5%	1.5%	0.0%	2.4%	0.0%	0.0%	0.0%	1.0%	0.0%	0.0%	4.2%	11.5%	0.0%	3.9%	0.5%	72.4%
1999	2293	2,3,4,5	0.6%	0.0%	0.0%	0.3%	0.0%	0.7%	4.2%	0.0%	3.4%	0.0%	0.0%	0.0%	3.5%	0.0%	0.3%	4.5%	7.5%	0.0%	4.8%	0.0%	70.2%
2000	2558	2,3,4,5	0.4%	0.1%	0.0%	0.0%	0.0%	9.7%	4.5%	0.0%	2.9%	0.0%	0.0%	0.0%	0.3%	0.0%	0.2%	6.3%	13.7%	0.0%	5.9%	0.0%	56.0%
2001	4180	2,3,4,5	0.1%	0.0%	0.0%	0.0%	0.1%	8.2%	3.3%	0.0%	3.9%	0.0%	0.0%	0.0%	4.6%	0.0%	0.4%	4.0%	13.9%	0.0%	6.9%	0.0%	54.4%
2002	3656	2,3,4,5	0.9%	0.0%	0.0%	0.8%	0.1%	11.1%	3.4%	0.0%	5.3%	0.0%	0.3%	0.0%	4.3%	0.0%	0.5%	3.5%	9.2%	0.0%	14.1%	0.0%	46.5%
2003	2351	2,3,4,5	0.7%	0.0%	0.0%	0.9%	0.0%	13.4%	4.3%	0.0%	4.5%	0.0%	0.0%	0.0%	5.3%	0.0%	0.4%	6.6%	12.9%	0.0%	7.1%	0.0%	43.9%
2004	2236	2,3,4,5	0.4%	0.1%	0.0%	0.6%	0.4%	17.0%	4.4%	0.0%	3.6%	0.0%	0.0%	0.0%	10.0%	0.0%	1.4%	7.5%	14.5%	0.0%	6.2%	0.0%	33.9%
2005	2362	2,3,4,5	0.0%	0.0%	0.0%	0.4%	0.6%	13.1%	4.8%	0.0%	5.2%	0.0%	0.0%	0.0%	6.1%	0.0%	1.2%	4.0%	10.3%	0.0%	1.8%	0.0%	52.3%
2006	3607	2,3,4,5	0.3%	0.0%	0.1%	0.5%	0.4%	12.0%	2.8%	0.0%	2.8%	0.0%	0.0%	0.0%	7.0%	0.0%	0.5%	6.4%	9.8%	0.0%	7.9%	0.0%	49.4%
2007	3723	2,3,4,5	0.2%	0.0%	0.0%	0.2%	0.0%	11.5%	4.6%	0.0%	1.9%	0.0%	0.0%	0.0%	5.7%	0.0%	0.2%	3.1%	16.1%	0.0%	12.1%	0.2%	44.3%
2008	2639	2,3,4,5	0.0%	0.0%	0.0%	0.3%	0.0%	7.2%	3.8%	0.0%	3.0%	0.0%	0.0%	0.0%	3.2%	0.0%	0.4%	4.1%	14.6%	0.0%	13.0%	0.3%	50.3%
2009	3048	2,3,4,5	0.1%	0.0%	0.0%	0.2%	0.0%	5.0%	8.8%	0.0%	5.0%	0.0%	0.0%	0.0%	2.8%	0.0%	0.3%	2.5%	13.8%	0.0%	12.4%	0.2%	48.8%
2010	2951	2,3,4,5	0.1%	0.0%	0.0%	0.1%	0.7%	5.5%	5.7%	0.0%	2.7%	0.0%	0.0%	0.0%	2.9%	0.0%	1.4%	1.2%	11.3%	0.0%	1.1%	0.0%	67.4%
2011	2895	2,3,4,5	0.3%	0.1%	0.0%	0.0%	0.1%	3.5%	5.6%	0.0%	4.0%	0.0%	0.0%	0.0%	3.2%	0.0%	0.4%	1.6%	15.9%	0.0%	6.6%	0.0%	58.8%
1979-2011	2959		0.3%	0.0%	0.0%	0.3%	0.1%	11.8%	2.9%	0.2%	4.9%	0.2%	1.2%	0.0%	4.7%	0.0%	0.4%	8.3%	16.7%	0.0%	6.4%	0.1%	41.4%
1979-1984	4083		0.2%	0.1%	0.0%	0.5%	0.1%	20.3%	0.2%	1.2%	7.1%	1.4%	1.9%	0.0%	1.9%	0.0%	0.1%	17.1%	28.0%	0.0%	7.6%	0.1%	12.3%
1985-1995	2559		0.3%	0.1%	0.0%	0.1%	0.1%	15.1%	2.0%	0.2%	6.3%	0.3%	2.7%	0.0%	6.5%	0.1%	0.4%	11.9%	18.8%	0.0%	5.8%	0.1%	29.4%
1996-1998	3290		0.7%	0.0%	0.0%	0.4%	0.0%	2.7%	1.6%	0.0%	3.2%	0.0%	0.5%	0.0%	1.8%	0.0%	0.0%	3.3%	15.3%	0.0%	2.4%	0.2%	68.0%
1999-2011	2961		0.3%	0.0%	0.0%	0.3%	0.2%	9.1%	4.6%	0.0%	3.7%	0.0%	0.0%	0.0%	4.5%	0.0%	0.6%	4.3%	12.6%	0.0%	7.7%	0.1%	52.0%

Appendix C37. Percent distribution of South Puget Sound Fall Yearling (Puget Sound Hatchery Yearling) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	18	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	163	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	334	2,3,4	0.0%	0.0%	0.0%	0.0%	0.0%	3.6%	0.0%	0.0%	2.4%	2.4%	0.0%	0.0%	0.9%	0.0%	0.0%	12.0%	68.0%	0.0%	2.1%	1.5%	7.2%
1983	494	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	5.5%	0.0%	0.0%	0.4%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	8.7%	78.9%	0.0%	0.0%	0.0%	4.7%
1984	265	3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	7.2%	0.0%	0.0%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	31.7%	45.3%	0.0%	0.8%	0.0%	13.2%
1985	70	4,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1987	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1988	146	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1989	743	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1990	1432	2,3,4	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	0.1%	0.1%	0.5%	0.0%	1.6%	0.0%	0.1%	31.1%	55.0%	0.0%	0.3%	0.6%	9.8%
1991	1234	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	5.4%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	3.5%	0.0%	0.0%	11.3%	62.2%	0.0%	0.2%	0.4%	16.5%
1992	592	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	4.9%	1.2%	0.0%	0.8%	0.0%	0.0%	0.0%	4.7%	0.0%	0.7%	25.7%	50.8%	0.0%	1.0%	0.0%	10.1%
1993	508	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	0.0%	0.0%	1.8%	0.0%	0.0%	0.0%	1.2%	0.0%	0.0%	6.9%	71.7%	0.0%	0.0%	2.0%	15.4%
1994	886	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.7%	0.0%	0.9%	0.0%	2.4%	0.0%	0.0%	0.0%	0.0%	15.1%	65.2%	0.0%	0.0%	0.0%	14.7%
1995	805	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	5.8%	1.6%	0.0%	2.5%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	7.8%	73.5%	0.0%	0.2%	1.4%	6.8%
1996	815	2,3,4,5	0.5%	0.0%	0.0%	0.0%	0.0%	0.1%	1.1%	0.0%	1.8%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	2.6%	89.6%	0.0%	0.2%	0.6%	2.8%
1997	583	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%	0.3%	0.0%	1.0%	0.0%	0.0%	0.0%	1.0%	0.0%	2.1%	3.4%	70.0%	0.0%	0.0%	0.0%	20.6%
1998	113	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.8%	0.0%	0.0%	1.8%	85.8%	0.0%	2.7%	0.0%	8.0%
1999	103	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.6%	0.0%	0.0%	0.0%	3.9%	0.0%	0.0%	1.0%	80.6%	0.0%	0.0%	0.0%	1.9%
2000	96	3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.2%	0.0%	0.0%	0.0%	0.0%	0.0%	6.3%	0.0%	0.0%	9.4%	74.0%	0.0%	0.0%	0.0%	5.2%
2001	80	2,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	3.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.5%	0.0%	0.0%	0.0%	78.8%	0.0%	0.0%	0.0%	15.0%
2002	10	2,3,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2003	7	3,4	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2004	264	2,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	11.4%	38.6%	0.0%	1.9%	0.0%	46.6%
2005	319	2,3,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	0.0%	1.3%	14.1%	60.5%	0.0%	2.8%	0.0%	19.1%
2006	422	2,3,4	0.0%	0.0%	0.0%	0.0%	0.0%	5.5%	3.1%	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	0.0%	0.0%	16.6%	51.9%	0.0%	1.9%	0.0%	19.4%
2007	345	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	4.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%	0.0%	1.4%	16.8%	52.5%	0.0%	2.6%	0.0%	21.2%
2008	136	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.9%	0.0%	0.0%	6.6%	47.8%	0.0%	14.0%	0.0%	26.5%
2009	226	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	15.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	4.0%	55.8%	0.0%	1.8%	8.0%	14.6%
2010	168	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.8%	0.0%	4.2%	0.0%	0.0%	0.0%	0.6%	0.0%	1.8%	7.7%	28.0%	0.0%	0.0%	0.0%	56.0%
2011[1]	223	3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.1%	2.2%	0.4%	21.1%	63.7%	0.0%	6.3%	0.0%	1.3%
1979-2011	454		0.0%	0.0%	0.0%	0.0%	0.0%	2.4%	1.4%	0.0%	1.4%	0.2%	0.1%	0.0%	1.7%	0.1%	0.3%	11.6%	63.0%	0.0%	1.7%	0.6%	15.5%
1979-1984	364		0.0%	0.0%	0.0%	0.0%	0.0%	5.4%	0.0%	0.0%	1.6%	1.4%	0.0%	0.0%	0.3%	0.0%	0.0%	17.5%	64.1%	0.0%	1.0%	0.5%	8.3%
1985-1995	910		0.0%	0.0%	0.0%	0.0%	0.0%	3.2%	0.6%	0.0%	1.1%	0.0%	0.5%	0.0%	1.9%	0.0%	0.1%	16.3%	63.1%	0.0%	0.3%	0.7%	12.2%
1996-1998	504		0.2%	0.0%	0.0%	0.0%	0.0%	0.6%	0.5%	0.0%	1.0%	0.0%	0.0%	0.0%	1.1%	0.0%	0.7%	2.6%	81.8%	0.0%	1.0%	0.2%	10.5%
1999-2011	217		0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	2.5%	0.0%	1.5%	0.0%	0.0%	0.0%	2.2%	0.2%	0.4%	9.9%	57.5%	0.0%	2.8%	0.7%	20.6%

[1] Estimates for this year can only be used for distribution of fishing mortalities because the escapement data are insufficient.

Appendix C38. Percent distribution of Salmon River (Oregon Coast) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	573	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	911	2,3,4	31.5%	0.1%	0.9%	11.6%	0.0%	8.5%	0.0%	0.0%	0.0%	1.1%	1.5%	0.0%	1.2%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	13.9%	29.3%
1981	847	2,3,4,5	23.0%	0.0%	0.5%	26.3%	0.0%	3.9%	0.6%	0.0%	0.0%	0.6%	2.6%	0.0%	0.8%	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%	14.6%	26.1%
1982	792	2,3,4,5,6	11.0%	1.4%	0.9%	13.9%	0.0%	7.1%	0.0%	0.0%	0.0%	1.0%	0.6%	0.0%	1.1%	0.0%	1.0%	0.0%	0.0%	0.0%	0.0%	22.3%	39.6%
1983	714	3,4,5,6	21.1%	0.6%	0.0%	15.3%	0.0%	7.6%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	19.6%	34.7%
1984	821	2,4,5,6	13.6%	0.0%	0.0%	18.5%	0.0%	3.5%	0.0%	0.0%	0.0%	3.4%	1.1%	0.0%	0.2%	0.0%	0.2%	0.0%	0.0%	0.0%	0.2%	19.9%	39.2%
1985	663	2,3,5,6	17.6%	1.4%	0.0%	18.1%	0.0%	2.0%	0.0%	0.0%	0.0%	1.4%	0.3%	0.0%	0.2%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	20.1%	38.9%
1986	641	2,3,4,6	20.4%	0.0%	0.0%	14.8%	0.0%	3.1%	0.0%	0.0%	0.0%	4.4%	0.5%	0.0%	0.5%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	14.8%	40.9%
1987	849	2,3,4,5	17.2%	0.0%	0.0%	16.4%	0.0%	3.2%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	2.5%	0.0%	1.1%	0.0%	0.0%	0.0%	0.0%	21.1%	38.0%
1988	1437	2,3,4,5,6	15.2%	1.3%	0.0%	8.4%	0.0%	5.1%	0.0%	0.0%	0.0%	0.9%	0.0%	0.0%	0.9%	0.0%	1.5%	0.0%	0.0%	0.0%	0.0%	13.0%	53.7%
1989	1506	2,3,4,5,6	17.6%	0.0%	0.0%	16.3%	0.0%	4.6%	0.0%	0.0%	0.0%	0.0%	1.1%	0.0%	3.3%	0.0%	0.4%	0.0%	0.3%	0.0%	0.0%	20.8%	35.5%
1990	1820	2,3,4,5,6	18.3%	2.2%	0.0%	13.0%	1.4%	8.0%	0.0%	0.0%	0.0%	0.3%	0.8%	0.0%	3.0%	0.0%	1.5%	0.0%	0.0%	0.0%	0.0%	20.7%	30.8%
1991	2899	2,3,4,5,6	24.2%	0.0%	0.6%	16.6%	0.8%	6.2%	0.0%	0.0%	0.0%	0.1%	0.7%	0.0%	0.2%	0.0%	0.2%	0.0%	0.2%	0.0%	0.0%	22.0%	28.1%
1992	3329	2,3,4,5,6	4.5%	4.3%	0.0%	8.3%	2.0%	16.7%	0.0%	0.0%	0.0%	0.9%	0.3%	0.0%	2.0%	0.0%	0.5%	0.0%	0.2%	0.0%	0.0%	14.2%	45.9%
1993	3009	2,3,4,5,6	9.5%	0.5%	0.2%	15.7%	0.9%	17.6%	0.0%	0.0%	0.0%	0.2%	0.4%	0.0%	2.9%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	28.8%	23.1%
1994	4655	2,3,4,5,6	15.2%	0.6%	1.0%	15.2%	1.9%	4.9%	0.0%	0.0%	0.0%	0.2%	0.1%	0.0%	1.4%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	16.1%	43.0%
1995	4368	2,3,4,5,6	9.9%	0.4%	0.4%	6.7%	1.2%	1.2%	0.2%	0.0%	0.0%	0.2%	0.1%	0.0%	0.2%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	29.3%	50.2%
1996	2383	2,3,4,5,6	20.9%	0.0%	0.0%	2.8%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%	45.2%	25.5%
1997	4411	2,3,4,5,6	32.9%	0.0%	1.7%	3.6%	0.4%	0.2%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	1.4%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	18.0%	41.5%
1998	3087	2,3,4,5,6	11.8%	1.0%	0.5%	11.9%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	1.0%	0.0%	0.0%	0.0%	0.1%	30.5%	41.3%
1999	2384	2,3,4,5,6	18.2%	0.2%	0.0%	5.7%	5.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	1.2%	0.0%	0.0%	0.0%	0.0%	31.3%	37.8%
2000	2920	2,3,4,5,6	17.4%	0.0%	0.7%	3.5%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	19.3%	55.7%
2001	3991	2,3,4,5,6	16.8%	0.0%	1.0%	3.8%	1.7%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	2.8%	0.0%	1.6%	0.0%	0.0%	0.0%	0.1%	24.3%	47.3%
2002	5461	2,3,4,5,6	22.4%	0.0%	1.2%	8.0%	2.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	0.0%	1.9%	0.0%	0.0%	0.0%	0.0%	30.9%	31.4%
2003	5113	2,3,4,5,6	15.4%	1.6%	0.7%	6.9%	1.9%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	0.0%	2.9%	0.0%	0.0%	0.0%	0.0%	31.2%	37.6%
2004	5467	2,3,4,5,6	20.8%	1.5%	0.9%	7.9%	4.6%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	1.0%	0.0%	0.0%	0.0%	0.0%	21.9%	38.7%
2005	4904	2,3,4,5,6	21.4%	0.0%	1.3%	9.0%	5.6%	2.5%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%	0.1%	1.3%	0.0%	0.0%	0.0%	0.0%	29.5%	27.8%
2006	2116	2,3,4,5,6	27.1%	0.0%	1.9%	12.7%	6.3%	2.0%	2.4%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	0.0%	3.0%	0.0%	0.0%	0.0%	0.1%	24.9%	18.4%
2007	1599	2,3,4,5,6	14.6%	0.0%	1.0%	6.6%	4.8%	0.1%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	35.0%	36.1%
2008	1981	2,3,4,5,6	18.0%	0.0%	1.7%	7.6%	5.5%	0.8%	1.3%	0.0%	0.0%	0.0%	0.3%	0.0%	1.1%	0.0%	0.8%	0.1%	0.0%	0.0%	0.0%	13.0%	50.0%
2009	2690	2,3,4,5,6	20.4%	1.0%	2.0%	14.1%	4.1%	0.4%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%	23.3%	33.3%
2010	4305	2,3,4,5,6	13.6%	0.0%	2.2%	7.5%	2.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	0.7%	0.1%	0.0%	0.0%	0.0%	42.3%	30.9%
2011	5442	2,3,4,5,6	12.6%	0.0%	0.8%	6.5%	2.4%	2.2%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	0.0%	1.6%	0.0%	0.0%	0.0%	0.0%	30.6%	39.7%
1979-2011	2735		17.9%	0.6%	0.7%	11.0%	1.8%	3.6%	0.3%	0.0%	0.0%	0.5%	0.3%	0.0%	1.2%	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%	23.8%	37.2%
1979-1984	817		20.1%	0.4%	0.4%	17.1%	0.0%	6.1%	0.1%	0.0%	0.0%	1.3%	1.2%	0.0%	0.7%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	18.1%	33.8%
1985-1995	2289		15.4%	1.0%	0.2%	13.6%	0.7%	6.6%	0.0%	0.0%	0.0%	0.8%	0.4%	0.0%	1.5%	0.0%	0.6%	0.0%	0.1%	0.0%	0.0%	20.1%	38.9%
1996-1998	3294		21.9%	0.3%	0.7%	6.1%	0.8%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	31.2%	36.1%
1999-2011	3721		18.4%	0.3%	1.2%	7.7%	3.7%	0.8%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	0.0%	1.4%	0.0%	0.0%	0.0%	0.0%	27.5%	37.3%

Appendix C39. Percent distribution of Skagit Summer Fingerling (Skagit Wild) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1985	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1987	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1988	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1989	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1990	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1991	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1992	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1993	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1994	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1996	5	2	Failed	Criteria		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1997	12	2,3	Failed	Criteria		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1998	183	2,3,4	3.8%	0.0%	0.0%	0.0%	1.1%	1.6%	6.6%	0.0%	2.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	0.0%	0.0%	0.0%	82.5%
1999	189	2,3,4,5	10.6%	1.1%	0.0%	0.0%	0.0%	0.0%	20.6%	0.0%	11.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	0.0%	55.0%
2000	279	2,3,4,5	9.7%	1.1%	0.0%	0.0%	0.0%	3.2%	7.5%	0.0%	11.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.8%	11.5%	0.0%	0.0%	0.0%	53.8%
2001	866	2,3,4,5	9.2%	3.2%	1.0%	0.0%	1.0%	8.7%	6.5%	0.0%	10.4%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.2%	2.7%	0.0%	0.5%	0.0%	56.5%
2002	2250	2,3,4,5	13.4%	0.0%	0.9%	1.6%	1.4%	5.9%	1.8%	0.0%	4.3%	0.0%	2.4%	0.0%	0.1%	0.0%	0.0%	0.2%	0.0%	0.0%	0.7%	0.0%	67.4%
2003	875	2,3,4,5	7.0%	0.2%	0.0%	4.2%	3.0%	10.4%	4.6%	0.0%	7.2%	0.0%	0.2%	0.0%	0.3%	0.0%	0.3%	0.5%	0.5%	0.0%	0.2%	0.0%	61.4%
2004	829	2,3,4,5	5.7%	0.0%	0.0%	2.9%	0.7%	11.6%	1.4%	0.0%	1.0%	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	1.0%	0.6%	0.0%	0.0%	0.0%	74.3%
2005	964	2,3,4,5	8.6%	0.3%	0.0%	1.7%	5.7%	7.2%	4.5%	0.0%	2.2%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.1%	1.0%	0.0%	3.6%	0.2%	64.5%
2006	1398	2,3,4,5	3.6%	1.2%	0.2%	0.6%	3.2%	4.3%	3.5%	0.0%	2.5%	0.0%	0.2%	0.0%	0.5%	0.0%	0.0%	0.2%	0.6%	0.0%	3.1%	0.0%	76.2%
2007	1479	2,3,4,5	6.6%	0.9%	0.2%	1.0%	1.1%	8.8%	3.8%	0.0%	0.7%	0.0%	0.1%	0.0%	0.9%	0.0%	0.0%	0.2%	0.6%	0.0%	2.8%	0.0%	72.3%
2008	1124	2,3,4,5	5.5%	0.0%	0.0%	1.5%	1.7%	5.2%	5.9%	0.0%	2.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	1.5%	0.0%	18.1%	0.0%	58.2%
2009	852	2,3,4,5	7.7%	0.9%	0.9%	1.6%	1.3%	3.5%	8.8%	0.0%	4.3%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.1%	3.4%	0.0%	33.9%	0.0%	33.1%
2010	565	2,3,4,5	7.8%	0.9%	0.2%	1.6%	4.1%	4.6%	4.2%	0.0%	3.4%	0.0%	0.4%	0.0%	0.9%	0.0%	0.0%	0.7%	3.7%	0.0%	7.3%	0.4%	60.0%
2011	513	3,4,5	4.7%	0.0%	0.6%	0.0%	1.0%	7.0%	7.0%	0.0%	6.0%	0.0%	0.0%	0.0%	1.2%	0.0%	0.0%	1.9%	6.4%	0.0%	18.5%	0.0%	45.6%
1979-2011	883		7.4%	0.7%	0.3%	1.2%	1.8%	5.9%	6.2%	0.0%	5.0%	0.0%	0.3%	0.0%	0.4%	0.0%	0.0%	0.5%	2.4%	0.0%	6.4%	0.0%	61.5%
1979-1984	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1985-1995	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1996-1998	183		3.8%	0.0%	0.0%	0.0%	1.1%	1.6%	6.6%	0.0%	2.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	0.0%	0.0%	0.0%	82.5%
1999-2011	937		7.7%	0.8%	0.3%	1.3%	1.9%	6.2%	6.2%	0.0%	5.2%	0.0%	0.3%	0.0%	0.4%	0.0%	0.0%	0.6%	2.5%	0.0%	6.9%	0.0%	59.9%

Appendix C40. Percent distribution of Stillaguamish Fall Fingerling (Stillaguamish Wild) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM												
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	15	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	56	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984[1]	109	2,3,4	0.9%	0.0%	0.0%	3.7%	2.8%	10.1%	0.0%	0.0%	13.8%	16.5%	21.1%	0.0%	0.0%	0.0%	0.0%	4.6%	26.6%	0.0%	0.0%	0.0%	0.0%
1985[1]	114	2,3,4,5	7.0%	0.0%	0.0%	4.4%	0.0%	29.8%	8.8%	0.0%	9.6%	0.0%	13.2%	0.0%	0.0%	0.0%	0.0%	8.8%	17.5%	0.0%	0.0%	0.0%	0.9%
1986[1]	96	3,4,5	5.2%	0.0%	0.0%	0.0%	0.0%	32.3%	0.0%	0.0%	20.8%	0.0%	4.2%	0.0%	0.0%	0.0%	0.0%	15.6%	21.9%	0.0%	0.0%	0.0%	0.0%
1987	42	4,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1988	115	2,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1989	324	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1990	421	2,3,4	0.7%	0.0%	0.0%	1.0%	0.2%	20.9%	5.9%	0.7%	11.2%	7.6%	9.5%	0.0%	6.4%	0.0%	0.0%	6.9%	16.2%	0.0%	2.1%	0.0%	10.7%
1991	977	2,3,4,5	0.2%	0.0%	0.0%	0.0%	0.4%	5.4%	2.5%	0.0%	4.8%	0.0%	0.9%	0.0%	4.8%	0.0%	0.0%	3.7%	8.4%	0.0%	1.8%	0.0%	67.0%
1992	936	2,3,4,5	0.0%	0.0%	0.0%	0.4%	0.0%	17.1%	3.5%	0.0%	7.9%	0.0%	4.0%	0.0%	5.4%	0.0%	0.0%	8.7%	38.1%	0.0%	2.2%	0.0%	12.6%
1993	933	2,3,4,5	0.0%	0.0%	0.0%	0.9%	1.1%	13.4%	9.2%	0.3%	9.6%	0.5%	2.1%	0.0%	5.8%	0.0%	0.3%	0.4%	21.4%	0.0%	1.0%	0.0%	33.9%
1994	479	2,3,4,5	2.7%	0.0%	0.0%	0.6%	0.0%	7.3%	5.6%	0.0%	9.2%	0.0%	2.3%	0.0%	0.0%	0.0%	0.0%	2.1%	7.1%	0.0%	0.2%	0.0%	62.8%
1995	518	2,3,4,5	2.5%	0.0%	0.0%	0.0%	0.0%	3.7%	8.7%	0.0%	6.9%	0.0%	12.2%	0.0%	0.8%	0.0%	0.0%	1.9%	24.5%	0.0%	0.2%	0.0%	38.6%
1996	844	2,3,4,5	1.1%	0.0%	0.0%	0.0%	0.8%	1.1%	6.6%	0.0%	8.3%	0.0%	8.6%	0.0%	0.0%	0.0%	0.0%	0.0%	25.9%	0.0%	0.2%	0.0%	47.3%
1997	852	2,3,4,5	10.1%	0.7%	0.0%	0.2%	1.2%	7.0%	4.8%	0.0%	5.3%	0.0%	1.8%	0.0%	0.0%	0.0%	0.0%	1.3%	18.7%	0.0%	0.5%	0.0%	48.5%
1998	1099	2,3,4,5	10.4%	0.4%	0.4%	1.7%	0.7%	0.9%	2.5%	0.0%	2.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	1.5%	3.0%	0.0%	0.3%	0.0%	75.9%
1999	684	2,3,4,5	0.7%	1.0%	0.0%	0.0%	0.3%	3.4%	7.7%	0.0%	6.9%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.3%	3.7%	0.0%	0.1%	0.0%	75.4%
2000	980	2,3,4,5	4.4%	0.0%	0.0%	0.0%	0.0%	6.1%	1.4%	0.0%	1.8%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	2.2%	0.0%	0.1%	0.0%	83.5%
2001	309	3,4,5	1.9%	0.0%	0.0%	0.0%	0.0%	5.2%	4.2%	0.0%	4.5%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	1.0%	16.2%	0.0%	0.3%	0.0%	66.3%
2002	291	4,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2003	13	5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2004	134	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2005	499	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2006	823	2,3,4	2.4%	0.1%	0.0%	0.0%	0.9%	11.7%	1.3%	0.0%	3.6%	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	1.7%	4.0%	0.0%	0.6%	0.0%	72.9%
2007	819	2,3,4,5	1.0%	1.1%	0.0%	0.0%	0.0%	14.7%	5.9%	0.0%	15.6%	0.0%	1.0%	0.0%	1.8%	0.0%	0.0%	4.0%	9.4%	0.0%	0.6%	0.0%	44.9%
2008	1206	2,3,4,5	2.4%	0.0%	0.0%	0.0%	0.0%	4.8%	5.5%	0.0%	5.9%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.5%	12.0%	0.0%	3.3%	0.0%	65.5%
2009	1025	2,3,4,5	1.2%	0.1%	0.3%	0.4%	0.5%	2.1%	4.2%	0.0%	9.5%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	1.2%	14.0%	0.0%	3.8%	0.0%	62.5%
2010	861	2,3,4,5	1.0%	0.0%	0.0%	0.0%	6.4%	8.2%	8.2%	0.0%	2.8%	0.1%	0.0%	0.0%	2.3%	0.0%	0.5%	3.5%	9.9%	0.0%	2.4%	0.0%	54.6%
2011	1346	2,3,4,5	1.5%	0.2%	0.0%	0.0%	3.4%	4.8%	7.7%	0.0%	8.8%	0.0%	0.0%	0.0%	0.7%	0.0%	0.2%	1.1%	5.6%	0.0%	1.4%	0.1%	64.4%
1979-2011	735		2.7%	0.2%	0.0%	0.6%	0.9%	10.0%	5.0%	0.0%	8.0%	1.2%	3.9%	0.0%	1.4%	0.0%	0.0%	3.3%	14.6%	0.0%	1.0%	0.0%	47.1%
1979-1984	109		0.9%	0.0%	0.0%	3.7%	2.8%	10.1%	0.0%	0.0%	13.8%	16.5%	21.1%	0.0%	0.0%	0.0%	0.0%	4.6%	26.6%	0.0%	0.0%	0.0%	0.0%
1985-1995	559		2.3%	0.0%	0.0%	0.9%	0.2%	16.2%	5.5%	0.1%	10.0%	1.0%	6.0%	0.0%	2.9%	0.0%	0.0%	6.0%	19.4%	0.0%	0.9%	0.0%	28.3%
1996-1998	932		7.2%	0.4%	0.1%	0.7%	0.9%	3.0%	4.6%	0.0%	5.2%	0.0%	3.6%	0.0%	0.0%	0.0%	0.0%	0.9%	15.9%	0.0%	0.3%	0.0%	57.2%
1999-2011	895		1.8%	0.3%	0.0%	0.0%	1.3%	6.8%	5.1%	0.0%	6.6%	0.0%	0.2%	0.0%	0.7%	0.0%	0.1%	1.5%	8.6%	0.0%	1.4%	0.0%	65.6%

[1] *Estimates for these years can only be used for distribution of fishing mortalities because the escapement data are insufficient.*

Appendix C41. Percent distribution of Columbia River Summers (Columbia River Summer) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	197	2,3,4	14.7%	0.0%	1.0%	8.1%	1.5%	17.8%	0.0%	2.5%	4.6%	3.6%	10.2%	0.0%	0.5%	0.0%	4.1%	0.0%	0.0%	0.0%	4.1%	0.0%	27.4%
1980	338	3,4,5	33.4%	0.0%	0.9%	9.2%	0.0%	17.5%	0.0%	0.0%	0.0%	4.1%	1.2%	0.0%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	31.4%
1981	315	4,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	24	5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1985	6	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986	35	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1987	120	2,3,4	13.3%	0.8%	0.0%	5.8%	3.3%	10.8%	0.0%	0.0%	0.0%	2.5%	5.8%	0.0%	21.7%	0.0%	0.8%	0.0%	0.0%	0.0%	6.7%	0.0%	28.3%
1988	317	2,3,4,5	1.6%	3.5%	0.0%	9.1%	1.9%	20.5%	4.1%	0.0%	0.0%	0.0%	8.8%	0.0%	3.8%	0.0%	0.0%	0.0%	0.0%	0.0%	13.2%	2.8%	30.6%
1989	707	2,3,4,5	7.5%	2.8%	0.7%	5.5%	0.6%	16.5%	2.4%	0.0%	1.6%	0.7%	2.4%	0.0%	15.0%	0.0%	2.5%	0.0%	0.0%	0.0%	7.6%	0.0%	34.1%
1990	865	2,3,4,5	10.9%	0.0%	0.0%	7.9%	0.0%	21.0%	0.0%	0.0%	0.6%	1.2%	1.7%	0.0%	5.9%	0.0%	2.4%	0.0%	0.0%	0.0%	10.6%	0.2%	37.6%
1991	607	2,3,4,5	5.1%	0.0%	0.0%	2.8%	0.0%	7.6%	0.8%	0.0%	0.0%	0.7%	3.5%	0.0%	4.3%	0.0%	2.1%	0.0%	0.0%	0.0%	4.9%	0.5%	67.7%
1992	306	2,3,4,5	18.3%	0.0%	0.0%	3.6%	0.0%	15.7%	0.0%	0.0%	0.7%	2.0%	1.0%	0.0%	6.9%	0.0%	0.0%	0.0%	1.6%	0.0%	1.3%	0.0%	49.0%
1993	213	2,3,4,5	8.0%	0.0%	0.0%	1.4%	0.0%	16.0%	1.9%	0.0%	0.0%	0.0%	2.8%	0.0%	5.6%	0.0%	1.4%	0.0%	0.0%	0.0%	3.3%	0.0%	59.6%
1994	38	2,3,4,5	18.4%	0.0%	0.0%	0.0%	15.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.5%	0.0%	55.3%
1995	158	2,3,4,5	3.8%	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	1.3%	0.0%	1.9%	0.0%	0.0%	2.5%	0.0%	0.0%	0.0%	0.0%	83.5%
1996	371	2,3,4,5	11.1%	1.1%	0.0%	2.2%	0.3%	3.0%	0.0%	0.0%	3.0%	0.0%	3.8%	0.0%	3.0%	0.0%	0.8%	0.0%	1.3%	0.0%	3.8%	2.2%	64.7%
1997	1264	2,3,4,5	9.1%	0.1%	3.9%	0.2%	1.5%	1.8%	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	3.2%	0.0%	0.0%	0.0%	0.2%	0.0%	1.2%	0.5%	77.8%
1998	1546	2,3,4,5	10.0%	0.3%	1.2%	0.1%	2.4%	0.0%	0.6%	0.0%	0.0%	0.0%	0.1%	0.0%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	4.8%	1.0%	77.7%
1999	948	2,3,4,5	14.5%	0.7%	3.1%	0.6%	2.6%	0.5%	5.2%	0.0%	0.0%	0.0%	0.4%	0.0%	9.2%	0.0%	0.5%	0.0%	0.0%	0.0%	1.1%	2.7%	58.9%
2000	2790	2,3,4,5	24.6%	1.8%	3.3%	0.6%	2.7%	4.4%	5.2%	0.0%	0.8%	0.0%	0.5%	0.0%	3.2%	0.0%	1.3%	0.1%	0.3%	0.0%	0.9%	2.0%	48.4%
2001	7388	2,3,4,5	15.5%	2.6%	1.4%	0.5%	1.7%	12.9%	2.6%	0.0%	0.2%	0.0%	0.0%	0.0%	16.9%	0.0%	3.6%	0.0%	1.1%	0.0%	0.7%	1.5%	38.7%
2002	11149	2,3,4,5	23.1%	0.0%	1.5%	12.8%	2.0%	14.2%	1.3%	0.0%	0.1%	0.0%	0.0%	0.0%	8.8%	0.0%	3.6%	0.0%	0.0%	0.0%	1.0%	2.2%	29.3%
2003	7858	2,3,4,5	27.6%	0.7%	1.1%	11.9%	2.4%	11.3%	0.3%	0.0%	0.1%	0.0%	0.0%	0.0%	6.8%	0.0%	1.0%	0.0%	0.1%	0.0%	2.7%	5.6%	28.4%
2004	4868	2,3,4,5	14.4%	0.4%	1.2%	5.4%	1.7%	12.5%	1.4%	0.0%	0.2%	0.0%	0.0%	0.0%	10.7%	0.0%	1.5%	0.0%	0.3%	0.0%	7.4%	14.4%	28.5%
2005	10037	2,3,4,5	9.1%	0.0%	0.6%	6.0%	2.6%	10.4%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	6.3%	0.0%	0.5%	0.0%	0.0%	0.0%	6.8%	7.6%	49.2%
2006	3846	2,3,4,5	12.1%	0.1%	0.5%	3.7%	1.2%	11.2%	1.3%	0.0%	0.0%	0.0%	0.1%	0.0%	3.2%	0.0%	0.4%	0.2%	0.1%	0.0%	12.9%	10.2%	42.7%
2007	5598	2,3,4,5	9.8%	1.9%	1.2%	1.2%	2.2%	5.3%	1.3%	0.0%	0.2%	0.0%	0.8%	0.0%	3.9%	0.0%	0.5%	0.0%	0.5%	0.0%	8.6%	15.7%	46.9%
2008	4743	2,3,4,5	8.8%	0.2%	0.3%	1.0%	1.2%	6.4%	3.2%	0.0%	0.0%	0.0%	0.1%	0.0%	3.0%	0.0%	0.6%	0.0%	0.2%	0.0%	19.2%	10.5%	45.5%
2009	3808	2,3,4,5	8.8%	0.1%	0.4%	1.4%	0.8%	6.2%	4.1%	0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	0.0%	0.2%	0.0%	0.0%	0.0%	17.5%	6.4%	52.4%
2010	2148	2,3,4,5	8.8%	0.1%	0.6%	1.7%	3.3%	3.4%	0.7%	0.0%	1.3%	0.0%	0.0%	0.0%	4.6%	0.0%	1.0%	0.0%	0.0%	0.0%	20.3%	8.9%	45.3%
2011	1842	2,3,4,5	11.8%	0.3%	0.8%	2.2%	0.7%	4.0%	2.9%	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	0.0%	1.2%	0.0%	0.0%	0.0%	23.0%	11.4%	37.7%
1979-2011	2743		13.1%	0.6%	0.9%	3.9%	1.9%	9.5%	1.5%	0.1%	0.5%	0.5%	1.7%	0.0%	5.8%	0.0%	1.1%	0.1%	0.2%	0.0%	7.2%	3.9%	47.3%
1979-1984	268		24.1%	0.0%	1.0%	8.6%	0.8%	17.6%	0.0%	1.3%	2.3%	3.8%	5.7%	0.0%	1.1%	0.0%	2.0%	0.0%	0.0%	0.0%	2.3%	0.0%	29.4%
1985-1995	370		9.7%	0.8%	0.1%	4.0%	2.4%	12.8%	1.0%	0.0%	0.3%	0.8%	3.0%	0.0%	7.2%	0.0%	1.0%	0.3%	0.2%	0.0%	6.5%	0.4%	49.5%
1996-1998	1060		10.1%	0.5%	1.7%	0.8%	1.4%	1.6%	0.2%	0.0%	1.0%	0.0%	1.4%	0.0%	2.7%	0.0%	0.3%	0.0%	0.5%	0.0%	3.2%	1.2%	73.4%
1999-2011	5156		14.5%	0.7%	1.2%	3.8%	1.9%	7.9%	2.3%	0.0%	0.2%	0.0%	0.1%	0.0%	6.3%	0.0%	1.2%	0.0%	0.2%	0.0%	9.4%	7.6%	42.5%

Appendix C42. Percent distribution of Taku River total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	217	3,4	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	300	3,4,5	3.7%	3.0%	3.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	89.7%
1981	446	3,4,5,6	5.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	94.8%
1982	266	3,4,5,6	7.1%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	89.8%
1983	168	3,4,5,6	3.0%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	95.2%
1984	357	3,4,5,6	10.9%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	87.1%
1985	344	4,5,6	2.9%	0.0%	8.4%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	87.8%
1986	165	5,6	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1987	50	6	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1988	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1989	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1990	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1991	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1992	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1993	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1994	69	3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	193	3,4	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1996	380	3,4,5	1.1%	2.4%	2.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	93.9%
1997	650	3,4,5,6	0.6%	3.2%	9.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	86.3%
1998	391	3,4,5,6	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	98.7%
1999	623	3,4,5,6	2.1%	6.3%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	87.6%
2000	1017	3,4,5,6	2.1%	1.3%	2.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	94.1%
2001	993	3,4,5,6	3.0%	3.6%	3.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	89.9%
2002	870	3,4,5,6	3.3%	3.1%	7.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	85.9%
2003	867	3,4,5,6	2.2%	2.8%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	93.3%
2004	2158	3,4,5,6	3.4%	6.7%	3.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	86.6%
2005	1285	3,4,5,6	2.8%	33.2%	3.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	60.6%
2006	902	3,4,5,6	3.5%	17.8%	3.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	75.3%
2007	410	3,4,5,6	7.6%	12.7%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	78.5%
2008	635	3,4,5,6	5.0%	4.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	90.6%
2009	356	3,4,5,6	7.0%	12.6%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	77.8%
2010	324	3,4,5,6	3.1%	1.5%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	93.8%
2011	301	3,4,5,6	7.6%	6.0%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	83.4%
1979-2011	638		4.0%	5.8%	2.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	87.3%
1979-1984	307		6.0%	2.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	91.3%
1985-1995	344		2.9%	0.0%	8.4%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	87.8%
1996-1998	474		1.0%	1.9%	4.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	93.0%
1999-2011	826		4.1%	8.6%	2.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	84.4%

Appendix C43. Percent distribution of Unuk River total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1985	44	3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986	645	3,4	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1987	431	3,4,5	11.1%	0.5%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	84.7%
1988	442	3,4,5,6	6.8%	1.1%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	91.0%
1989	269	3,4,5,6	9.7%	2.2%	0.0%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	86.2%
1990	180	4,5,6	27.8%	0.6%	11.7%	2.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	57.2%
1991	138	5,6	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1992	144	6	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1993	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1994	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	2	3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1996	35	3,4	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1997	173	3,4,5	10.4%	8.7%	4.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	76.3%
1998	488	3,4,5,6	9.4%	2.9%	3.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	84.0%
1999	773	3,4,5,6	7.5%	1.0%	12.9%	0.0%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	76.3%
2000	1111	3,4,5,6	10.9%	2.8%	9.0%	0.0%	2.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	74.3%
2001	1413	3,4,5,6	8.0%	0.7%	6.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	84.6%
2002	958	3,4,5,6	8.6%	0.6%	5.9%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	83.7%
2003	714	3,4,5,6	11.3%	0.1%	8.0%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	78.6%
2004	732	3,4,5,6	6.6%	15.8%	4.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	73.5%
2005	733	3,4,5,6	21.0%	2.5%	11.2%	0.3%	2.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	62.5%
2006	813	3,4,5,6	10.9%	7.6%	6.6%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	73.9%
2007	667	3,4,5,6	16.3%	7.0%	3.4%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	71.4%
2008	353	3,4,5,6	15.0%	4.2%	1.1%	0.0%	2.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	76.8%
2009	397	3,4,5,6	14.6%	1.5%	6.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	77.8%
2010	415	3,4,5,6	20.2%	1.0%	7.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	71.1%
2011	275	4,5,6	19.6%	3.6%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	72.7%
1979-2011	597		12.9%	3.4%	5.8%	0.5%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	76.7%
1979-1984	0		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1985-1995	330		13.8%	1.1%	4.0%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	79.8%
1996-1998	330		9.9%	5.8%	4.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	80.2%
1999-2011	720		13.1%	3.7%	6.6%	0.4%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	75.2%

Appendix C44. Percent distribution of Columbia River Upriver Bright (Columbia River Upriver Brights) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM												
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	5547	2,3,4	18.4%	0.3%	0.6%	7.7%	0.1%	12.9%	0.0%	0.4%	0.1%	4.0%	4.4%	0.0%	1.3%	0.1%	1.2%	0.1%	0.3%	0.0%	22.4%	0.5%	25.4%
1980	3703	2,3,4,5	20.8%	0.8%	0.6%	6.7%	0.1%	7.5%	0.0%	0.5%	0.6%	1.6%	1.9%	0.0%	1.1%	0.0%	0.8%	0.0%	0.4%	0.0%	6.3%	0.7%	49.5%
1981	2335	2,3,4,5	17.1%	0.2%	0.4%	5.7%	0.0%	4.0%	0.2%	0.2%	0.2%	1.1%	1.8%	0.0%	0.6%	0.0%	0.9%	0.0%	0.2%	0.0%	3.6%	0.0%	63.9%
1982	1436	2,3,4,5	9.0%	0.4%	0.3%	4.0%	0.2%	5.2%	0.0%	0.0%	0.0%	0.3%	1.6%	0.0%	0.8%	0.0%	0.7%	0.0%	0.0%	0.0%	2.6%	0.0%	75.0%
1983	970	2,3,4,5	22.4%	0.3%	0.0%	11.1%	0.2%	3.9%	0.0%	0.0%	0.2%	2.0%	3.4%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	7.7%	0.0%	48.4%
1984	1833	2,3,4,5	20.2%	1.0%	0.2%	10.3%	0.2%	8.3%	0.3%	0.0%	0.2%	2.3%	1.6%	0.0%	0.2%	0.0%	0.0%	0.0%	0.8%	0.0%	17.1%	1.0%	36.3%
1985	2726	2,3,4,5	14.2%	2.3%	0.1%	7.3%	0.0%	6.8%	0.2%	0.0%	0.1%	0.1%	3.1%	0.0%	0.5%	0.0%	0.5%	0.0%	0.4%	0.0%	30.1%	2.5%	31.7%
1986	3139	2,3,4,5	8.7%	1.2%	0.1%	6.5%	0.1%	10.6%	0.2%	0.0%	0.2%	1.4%	1.8%	0.0%	1.6%	0.0%	0.3%	0.1%	0.7%	0.0%	32.0%	2.5%	32.0%
1987	3741	2,3,4,5	17.4%	1.6%	0.4%	11.7%	0.1%	7.9%	0.5%	0.0%	0.0%	1.8%	0.6%	0.0%	1.4%	0.1%	0.5%	0.0%	0.2%	0.0%	34.0%	2.9%	19.0%
1988	3051	2,3,4,5	10.9%	1.6%	0.4%	8.6%	0.0%	11.7%	0.0%	0.0%	0.0%	0.6%	0.6%	0.0%	1.9%	0.0%	0.6%	0.1%	0.2%	0.0%	43.0%	2.2%	17.5%
1989	1326	2,3,4,5	14.6%	0.0%	0.2%	15.2%	0.5%	8.1%	0.0%	0.0%	0.0%	0.2%	1.4%	0.0%	1.2%	0.0%	0.3%	0.0%	0.0%	0.0%	40.7%	1.6%	16.0%
1990	712	2,3,4,5	14.0%	0.0%	1.1%	10.8%	0.0%	8.7%	0.0%	0.0%	0.0%	0.8%	0.7%	0.0%	1.3%	0.0%	0.4%	0.0%	0.8%	0.0%	33.0%	1.1%	27.1%
1991	301	2,3,4,5	8.0%	2.3%	3.3%	6.6%	0.0%	10.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	20.3%	4.0%	44.5%
1992	333	2,3,4,5	3.6%	1.5%	0.0%	3.6%	0.0%	12.3%	1.2%	0.0%	0.0%	0.0%	3.0%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	18.0%	6.0%	50.2%
1993	602	2,3,4,5	15.3%	0.0%	0.0%	7.6%	0.5%	19.4%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	1.7%	0.0%	1.2%	0.0%	0.7%	0.0%	14.3%	4.2%	34.9%
1994	984	2,3,4,5	11.0%	2.5%	0.0%	8.1%	1.2%	7.1%	0.6%	0.0%	0.0%	0.2%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	18.9%	3.4%	46.0%
1995	748	2,3,4,5	9.9%	0.4%	2.4%	2.7%	0.0%	7.1%	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	0.7%	0.0%	0.8%	0.0%	0.0%	0.0%	10.4%	3.6%	61.5%
1996	800	2,3,4,5	4.5%	0.0%	0.0%	1.4%	0.3%	0.8%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.8%	0.0%	0.0%	0.0%	0.4%	0.0%	22.6%	5.3%	63.9%
1997	1055	2,3,4,5	13.4%	0.7%	3.2%	5.0%	0.9%	0.5%	0.1%	0.0%	0.0%	0.6%	0.0%	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	20.2%	10.0%	44.5%
1998	747	2,3,4,5	10.8%	4.3%	2.9%	2.4%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	15.3%	9.0%	54.8%
1999	1425	2,3,4,5	14.2%	0.0%	2.7%	7.7%	0.8%	0.0%	0.4%	0.0%	0.5%	0.0%	0.0%	0.0%	0.6%	0.0%	0.1%	0.0%	0.0%	0.0%	13.5%	8.0%	51.4%
2000	961	2,3,4,5	25.2%	0.1%	3.0%	0.0%	0.0%	1.5%	2.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	0.0%	0.2%	0.0%	0.0%	0.0%	19.5%	4.5%	42.5%
2001	1339	2,3,4,5	6.3%	0.0%	1.3%	0.0%	0.7%	1.1%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	2.3%	0.0%	0.4%	0.0%	0.0%	0.0%	16.5%	8.4%	62.3%
2002	1789	2,3,4,5	16.5%	0.0%	2.7%	1.8%	0.9%	1.6%	0.7%	0.0%	0.6%	0.0%	1.5%	0.0%	1.9%	0.0%	1.0%	0.0%	0.0%	0.0%	17.4%	8.6%	44.7%
2003	2364	2,3,4,5	14.2%	1.3%	0.5%	5.5%	1.2%	0.8%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	0.5%	0.0%	0.0%	0.0%	15.1%	6.9%	52.9%
2004	2501	2,3,4,5	11.0%	2.0%	0.5%	3.8%	1.8%	2.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.0%	1.5%	0.0%	0.2%	0.0%	15.9%	6.3%	53.9%
2005	2636	2,3,4,5	14.9%	1.4%	0.9%	9.4%	5.3%	3.4%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	0.0%	1.3%	0.0%	0.0%	0.0%	13.5%	7.0%	39.6%
2006	1716	2,3,4,5	13.9%	1.7%	1.4%	6.9%	1.9%	1.5%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%	0.0%	0.4%	0.0%	0.3%	0.0%	13.1%	15.3%	40.1%
2007	639	2,3,4,5	10.6%	0.2%	1.1%	5.2%	5.5%	1.1%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	1.4%	0.0%	0.0%	0.0%	13.3%	20.7%	40.1%
2008	892	2,3,4,5	13.1%	0.6%	0.0%	2.9%	1.9%	1.9%	3.8%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	0.0%	0.8%	0.0%	0.0%	0.0%	19.3%	8.2%	46.2%
2009	1448	2,3,4,5	20.5%	1.6%	1.7%	8.6%	1.6%	0.6%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	1.0%	0.0%	1.2%	0.0%	24.3%	6.1%	30.7%
2010	1796	2,3,4,5	5.0%	0.4%	2.6%	1.7%	1.2%	0.8%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	2.3%	0.0%	2.3%	0.0%	0.0%	0.0%	20.4%	5.1%	56.9%
2011	3165	2,3,4,5	10.0%	0.2%	0.7%	2.8%	3.1%	1.5%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%	0.0%	0.9%	0.0%	0.0%	0.0%	26.5%	10.4%	39.8%
1979-2011	1781		13.3%	0.9%	1.1%	6.0%	0.9%	5.2%	0.7%	0.0%	0.1%	0.5%	0.9%	0.0%	1.0%	0.0%	0.6%	0.0%	0.2%	0.0%	19.4%	5.3%	43.7%
1979-1984	2637		18.0%	0.5%	0.3%	7.6%	0.1%	7.0%	0.1%	0.2%	0.2%	1.9%	2.5%	0.0%	0.7%	0.0%	0.6%	0.0%	0.3%	0.0%	10.0%	0.4%	49.7%
1985-1995	1606		11.6%	1.2%	0.7%	8.1%	0.2%	10.0%	0.2%	0.0%	0.0%	0.5%	1.2%	0.0%	1.0%	0.0%	0.5%	0.0%	0.3%	0.0%	26.8%	3.1%	34.6%
1996-1998	867		9.6%	1.6%	2.1%	2.9%	0.5%	0.5%	0.0%	0.0%	0.0%	0.2%	0.1%	0.0%	0.6%	0.0%	0.0%	0.0%	0.1%	0.0%	19.4%	8.1%	54.4%
1999-2011	1744		13.5%	0.7%	1.5%	4.3%	2.0%	1.4%	1.5%	0.0%	0.1%	0.0%	0.1%	0.0%	1.2%	0.0%	0.9%	0.0%	0.1%	0.0%	17.6%	8.9%	46.2%

Appendix C45. Percent distribution of White River Spring Yearling (Puget Sound Hatchery Yearling) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	1	2,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	9	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1982[1]	108	2,3,4	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	0.0%	0.0%	1.9%	0.9%	0.0%	0.0%	0.9%	0.0%	0.0%	54.6%	34.3%	0.0%	5.6%	0.0%	0.9%
1983	212	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	4.2%	0.0%	0.0%	0.0%	0.0%	1.4%	0.0%	1.4%	0.0%	0.0%	10.4%	63.7%	0.0%	0.0%	0.0%	18.9%
1984[1]	231	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	3.9%	0.0%	4.3%	0.0%	4.8%	0.0%	0.0%	1.7%	0.0%	0.0%	3.5%	45.5%	0.0%	4.3%	0.0%	32.0%
1985	442	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.8%	0.0%	0.0%	0.0%	2.5%	0.0%	0.0%	0.0%	0.0%	25.3%	60.9%	0.0%	0.0%	0.0%	9.5%
1986	961	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	2.3%	0.4%	2.0%	0.0%	0.4%	0.0%	0.0%	14.0%	56.7%	0.0%	0.0%	0.0%	23.5%
1987	724	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	0.0%	0.4%	0.0%	2.5%	0.0%	0.0%	8.1%	62.2%	0.0%	0.0%	0.0%	25.7%
1988	1837	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.8%	0.0%	2.9%	0.0%	0.2%	0.0%	1.4%	0.0%	0.2%	12.5%	52.4%	0.0%	0.0%	0.0%	29.3%
1989	1018	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	0.0%	0.0%	1.4%	0.0%	1.0%	0.0%	6.3%	0.0%	0.2%	11.6%	46.6%	0.0%	0.3%	0.0%	31.4%
1990	518	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	0.0%	0.0%	0.6%	0.0%	0.6%	0.0%	5.8%	0.0%	0.0%	13.9%	48.3%	0.0%	0.4%	0.0%	28.4%
1991	466	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	1.5%	0.0%	1.5%	0.0%	0.0%	0.0%	4.1%	0.0%	0.0%	9.7%	46.1%	0.0%	0.0%	0.0%	36.3%
1992	862	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	2.7%	0.7%	0.0%	2.1%	0.0%	2.6%	0.0%	2.7%	0.0%	0.5%	6.7%	48.7%	0.0%	0.7%	0.0%	32.7%
1993	323	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	0.0%	0.0%	0.0%	2.8%	0.0%	0.0%	2.5%	39.3%	0.0%	0.6%	0.0%	53.9%
1994	251	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.4%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	1.6%	51.4%	0.0%	0.0%	0.0%	43.8%
1995	474	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	41.6%	0.0%	0.0%	0.0%	56.8%
1996	382	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	48.7%	0.0%	0.0%	0.0%	49.7%
1997	319	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.4%	49.8%	0.0%	0.0%	0.0%	46.7%
1998	139	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%	0.0%	0.0%	1.4%	33.8%	0.0%	0.0%	0.0%	63.3%
1999	106	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%	0.0%	0.0%	2.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	45.3%	0.0%	0.0%	0.0%	50.0%
2000	97	3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	5.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	44.3%	0.0%	0.0%	0.0%	48.5%
2001	57	4,5	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2002	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2003	No Data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2004	223	2	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2005	1081	2,3	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2006	1129	2,3,4	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.5%	0.0%	0.1%	0.2%	18.0%	0.0%	1.8%	0.0%	76.3%
2007	917	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.4%	0.2%	21.9%	0.0%	2.2%	0.0%	73.9%
2008	238	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	8.0%	0.0%	5.5%	0.0%	84.0%
2009	210	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	14.3%	0.0%	2.4%	0.0%	83.3%
2010	213	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.3%	0.0%	8.0%	0.0%	87.8%
2011	217	2,3,4,5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.0%	0.0%	94.0%
1979-2011	496		0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	0.2%	0.2%	0.9%	0.2%	0.5%	0.0%	1.4%	0.0%	0.1%	7.3%	39.4%	0.0%	1.5%	0.0%	47.2%
1979-1984	184		0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	0.0%	1.4%	0.6%	1.9%	0.5%	0.0%	1.4%	0.0%	0.0%	22.8%	47.8%	0.0%	3.3%	0.0%	17.3%
1985-1995	716		0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.4%	0.0%	1.5%	0.0%	0.9%	0.0%	2.4%	0.0%	0.1%	9.7%	50.4%	0.0%	0.2%	0.0%	33.8%
1996-1998	280		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	1.7%	44.1%	0.0%	0.0%	0.0%	53.3%
1999-2011	391		0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.3%	0.0%	0.1%	0.4%	19.3%	0.0%	3.2%	0.0%	74.7%

[1] Estimates for this year can only be used for distribution of fishing mortalities because the escapement data are insufficient.

Appendix C46. Percent distribution of Willamette Spring (Willamette River Hatchery) total fishing mortalities among fisheries and escapement.

	Estimated		AABM							ISBM													
Catch	# of	Ages	SEAK			NBC		WCVI		Geo St		Canada			WA/OR coast			Puget Sound		Terminal			
Year	CWTs	Present	Troll	Net	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Net	Sport	Troll	Net	Sport	Net	Sport	Troll	Net	Sport	Esc.
1979	2296	3,4	Failed	Criteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	6096	3,4,5	5.0%	0.8%	0.2%	7.3%	0.1%	3.2%	0.0%	0.0%	0.0%	0.2%	0.5%	0.0%	0.7%	0.0%	0.8%	0.0%	0.0%	0.0%	0.3%	7.8%	73.1%
1981	8354	3,4,5,6	5.8%	0.5%	0.1%	7.0%	0.0%	1.6%	0.0%	0.0%	0.0%	0.5%	0.1%	0.0%	0.4%	0.0%	0.3%	0.0%	0.0%	0.0%	1.6%	10.5%	71.7%
1982	3956	3,4,5,6	5.7%	1.1%	0.1%	7.6%	0.1%	4.7%	0.0%	0.0%	0.0%	0.1%	0.4%	0.0%	1.3%	0.0%	1.9%	0.2%	0.2%	0.0%	6.9%	24.0%	45.8%
1983	2862	3,4,5,6	18.8%	0.1%	0.0%	13.0%	0.0%	2.0%	0.0%	0.5%	0.3%	0.3%	0.0%	0.0%	2.1%	0.0%	0.5%	0.0%	0.7%	0.0%	5.8%	20.1%	36.0%
1984	4144	3,4,5,6	4.9%	0.2%	0.4%	2.5%	0.1%	2.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	1.1%	0.0%	0.0%	0.0%	0.2%	0.0%	6.5%	25.5%	56.1%
1985	2900	3,4,5,6	7.1%	0.2%	0.0%	0.5%	0.0%	0.5%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.3%	0.0%	0.0%	0.2%	0.0%	0.0%	16.1%	27.2%	47.7%
1986	760	3,4,5,6	4.3%	0.4%	0.0%	7.2%	0.0%	6.1%	0.7%	0.0%	0.0%	0.7%	2.5%	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	0.0%	8.4%	20.5%	48.4%
1987	801	3,4,5,6	18.1%	0.0%	1.0%	15.6%	0.0%	1.5%	1.2%	0.0%	0.0%	1.2%	1.0%	0.0%	3.1%	0.0%	0.0%	0.0%	0.6%	0.0%	5.4%	22.3%	28.8%
1988	2177	3,4,5,6	11.9%	0.4%	0.6%	8.1%	0.0%	3.9%	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	2.4%	0.0%	0.2%	0.0%	0.0%	0.0%	6.8%	27.6%	37.3%
1989	2783	3,4,5,6	5.7%	0.0%	0.3%	2.2%	0.0%	1.7%	0.6%	0.0%	0.7%	0.0%	0.3%	0.0%	1.8%	0.0%	0.2%	0.0%	0.1%	0.0%	12.4%	20.4%	53.6%
1990	2826	3,4,5,6	10.1%	0.8%	0.3%	2.0%	0.4%	2.7%	0.7%	0.0%	0.0%	0.2%	0.6%	0.0%	1.5%	0.0%	0.1%	0.0%	0.0%	0.0%	16.0%	26.7%	37.9%
1991	3028	3,4,5,6	4.3%	2.0%	0.7%	2.1%	0.0%	0.4%	0.2%	0.0%	0.3%	0.0%	0.2%	0.0%	0.8%	0.0%	0.2%	0.0%	0.0%	0.0%	6.0%	42.7%	40.1%
1992	2883	3,4,5,6	7.1%	6.5%	0.2%	2.0%	0.2%	3.1%	0.2%	0.0%	0.0%	0.0%	0.2%	0.0%	2.7%	0.0%	0.4%	0.0%	0.6%	0.0%	5.3%	28.3%	43.1%
1993	5368	3,4,5,6	13.0%	0.0%	0.0%	1.6%	0.1%	1.6%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	0.0%	0.1%	0.0%	0.0%	0.0%	0.8%	42.0%	38.9%
1994	5055	3,4,5,6	5.8%	1.1%	1.1%	0.9%	0.1%	0.9%	0.0%	0.0%	0.0%	0.3%	0.2%	0.0%	0.2%	0.0%	0.1%	0.0%	0.1%	0.0%	5.0%	38.6%	45.6%
1995	4474	3,4,5,6	5.2%	0.3%	0.4%	1.5%	0.0%	0.5%	0.1%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.3%	43.7%	47.3%
1996	3728	3,4,5,6	2.4%	0.0%	0.0%	0.3%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.8%	34.4%	61.7%
1997	2274	3,4,5,6	4.8%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	16.4%	77.3%
1998	1593	3,4,5,6	5.8%	0.3%	0.3%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.4%	0.0%	0.4%	17.1%	75.5%
1999	1852	3,4,5,6	9.4%	0.0%	0.9%	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.8%	14.6%	73.2%
2000	7094	3,4,5,6	14.0%	0.1%	1.0%	0.2%	0.7%	0.4%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.3%	0.0%	0.0%	0.0%	2.3%	28.9%	51.2%
2001	35106	3,4,5,6	1.7%	0.0%	0.1%	0.1%	0.1%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.2%	0.0%	3.8%	24.6%	68.6%
2002	19942	3,4,5,6	2.3%	0.1%	0.1%	1.1%	0.1%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	0.0%	0.3%	0.0%	0.0%	0.0%	15.6%	20.9%	58.0%
2003	6970	3,4,5,6	6.1%	0.0%	0.1%	0.5%	0.2%	2.5%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.2%	0.0%	0.0%	0.0%	1.5%	16.2%	72.2%
2004	7098	3,4,5,6	3.9%	0.5%	0.1%	0.7%	0.0%	6.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	6.3%	21.0%	59.6%
2005	3044	3,4,5,6	3.3%	0.0%	0.1%	0.3%	0.3%	5.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	0.0%	0.1%	0.0%	0.1%	0.0%	5.2%	16.2%	67.7%
2006	2008	3,4,5,6	4.3%	0.0%	0.0%	0.4%	0.7%	4.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%	0.0%	0.0%	0.0%	0.4%	0.0%	7.9%	25.2%	55.0%
2007	1609	3,4,5,6	5.5%	0.3%	0.0%	0.0%	0.0%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	4.9%	18.6%	68.4%
2008	2317	3,4,5,6	2.0%	0.1%	0.1%	0.5%	0.0%	1.2%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.1%	0.0%	0.0%	20.1%	12.6%	62.7%
2009	4079	3,4,5,6	4.0%	0.1%	0.0%	0.3%	0.4%	0.9%	3.0%	0.0%	1.3%	0.0%	0.0%	0.0%	0.4%	0.0%	0.2%	0.0%	0.5%	0.0%	8.8%	20.2%	60.0%
2010	11749	3,4,5,6	3.1%	0.0%	0.1%	0.5%	0.3%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	0.0%	0.2%	0.0%	0.2%	0.0%	3.9%	33.4%	55.4%
2011	8175	3,4,5,6	4.5%	0.0%	0.3%	0.9%	0.3%	1.2%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	1.2%	0.0%	0.3%	0.0%	0.3%	0.0%	5.4%	41.9%	43.5%
1979-2011	5535		6.6%	0.5%	0.3%	2.7%	0.1%	1.9%	0.3%	0.0%	0.1%	0.1%	0.2%	0.0%	1.0%	0.0%	0.2%	0.0%	0.2%	0.0%	6.0%	24.7%	55.0%
1979-1984	5082		8.0%	0.5%	0.2%	7.5%	0.1%	2.7%	0.0%	0.1%	0.1%	0.2%	0.2%	0.0%	1.1%	0.0%	0.7%	0.0%	0.2%	0.0%	4.2%	17.6%	56.5%
1985-1995	3005		8.4%	1.1%	0.4%	4.0%	0.1%	2.1%	0.4%	0.0%	0.1%	0.3%	0.5%	0.0%	1.3%	0.0%	0.2%	0.0%	0.2%	0.0%	7.5%	30.9%	42.6%
1996-1998	2532		4.3%	0.1%	0.1%	0.2%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.2%	0.0%	0.0%	0.0%	0.2%	0.0%	0.7%	22.6%	71.5%
1999-2011	8542		4.9%	0.1%	0.2%	0.4%	0.2%	2.0%	0.4%	0.0%	0.1%	0.0%	0.0%	0.0%	0.8%	0.0%	0.1%	0.0%	0.1%	0.0%	6.7%	22.6%	61.2%

APPENDIX D: MODEL ESTIMATES OF THE STOCK COMPOSITION OF THE AABM AND THREE ISBM OCEAN FISHERIES FOR 2012 AND THE AVERAGE, 1985–2011.

This appendix shows the model estimates of the stock composition of the catch for the three AABM fisheries (Appendices D1, D2 and D4), and three ISBM ocean fisheries (Appendices D3, D5 and D6). These estimates are based on the summation of the contribution of the 30 model stocks for each fishery, expressed as a percentage of the total catch.

The estimated stock composition may not reflect the true stock composition in a given year for several reasons:

1. The yearly catch estimates by stock are influenced by the base period stock composition in a fishery which may not reflect the current stock composition in the fishery, amongst the 30 model stocks.
2. The distribution of certain stocks may have changed over time.
3. The 30 model stocks do not represent all production present in a fishery.

For example, in the SEAK fishery a substantial component (over 20%) of the catch is comprised of Alaska hatchery fish, most of which do not count as treaty catch and are not included in Appendix D1. Also, in the sport fishery portion of the present NBC AABM fishery, the base period data used is from fisheries which were located near shore and do not represent the current stock composition of the sport fishery which is located offshore.

Hence, these tables do not necessarily portray the true stock composition of the total catch fisheries in Appendices D1 to D6. There are genetic estimates for most of these fisheries in selected years which can provide more accurate accounting of contributions by stocks or stock groups.

LIST OF APPENDIX D TABLES

Appendix D1. Southeast Alaska all gear.

FISHERY	SE ALASKA ALL GEAR [1]				
	2012	Average (1985–2011)			
Model Stock	% of Fishery Catch	% of Fishery Catch	% of Stock Catch	% of Stock Total Return	Associated Escapement Indicator Stocks[2]
North/Central B.C.	10.91%	16.29%	21.00%	10.14%	Yakoun Nass Skeena Area 6 Index Area 8 Index Rivers Inlet Smith Inlet
Columbia Upriver Bright	22.43%	16.04%	27.06%	13.25%	Columbia Upriver Bright
WCVI Hatchery	13.23%	15.54%	48.63%	16.89%	NA
Oregon Coastal North Migrating	12.70%	14.46%	35.68%	15.86%	Oregon Coastal
Fraser Early	5.49%	6.01%	30.96%	7.37%	Upper Fraser Middle Fraser Thompson
Mid-Columbia Brights	8.19%	5.67%	33.75%	13.48%	Not Represented
Upper Strait of Georgia	5.66%	4.46%	33.33%	19.60%	Upper Strait of Georgia
Alaska South SE	2.05%	3.69%	96.45%	34.49%	King Salmon Andrew Creek Blossom Keta Unuk Chickamin
Washington Coastal Wild	3.01%	3.35%	20.07%	10.87%	Grays Harbor Fall Quillayute Fall Hoh Fall Queets Fall
WCVI Wild	1.54%	3.15%	49.57%	17.00%	WCVI
Columbia Upriver Summer	6.50%	3.14%	33.53%	14.45%	Columbia Upriver Summer
WA Coastal Hatchery	2.83%	2.76%	18.61%	10.15%	NA
Willamette River Hatchery	2.56%	2.21%	11.73%	5.08%	NA
Fall Cowlitz Hatchery	0.30%	0.98%	5.32%	2.04%	NA
Lewis River Wild	0.93%	0.81%	18.03%	7.80%	Lewis River
Lower Strait of Georgia Hatchery	0.17%	0.35%	3.57%	1.82%	NA
Lower Strait of Georgia	0.20%	0.21%	3.85%	2.03%	Lower Strait of Georgia
Fraser Late	0.10%	0.18%	0.38%	0.14%	Harrison
Puget Sound Hatchery Fingerling	0.23%	0.18%	0.46%	0.25%	NA
Snake River Fall	0.63%	0.14%	8.63%	5.20%	Not Represented
Skagit Summer/Fall	0.02%	0.08%	3.63%	1.02%	Skagit Summer/Fall
Spring Cowlitz Hatchery	0.08%	0.08%	1.60%	0.83%	NA
Stillaguamish Summer/Fall	0.08%	0.06%	17.36%	6.54%	Stillaguamish
Puget Sound Yearling	0.07%	0.05%	0.49%	0.32%	NA
Snohomish Summer/Fall	0.04%	0.04%	2.77%	1.11%	Snohomish
Nooksack Fall	0.03%	0.04%	0.15%	0.11%	NA
Puget Sound Natural	0.03%	0.04%	0.55%	0.26%	Green
Lower Bonneville Hatchery	0.00%	0.00%	0.00%	0.00%	NA
Spring Creek Hatchery	0.00%	0.00%	0.00%	0.00%	NA
Nooksack Spring	0.00%	0.00%	0.00%	0.00%	Not Represented

[1] In the SEAK AABM fishery a substantial component (over 20%) of the catch is comprised of Alaska hatchery Chinook, most of which do not count as treaty catch and none of which appear in the table above. A small portion of Alaska hatchery Chinook are accounted for in the SEAK treaty catch (5,000 fish + the "risk adjustment factor" which is 1.645 × the SE of the total Alaska hatchery catch which has averaged about 2,000 fish in recent years). Additionally, the model can only account for or "explain" about 83% of the SEAK catch, i.e., attribute 83% of the catch to the 30 model stocks. The 17% not explained by the model is likely comprised mostly of wild stocks from the SEAK region either not included in the present 30 models stocks (Situk Alsek, Chilkat, Taku and Stikine) or various other local stocks which are not enumerated. Therefore, in addition to excluding most of the Alaska hatchery Chinook,the stock composition in Appendix D1 includes no provision for the 17% of the catch not explainedby the model.

[2] NA = denotes a hatchery stock; Not represented = a wild stock without an escapement indicator.

Appendix D2. North B.C. troll and sport.

FISHERY	NORTH TROLL AND SPORT [1]				
	2012	Average (1985–2011)			
Model Stock	% of Fishery Catch	% of Fishery Catch	% of Stock Catch	% of Stock Tot. Ret.	Associated Escapement Indicator Stocks [2]
North/Central B.C.	59.80%	54.00%	70.62%	37.72%	Yakoun Nass Skeena Area 6 Index Area 8 Index Rivers Inlet Smith Inlet
Oregon Coastal North Migrating	6.21%	11.03%	27.05%	12.95%	Oregon Coastal
Columbia Upriver Bright	6.04%	5.84%	10.68%	5.44%	Columbia Upriver Bright
WCVI Hatchery	2.31%	4.94%	15.06%	5.66%	NA
Upper Strait of Georgia	7.26%	4.35%	37.16%	22.08%	Upper Strait of Georgia
Fraser Early	2.25%	2.82%	16.37%	4.39%	Upper Fraser Middle Fraser Thompson
Willamette River Hatchery	1.99%	2.79%	14.75%	6.99%	NA
Washington Coastal Wild	1.36%	2.42%	14.41%	8.32%	Grays Harbor Fall Quillayute Fall Hoh Fall Queets Fall
Columbia Upriver Summer	4.23%	2.00%	24.41%	11.01%	Columbia Upriver Summer
WA Coastal Hatchery	1.32%	1.94%	13.63%	7.79%	NA
Mid-Columbia Brights	1.95%	1.82%	12.91%	5.43%	Not Represented
WCVI Wild	0.26%	1.07%	15.24%	5.66%	WCVI
Lower Strait of Georgia Hatchery	0.46%	0.86%	10.13%	5.14%	NA
Fall Cowlitz Hatchery	0.81%	0.80%	4.45%	1.84%	NA
Fraser Late	0.57%	0.76%	1.64%	0.67%	Harrison
Lower Strait of Georgia	0.45%	0.45%	9.91%	5.36%	Lower Strait of Georgia
Nooksack Fall	0.64%	0.41%	2.14%	1.52%	NA
Skagit Summer/Fall	0.32%	0.33%	16.77%	4.84%	Skagit Summer/Fall
Puget Sound Hatchery Fingerling	0.47%	0.30%	0.91%	0.51%	NA
Lewis River Wild	0.20%	0.28%	5.93%	2.87%	Lewis River
Spring Cowlitz Hatchery	0.17%	0.21%	4.62%	2.54%	NA
Puget Sound Yearling	0.37%	0.17%	2.30%	1.49%	NA
Snohomish Summer/Fall	0.13%	0.16%	12.18%	4.82%	Snohomish
Alaska South SE	0.03%	0.08%	2.40%	0.85%	King Salmon Andrew Creek Blossom Keta Unuk Chickamin
Snake River Fall	0.29%	0.07%	5.91%	3.77%	Not Represented
Puget Sound Natural	0.04%	0.06%	0.99%	0.46%	Green
Stillaguamish Summer/Fall	0.05%	0.03%	11.48%	4.31%	Stillaguamish
Spring Creek Hatchery	0.01%	0.01%	0.05%	0.04%	NA
Nooksack Spring	0.00%	0.00%	1.77%	0.55%	Nooksack
Lower Bonneville Hatchery	0.00%	0.00%	0.00%	0.00%	NA

[1] In the sport fishery portion of the present NBC AABM fishery, the base period data used is from fisheries which were located near shore and do not represent the current stock composition of the sport fishery which is located offshore.

[2] NA = a hatchery stock; Not represented = a wild stock without an escapement indicator.

Appendix D3. Central B.C. troll.

FISHERY	CENTRAL TROLL				
	2012	Average (1985–2011)			
Model Stock	% of Fishery Catch	% of Fishery Catch	% of Stock Catch	% of Stock Tot. Ret.	Associated Escapement Indicator Stocks[1]
Fraser Late	0.00%	15.66%	1.56%	0.86%	Harrison
WCVI Hatchery	0.00%	13.75%	2.66%	1.09%	NA
Columbia Upriver Bright	0.00%	6.43%	0.67%	0.39%	Columbia Upriver Bright
North/Central B.C.	0.00%	5.45%	0.74%	0.31%	Yakoun Nass Skeena Area 6 Index Area 8 Index Rivers Inlet Smith Inlet
Upper Strait of Georgia	0.00%	4.61%	2.49%	1.60%	Upper Strait of Georgia
WCVI Wild	0.00%	3.12%	2.62%	1.08%	WCVI
Columbia Upriver Summer	0.00%	2.92%	2.63%	1.24%	Columbia Upriver Summer
Washington Coastal Wild	0.00%	2.63%	0.85%	0.56%	Grays Harbor Fall Quillayute Fall Hoh Fall Queets Fall
Fraser Early	0.00%	2.63%	0.74%	0.26%	Upper Fraser Middle Fraser Thompson
Lower Strait of Georgia Hatchery	0.00%	2.31%	1.04%	0.71%	NA
WA Coastal Hatchery	0.00%	2.09%	0.79%	0.51%	NA
Mid-Columbia Brights	0.00%	2.08%	0.79%	0.40%	Not Represented
Oregon Coastal North Migrating	0.00%	1.98%	0.27%	0.14%	Oregon Coastal
Lower Bonneville Hatchery	0.00%	1.76%	0.72%	0.36%	NA
Lower Strait of Georgia	0.00%	1.39%	0.99%	0.70%	Lower Strait of Georgia
Puget Sound Hatchery Fingerling	0.00%	1.36%	0.19%	0.13%	NA
Nooksack Fall	0.00%	1.34%	0.27%	0.22%	NA
Skagit Summer/Fall	0.00%	0.94%	1.62%	0.67%	Skagit Summer/Fall
Lewis River Wild	0.00%	0.70%	0.46%	0.25%	Lewis River
Snohomish Summer/Fall	0.00%	0.59%	1.11%	0.69%	Snohomish
Puget Sound Yearling	0.00%	0.55%	0.29%	0.22%	NA
Spring Creek Hatchery	0.00%	0.54%	0.07%	0.06%	NA
Puget Sound Natural	0.00%	0.53%	0.22%	0.13%	Green
Willamette River Hatchery	0.00%	0.50%	0.08%	0.05%	NA
Spring Cowlitz Hatchery	0.00%	0.37%	0.14%	0.10%	NA
Fall Cowlitz Hatchery	0.00%	0.37%	0.04%	0.02%	NA
Stillaguamish Summer/Fall	0.00%	0.34%	1.44%	0.71%	Stillaguamish
Snake River Fall	0.00%	0.31%	0.54%	0.40%	Not Represented
Nooksack Spring	0.00%	0.28%	0.32%	0.15%	Nooksack
Alaska South SE	0.00%	0.28%	0.02%	0.01%	King Salmon Andrew Creek Blossom Keta Unuk Chickamin

[1] NA = a hatchery stock; Not represented = a wild stock without an escapement indicator.

Appendix D4. WCVI troll and outside sport.

FISHERY	WCVI TROLL AND OUTSIDE SPORT				
	2012	Average (1985–2011)			
Model Stock	% of Fishery Catch	% of Fishery Catch	% of Stock Catch	% of Stock Tot. Ret.	Associated Escapement Indicator Stocks[1]
Fraser Late	9.53%	23.69%	23.38%	11.01%	Harrison
Puget Sound Hatchery Fingerling	13.18%	10.89%	15.04%	9.19%	NA
Columbia Upriver Bright	18.72%	8.37%	8.48%	4.56%	Columbia Upriver Bright
Spring Creek Hatchery	10.37%	6.99%	13.35%	10.51%	NA
Fall Cowlitz Hatchery	7.78%	6.94%	22.25%	10.20%	NA
Lower Bonneville Hatchery	6.61%	5.32%	30.40%	13.98%	NA
Oregon Coastal North Migrating	4.72%	4.73%	6.96%	3.38%	Oregon Coastal
Nooksack Fall	2.45%	4.40%	10.41%	7.97%	NA
WCVI Hatchery	0.00%	3.99%	6.30%	2.82%	NA
Mid-Columbia Brights	5.27%	3.51%	12.15%	5.45%	Not Represented
Columbia Upriver Summer	5.73%	3.00%	20.27%	9.39%	Columbia Upriver Summer
Washington Coastal Wild	1.49%	2.53%	8.92%	5.07%	Grays Harbor Fall Quillayute Fall Hoh Fall Queets Fall
Puget Sound Natural	1.25%	2.31%	17.21%	9.26%	Green
WA Coastal Hatchery	1.45%	2.20%	8.77%	4.88%	NA
Willamette River Hatchery	2.11%	2.08%	6.22%	3.03%	NA
Puget Sound Yearling	2.65%	1.56%	9.76%	6.96%	NA
Fraser Early	0.83%	1.54%	4.38%	1.14%	Upper Fraser Middle Fraser Thompson
WCVI Wild	0.00%	1.00%	6.29%	2.82%	WCVI
Skagit Summer/Fall	0.62%	0.92%	20.48%	6.83%	Skagit Summer/Fall
Lewis River Wild	0.73%	0.78%	10.07%	4.95%	Lewis River
Spring Cowlitz Hatchery	0.61%	0.67%	7.26%	4.60%	NA
Snake River Fall	2.76%	0.60%	21.65%	14.40%	Not Represented
North/Central B.C.	0.25%	0.51%	0.39%	0.19%	Yakoun Nass Skeena Area 6 Index Area 8 Index Rivers Inlet Smith Inlet
Lower Strait of Georgia Hatchery	0.16%	0.47%	2.72%	1.44%	NA
Snohomish Summer/Fall	0.28%	0.45%	14.70%	6.81%	Snohomish
Lower Strait of Georgia	0.17%	0.25%	2.67%	1.51%	Lower Strait of Georgia
Upper Strait of Georgia	0.10%	0.13%	0.55%	0.33%	Upper Strait of Georgia
Stillaguamish Summer/Fall	0.12%	0.11%	15.49%	6.52%	Stillaguamish
Nooksack Spring	0.06%	0.07%	10.83%	3.77%	Not Represented
Alaska South SE	0.00%	0.00%	0.00%	0.00%	King Salmon Andrew Creek Blossom Keta Unuk Chickamin

[1] NA = a hatchery stock; Not represented = a wild stock without an escapement indicator.

Appendix D5. Strait of Georgia sport and troll.

FISHERY	STRAIT OF GEORGIA SPORT AND TROLL				
	2012	Average (1985–2011)			
Model Stock	% of Fishery Catch	% of Fishery Catch	% of Stock Catch	% of Stock Tot. Ret.	Associated Escapement Indicator Stocks[1]
Fraser Late	32.97%	46.19%	37.99%	18.77%	Harrison
Lower Strait of Georgia Hatchery	5.93%	9.90%	42.83%	25.07%	NA
Nooksack Fall	11.44%	9.18%	17.97%	13.53%	NA
Puget Sound Hatchery Fingerling	11.08%	6.54%	7.63%	4.59%	NA
Lower Strait of Georgia	5.70%	5.56%	43.59%	26.73%	Lower Strait of Georgia
Fraser Early	4.88%	4.42%	9.86%	2.61%	Upper Fraser Middle Fraser Thompson
Puget Sound Yearling	9.49%	4.13%	19.78%	13.92%	NA
Upper Strait of Georgia	5.24%	3.14%	10.75%	6.42%	Upper Strait of Georgia
Puget Sound Natural	0.93%	1.31%	8.21%	4.34%	Green
Skagit Summer/Fall	1.07%	1.22%	23.52%	7.78%	Skagit Summer/Fall
Columbia Upriver Bright	2.34%	1.17%	0.92%	0.48%	Columbia Upriver Bright
Washington Coastal Wild	0.89%	0.95%	2.68%	1.55%	Grays Harbor Fall Quillayute Fall Hoh Fall Queets Fall
Spring Creek Hatchery	1.41%	0.94%	1.44%	1.13%	NA
WA Coastal Hatchery	0.86%	0.81%	2.55%	1.51%	NA
WCVI Hatchery	0.87%	0.79%	1.29%	0.43%	NA
Lower Bonneville Hatchery	0.73%	0.65%	3.30%	1.36%	NA
North/Central B.C.	0.69%	0.64%	0.48%	0.22%	Yakoun Nass Skeena Area 6 Index Area 8 Index Rivers Inlet Smith Inlet
Snohomish Summer/Fall	0.49%	0.59%	15.42%	7.70%	Snohomish
Nooksack Spring	0.68%	0.47%	65.09%	24.45%	Not Represented
Columbia Upriver Summer	1.09%	0.45%	2.80%	1.19%	Columbia Upriver Summer
Mid-Columbia Brights	0.63%	0.39%	1.15%	0.51%	Not Represented
Stillaguamish Summer/Fall	0.27%	0.18%	21.54%	9.08%	Stillaguamish
WCVI Wild	0.11%	0.16%	1.30%	0.43%	WCVI
Willamette River Hatchery	0.17%	0.14%	0.33%	0.17%	NA
Spring Cowlitz Hatchery	0.04%	0.05%	0.44%	0.26%	NA
Fall Cowlitz Hatchery	0.00%	0.02%	0.03%	0.02%	NA
Lewis River Wild	0.00%	0.02%	0.15%	0.08%	Lewis River
Snake River Fall	0.02%	0.00%	0.11%	0.07%	Not Represented
Oregon Coastal North Migrating	0.00%	0.00%	0.00%	0.00%	Oregon Coastal
Alaska South SE	0.00%	0.00%	0.00%	0.00%	King Salmon Andrew Creek Blossom Keta Unuk Chickamin

[1] NA = a hatchery stock; Not represented = a wild stock without an escapement indicator.

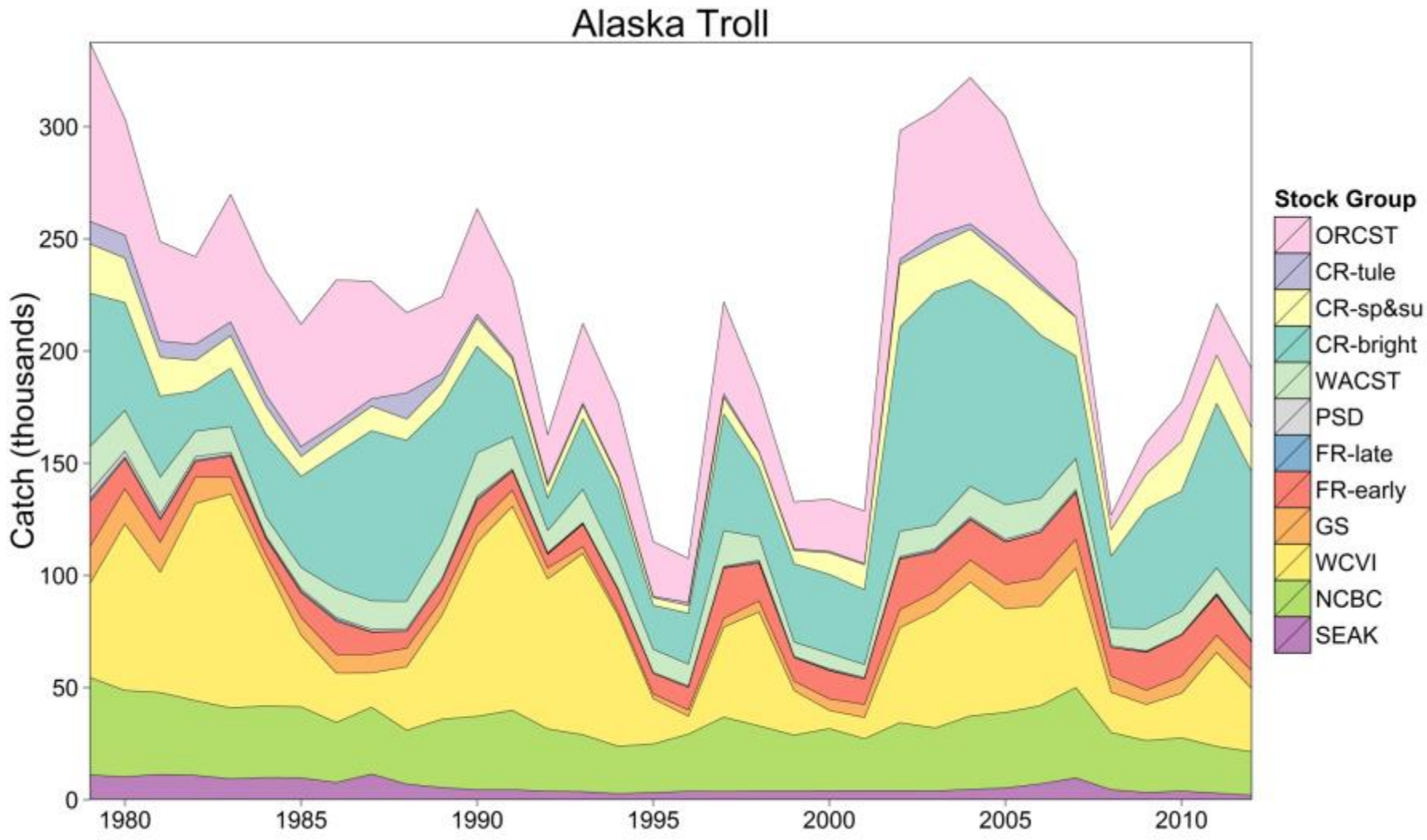
Appendix D6. Washington/Oregon troll and sport.

FISHERY	WA/OR TROLL AND SPORT				
	2012	Average (1985–2011)			
Model Stock	% of Fishery Catch	% of Fishery Catch	% of Stock Catch	% of Stock Tot. Ret.	Associated Escapement Indicator Stocks[1]
Spring Creek Hatchery	29.64%	23.84%	29.57%	23.39%	NA
Fall Cowlitz Hatchery	20.57%	19.49%	41.18%	18.06%	NA
Fraser Late	8.60%	18.94%	12.00%	5.54%	Harrison
Lower Bonneville Hatchery	11.95%	10.23%	40.37%	17.22%	NA
Spring Cowlitz Hatchery	3.57%	4.47%	34.18%	19.57%	NA
Puget Sound Hatchery Fingerling	3.99%	4.27%	3.70%	2.17%	NA
Columbia Upriver Bright	6.31%	4.16%	2.72%	1.39%	Columbia Upriver Bright
Oregon Coastal North Migrating	2.05%	2.63%	2.59%	1.16%	Oregon Coastal
Willamette River Hatchery	1.66%	1.92%	3.77%	1.75%	NA
Nooksack Fall	1.06%	1.70%	2.44%	1.82%	NA
Mid-Columbia Brights	1.78%	1.44%	3.22%	1.37%	Not Represented
Lewis River Wild	1.34%	1.42%	13.32%	5.77%	Lewis River
Washington Coastal Wild	0.70%	1.17%	2.36%	1.32%	Grays Harbor Fall Quillayute Fall Hoh Fall Queets Fall
WA Coastal Hatchery	0.68%	1.01%	2.31%	1.28%	NA
Snake River Fall	3.83%	1.00%	21.86%	13.98%	Not Represented
Puget Sound Natural	0.39%	0.92%	4.33%	2.17%	Green
Columbia Upriver Summer	1.24%	0.77%	3.13%	1.42%	Columbia Upriver Summer
Puget Sound Yearling	0.38%	0.27%	1.06%	0.72%	NA
Fraser Early	0.17%	0.20%	0.44%	0.11%	Upper Fraser Middle Fraser Thompson
Alaska South SE	0.03%	0.08%	0.75%	0.26%	King Salmon Andrew Creek Blossom Keta Unuk Chickamin
Lower Strait of Georgia Hatchery	0.02%	0.03%	0.14%	0.07%	NA
WCVI Hatchery	0.00%	0.03%	0.04%	0.01%	NA
Lower Strait of Georgia	0.02%	0.02%	0.15%	0.08%	Lower Strait of Georgia
WCVI Wild	0.00%	0.01%	0.04%	0.01%	WCVI
Skagit Summer/Fall	0.00%	0.00%	0.05%	0.02%	Skagit Summer/Fall
Snohomish Summer/Fall	0.00%	0.00%	0.05%	0.02%	Snohomish
Upper Strait of Georgia	0.00%	0.00%	0.00%	0.00%	Upper Strait of Georgia
Stillaguamish Summer/Fall	0.00%	0.00%	0.00%	0.00%	Stillaguamish
North/Central B.C.	0.00%	0.00%	0.00%	0.00%	Yakoun Nass Skeena Area 6 Index Area 8 Index Rivers Inlet Smith Inlet
Nooksack Spring	0.00%	0.00%	0.00%	0.00%	Not Represented

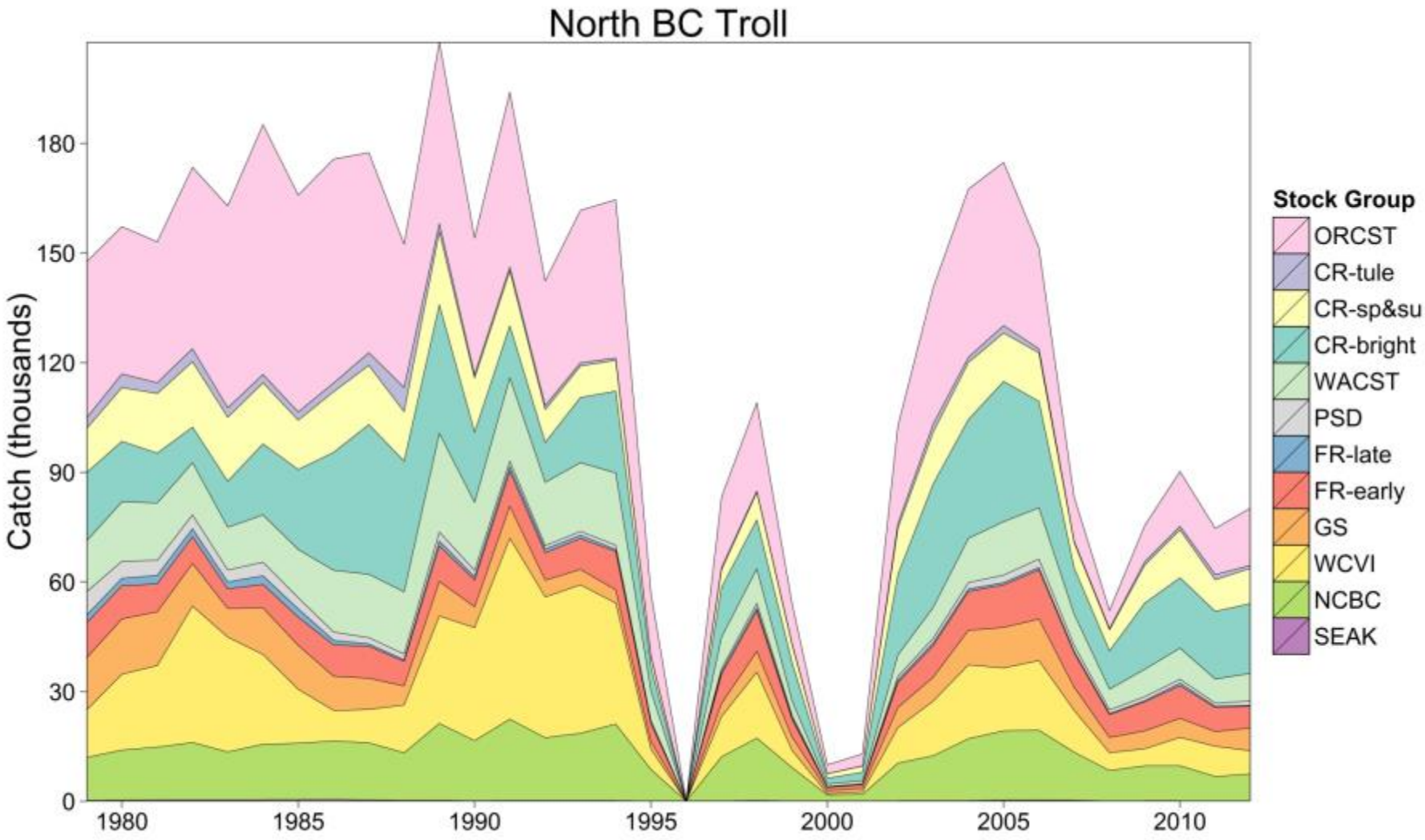
[1] NA = a hatchery stock; Not represented = a wild stock without an escapement indicator.

APPENDIX E: FIGURES OF CHINOOK MODEL-GENERATED STOCK COMPOSITION OF ACTUAL LANDED CATCH FOR ALL (AABM AND ISBM) MODEL FISHERIES, 1979-2012.

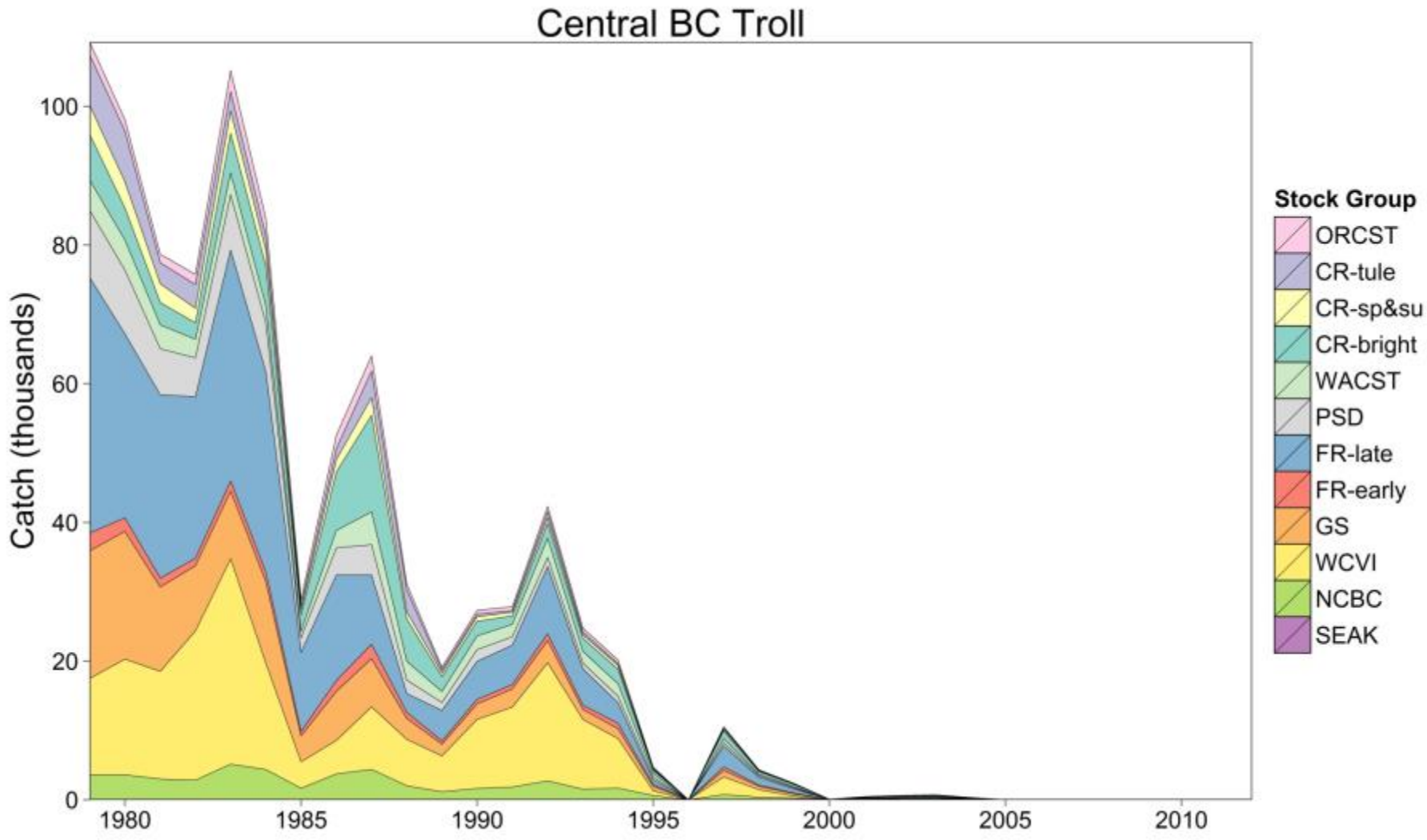
Stock abbreviations in each figure correspond to the following model stocks and aggregations:
ORCST = Oregon Coast
CR-tule = Columbia River-Fall Tule stocks (Spring Creek, Lower River Hatchery, and Cowlitz Fall)
CR-sp&su = Columbia River Spring and Summer stocks (Willamette, Cowlitz Spring, Columbia Summers)
CR-bright = Columbia River Fall Bright stocks (Upriver, Mid-Columbia, Lewis River Wild, Lyons Ferry)
WACST = Washington Coast
PSD = Puget Sound stocks (Nooksack Fall and Spring, Natural Fall Fingerlings, Hatchery Fall Fingerlings, Hatchery Yearlings, Skagit Wild, Stillaguamish Wild, Snohomish Wild)
FR-late = Fraser River Late stocks
FR-early = Fraser River Early stocks
GS = Strait of Georgia stocks (Upper, Lower Natural, Lower Hatchery)
WCVI = West Coast Vancouver Island Stocks (hatchery and natural)
NCBC = North Central British Columbia stocks
SEAK = Southeast Alaska stocks



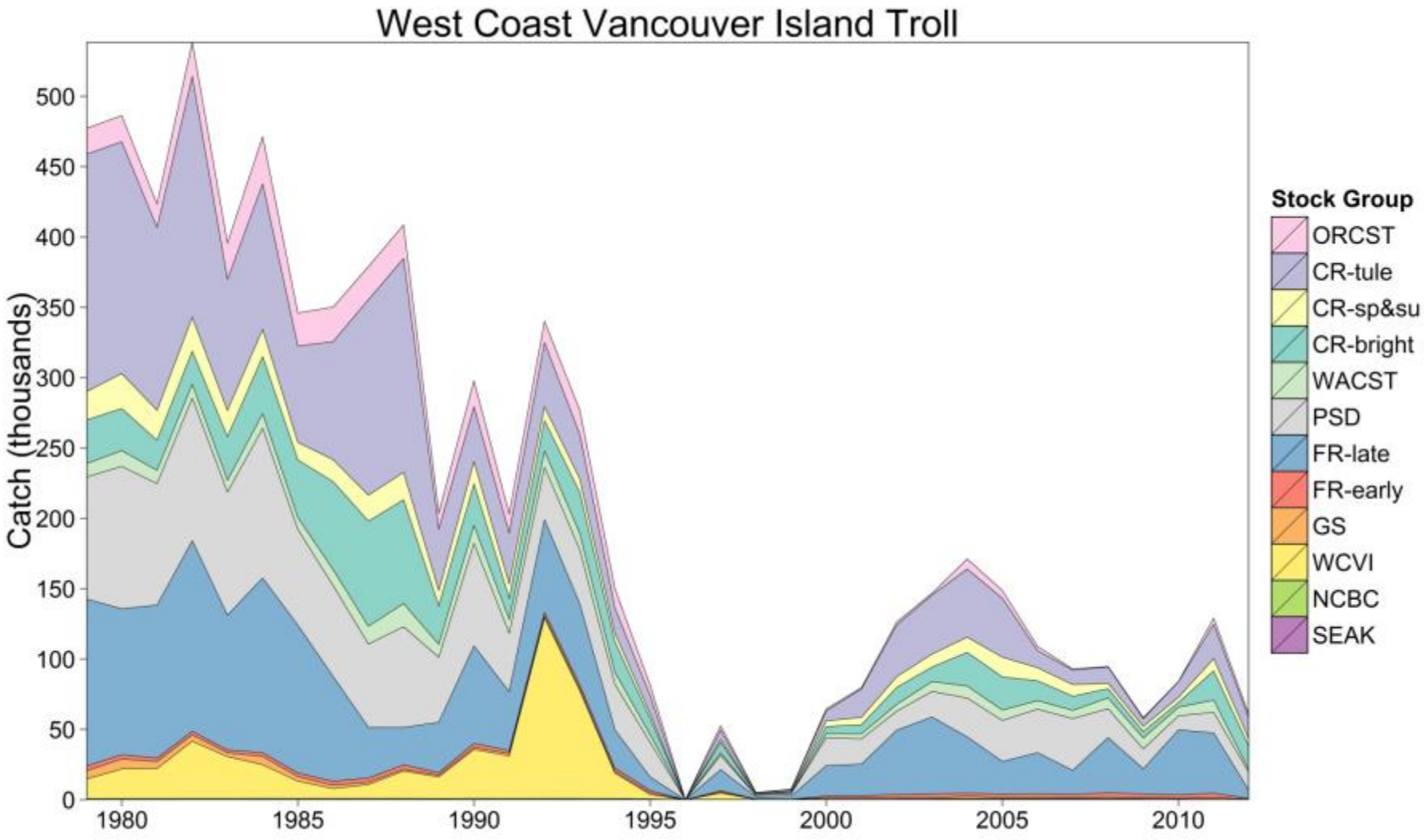
Appendix E1 Chinook Model estimates of landed catch stock composition for Alaska Troll 1979-2012



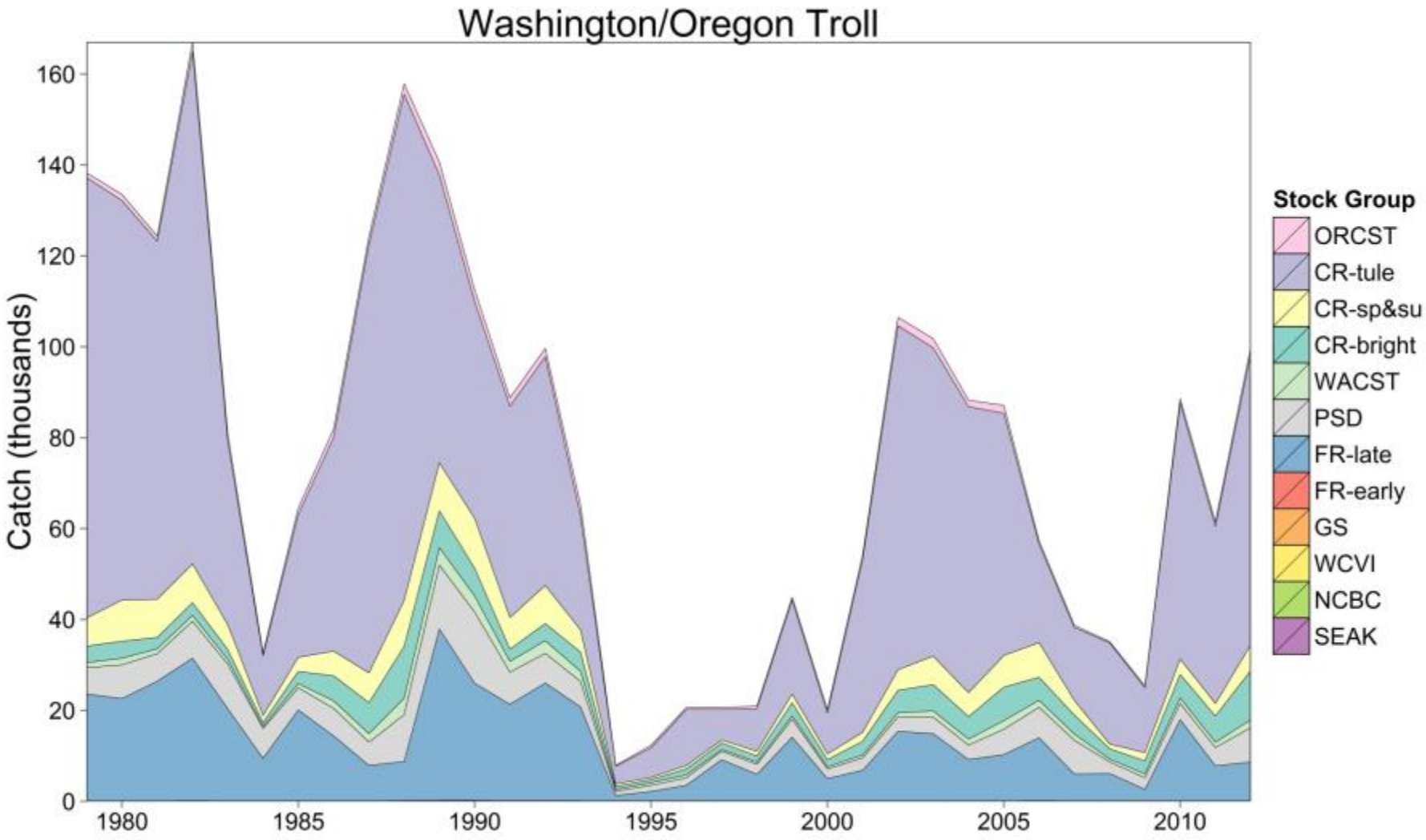
Appendix E2 Chinook Model estimates of landed catch stock composition for North BC Troll 1979-2012



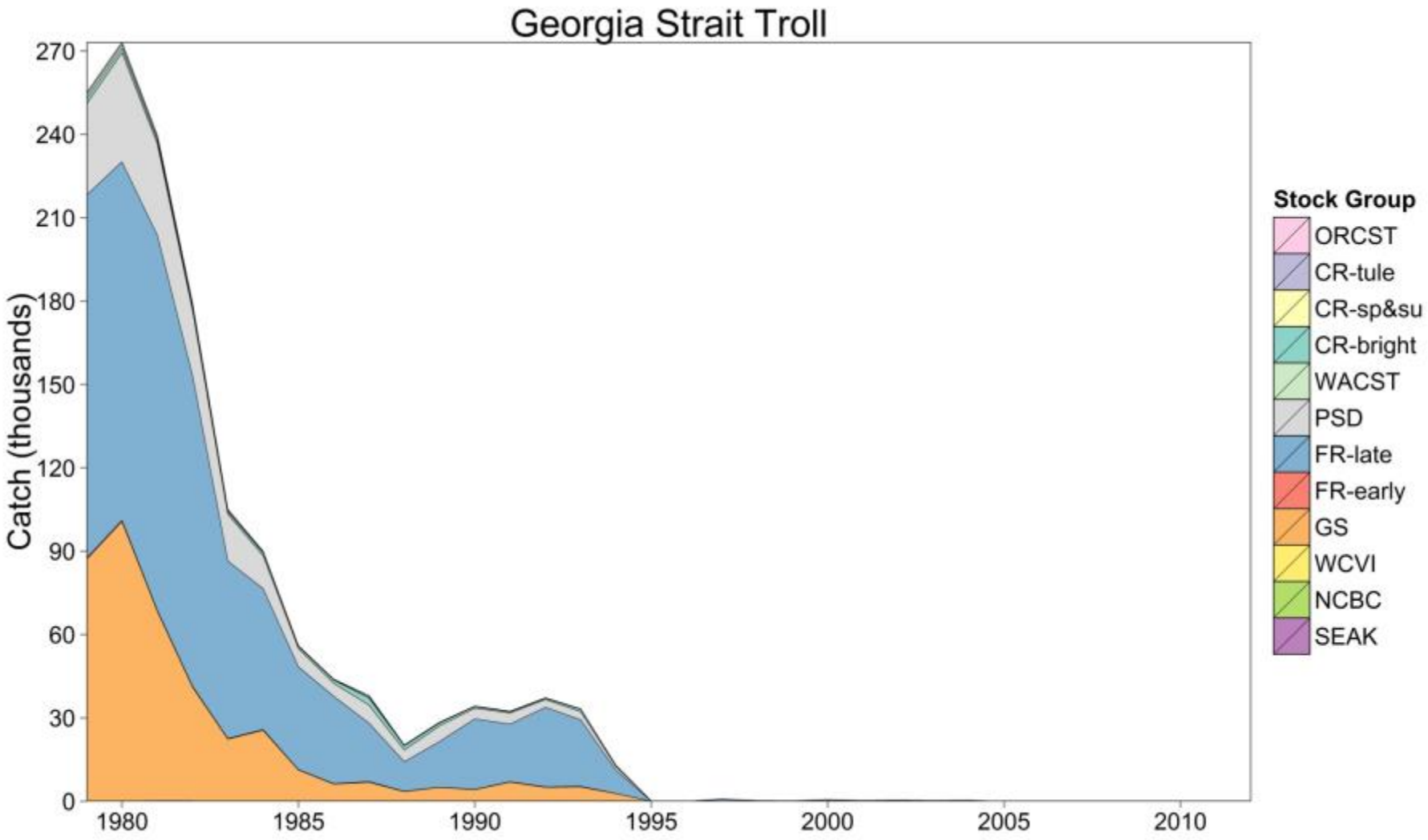
Appendix E3 Chinook Model estimates of landed catch stock composition for Central BC Troll 1979-2012



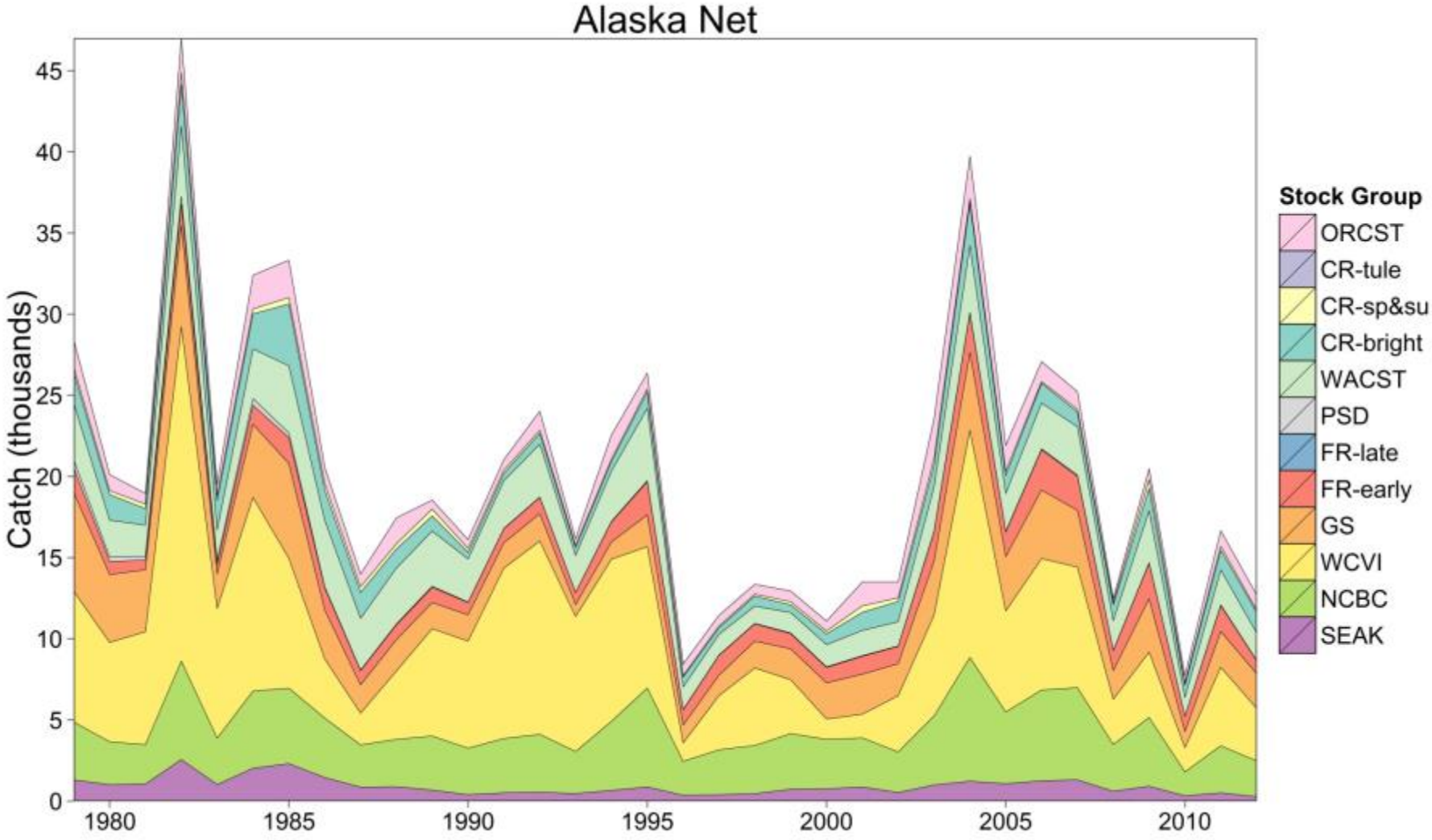
Appendix E4 Chinook Model estimates of landed catch stock composition for West Coast Vancouver Island Troll 1979-2012



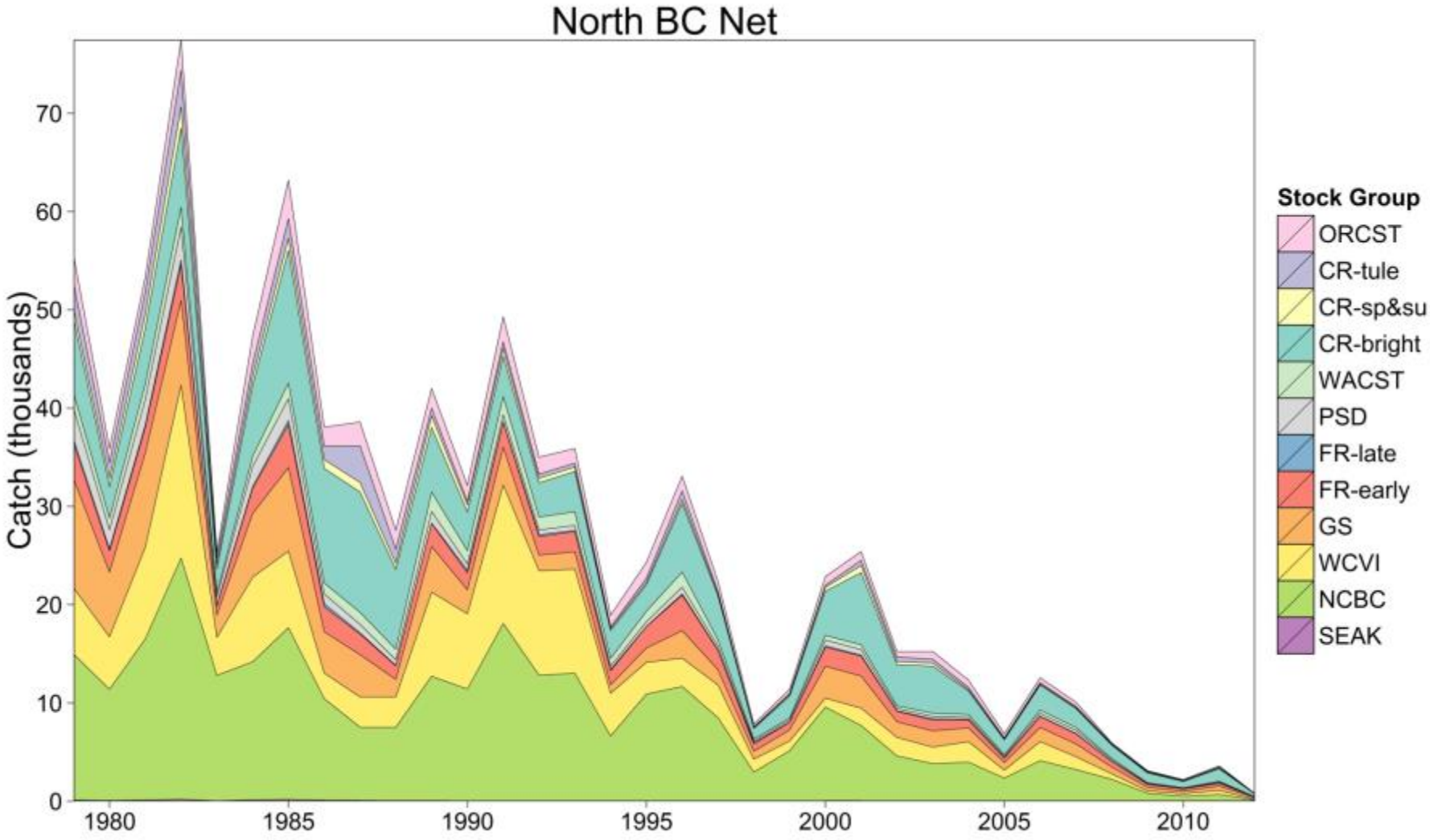
Appendix E5 Chinook Model estimates of landed catch stock composition for Washington/Oregon Troll 1979-2012



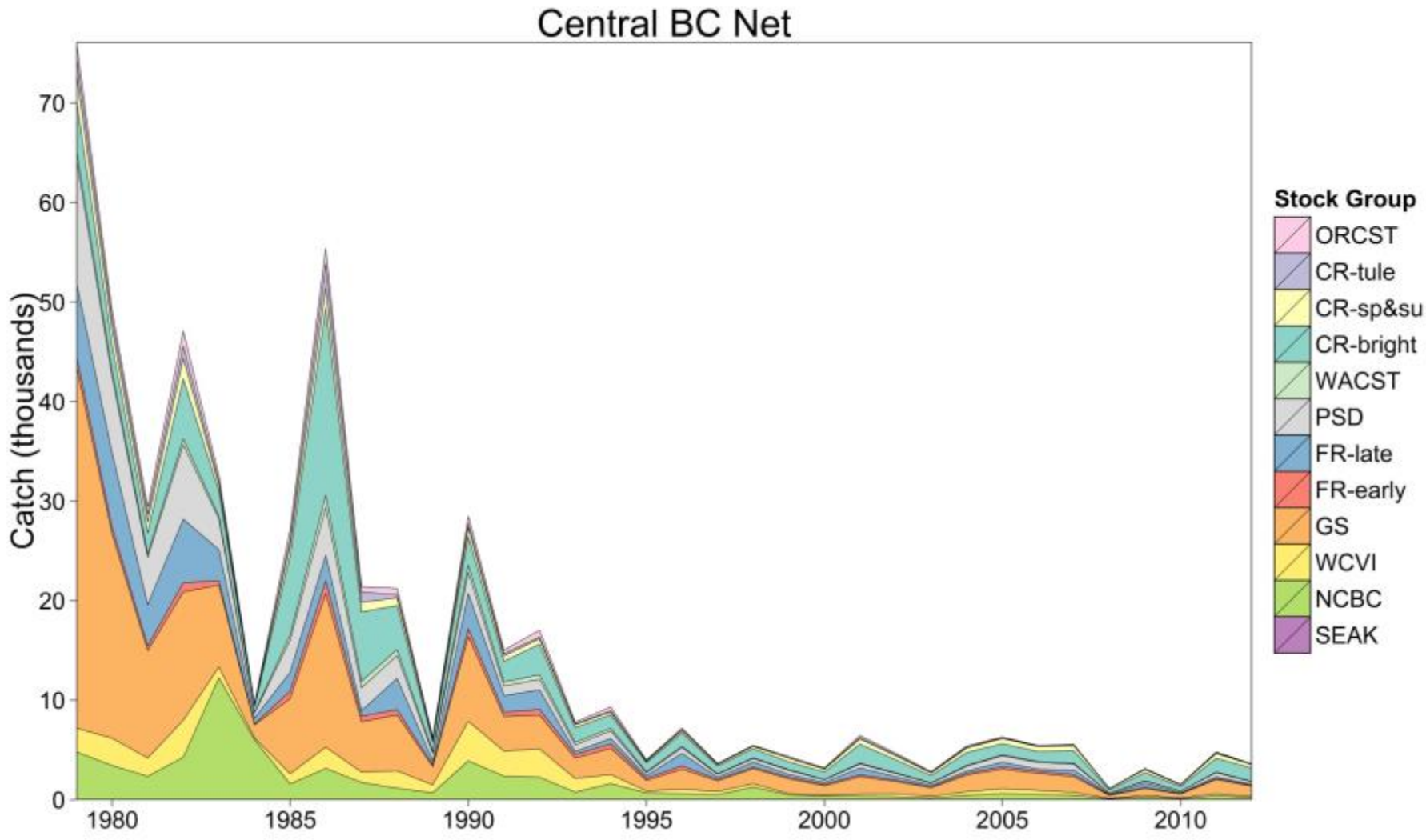
Appendix E6 Chinook Model estimates of landed catch stock composition for Georgia Strait Troll 1979-2012



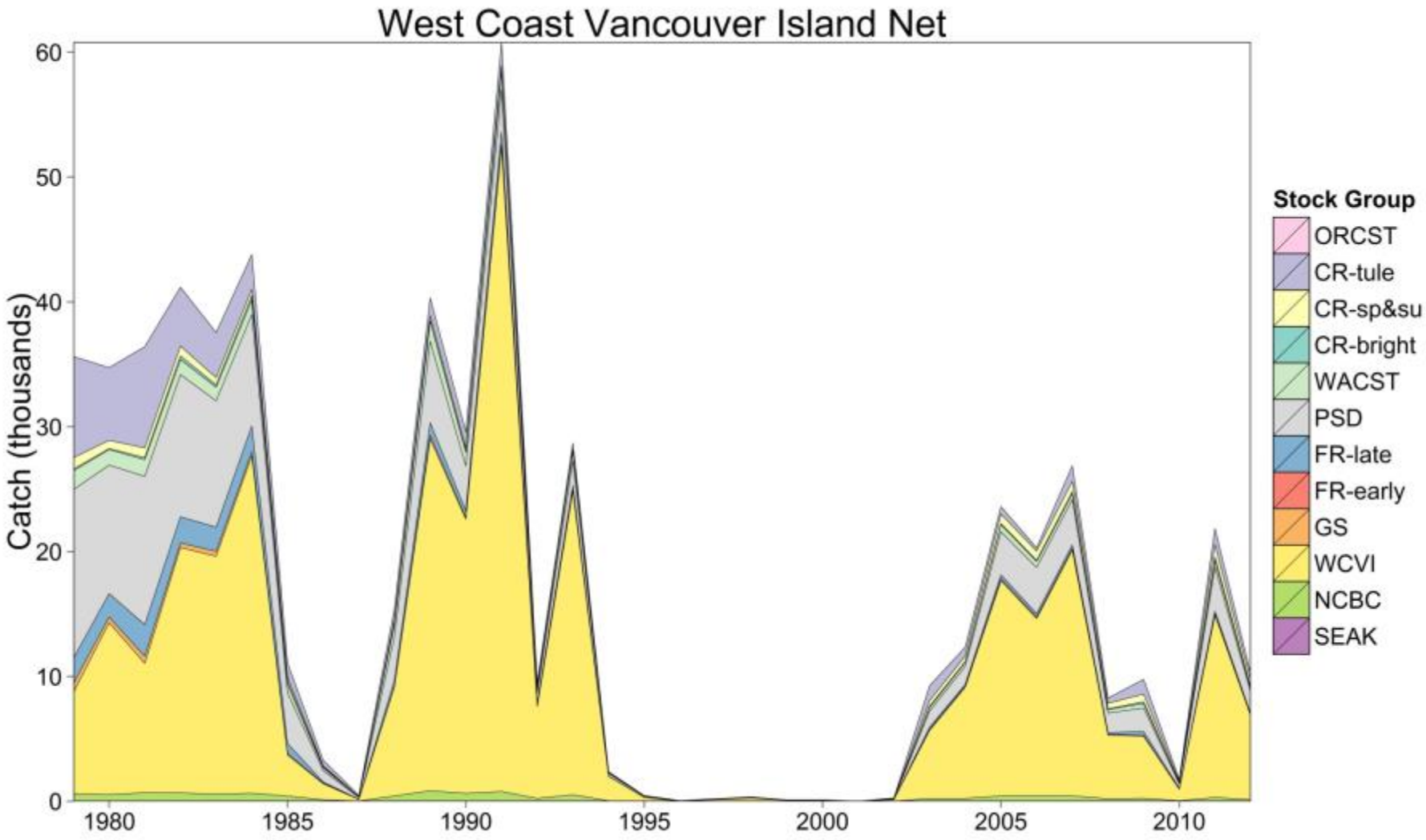
Appendix E7 Chinook Model estimates of landed catch stock composition for Alaska Net 1979-2012



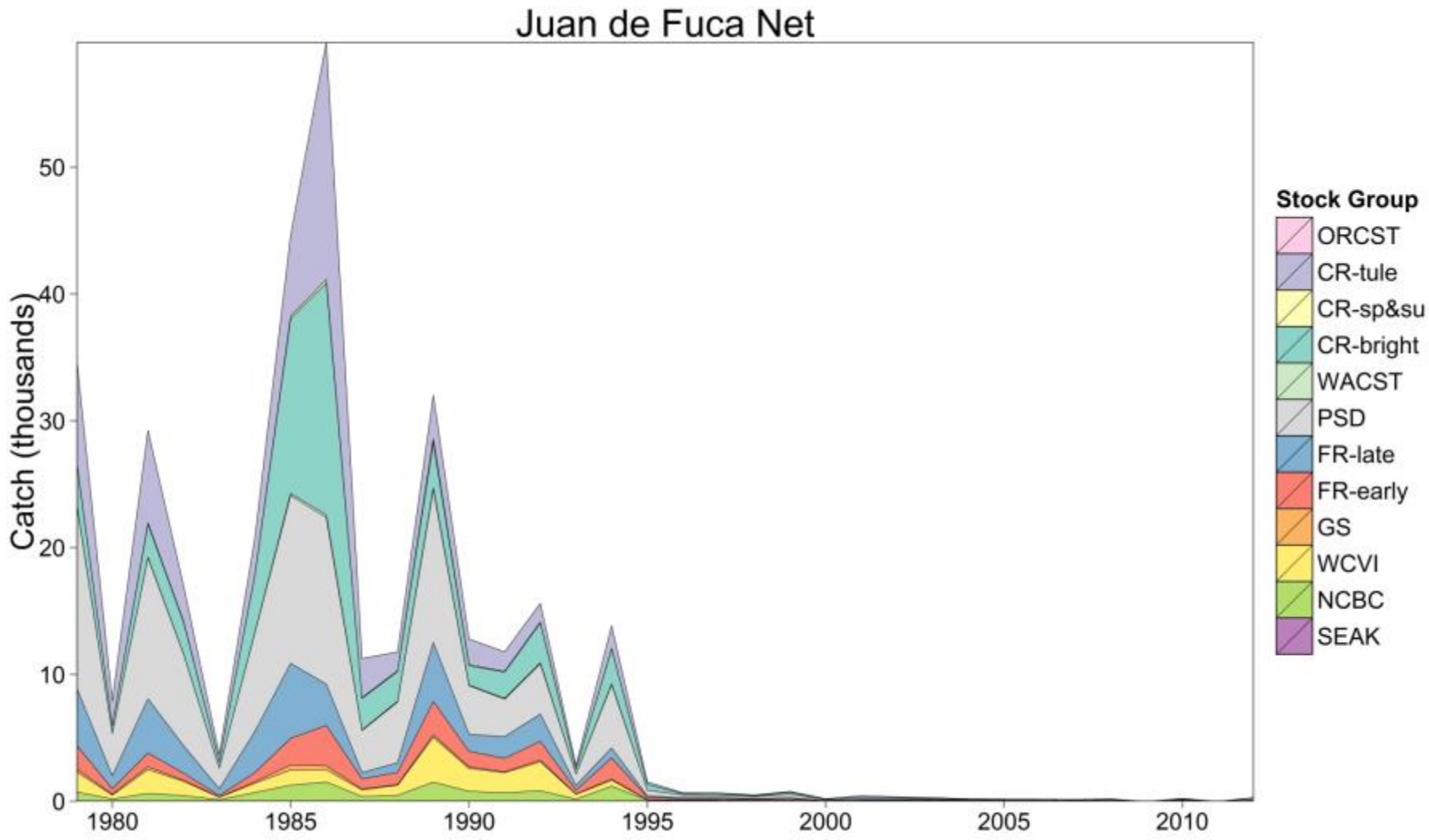
Appendix E8 Chinook Model estimates of landed catch stock composition for North BC Net 1979-2012



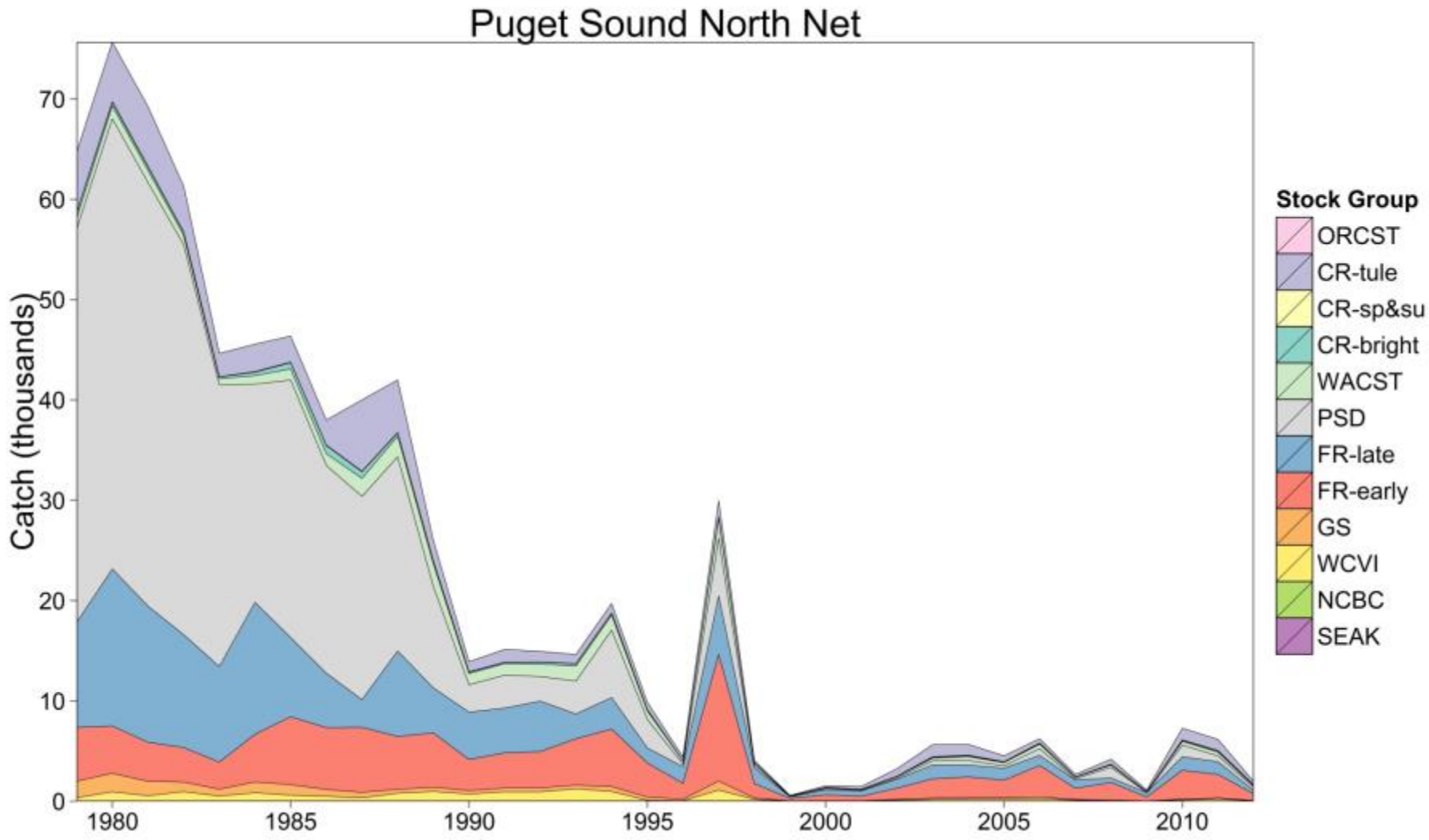
Appendix E9 Chinook Model estimates of landed catch stock composition for Central BC Net 1979-2012



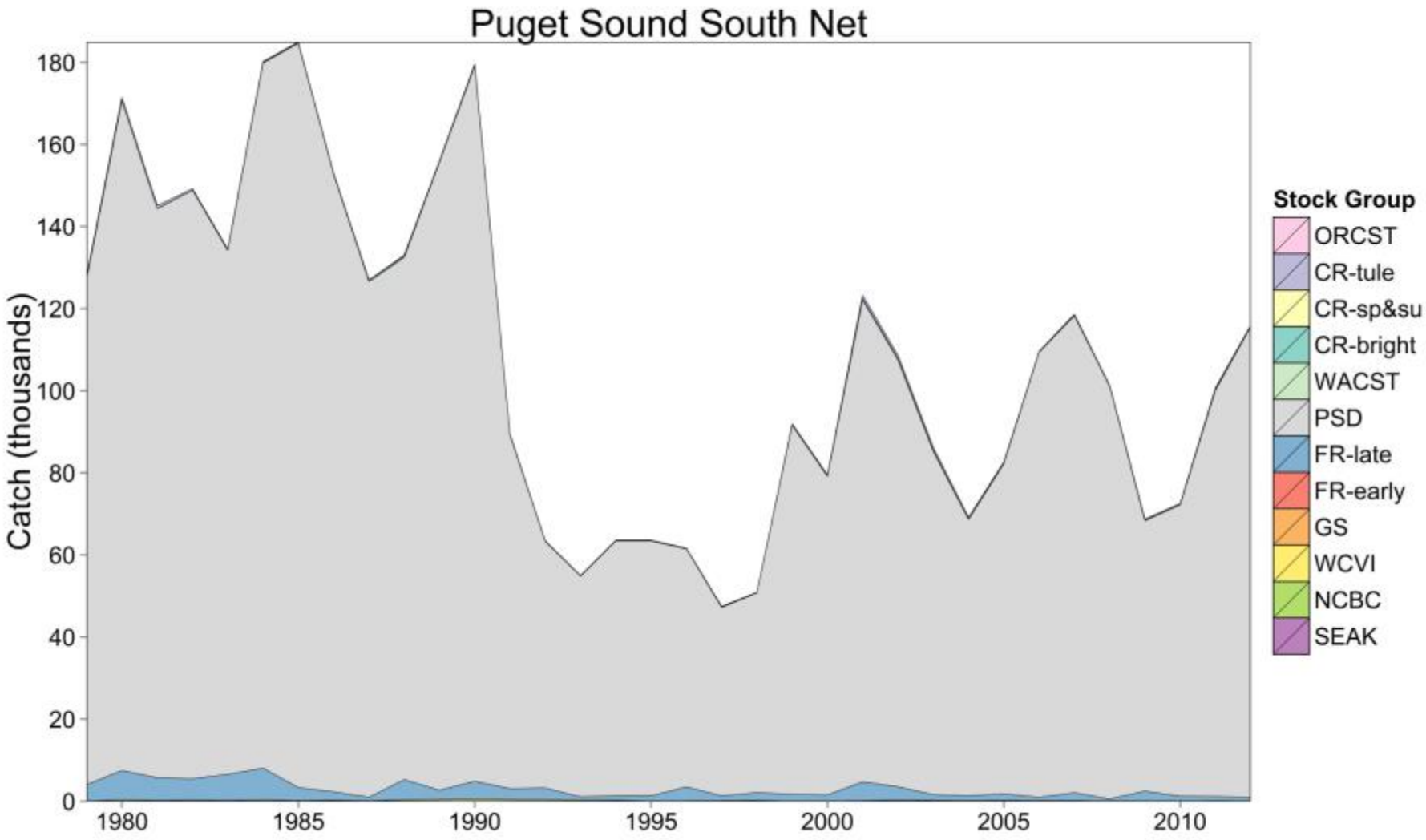
Appendix E10 Chinook Model estimates of landed catch stock composition for West Coast Vancouver Island Net 1979-2012



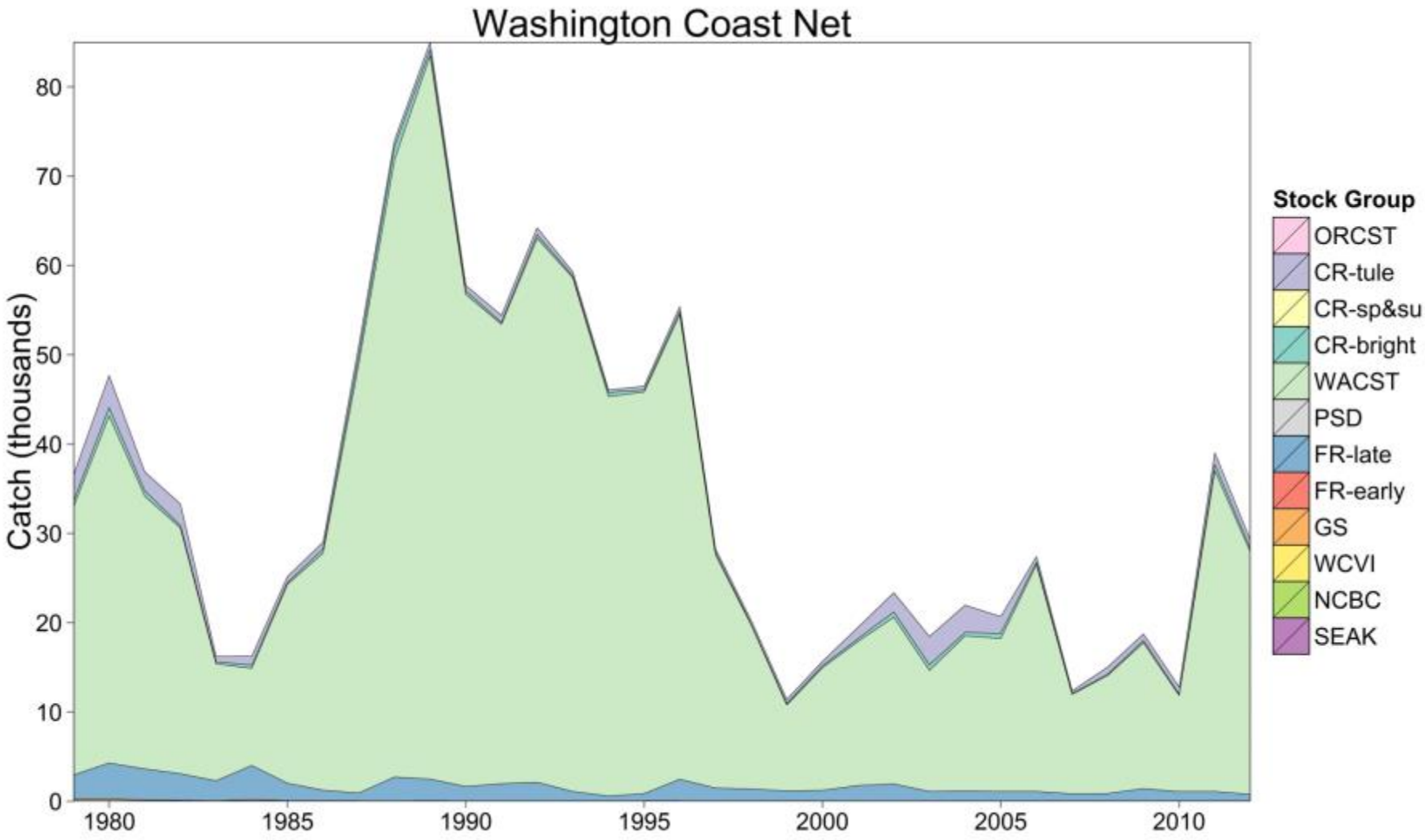
Appendix E11 Chinook Model estimates of landed catch stock composition for Juan de Fuca Net 1979-2012



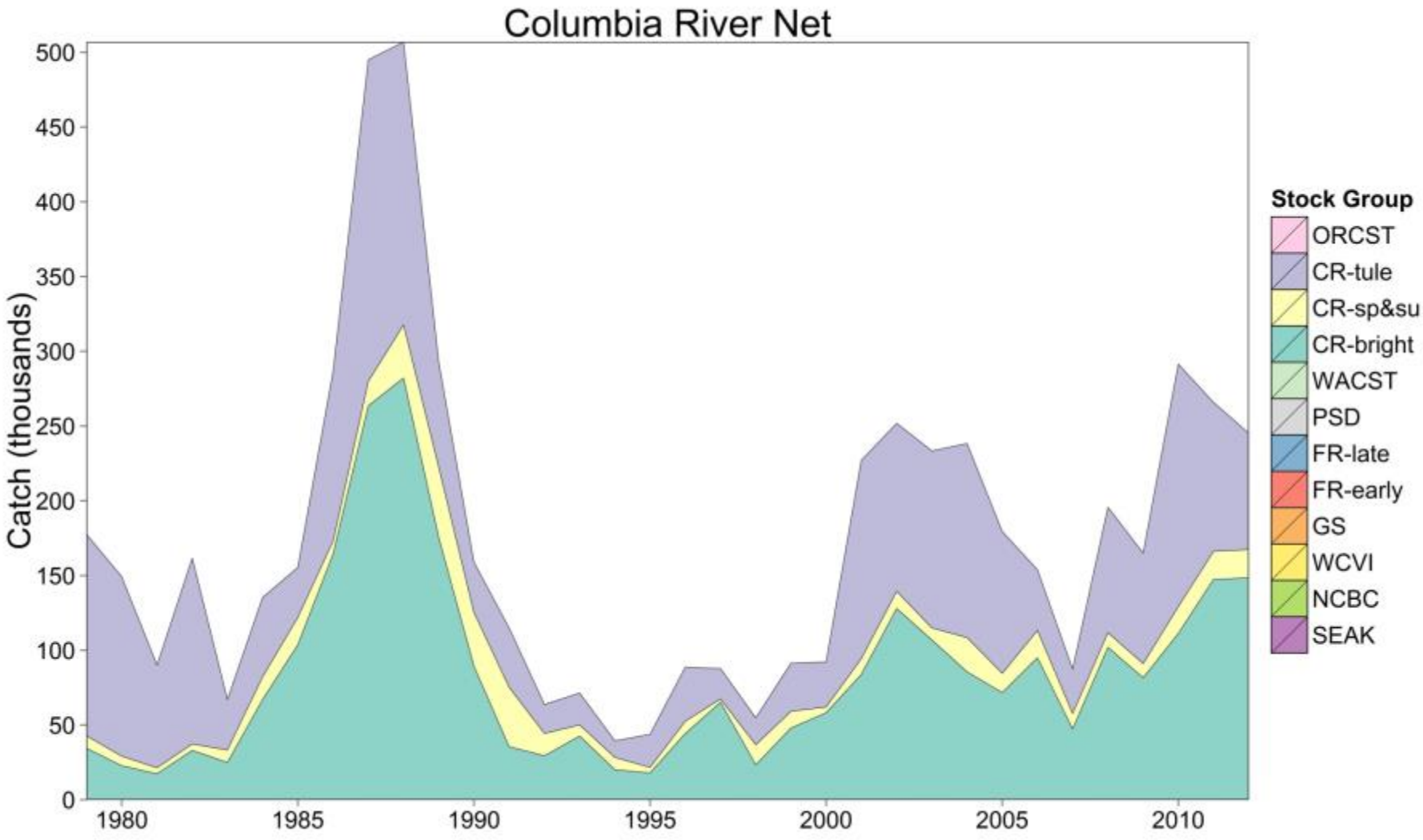
Appendix E12 Chinook Model estimates of landed catch stock composition for Puget Sound North Net 1979-2012



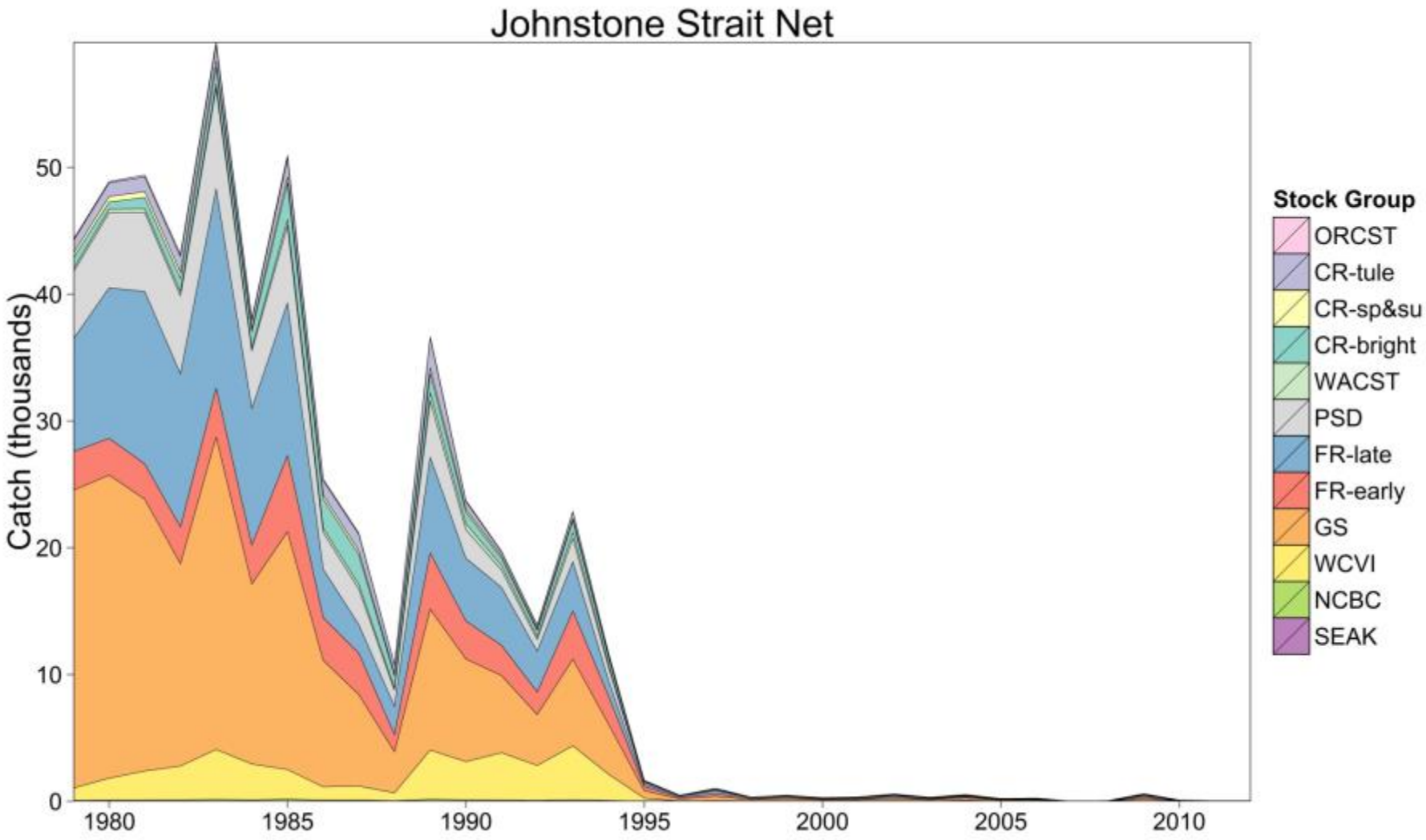
Appendix E13 Chinook Model estimates of landed catch stock composition for Puget Sound South Net 1979-2012



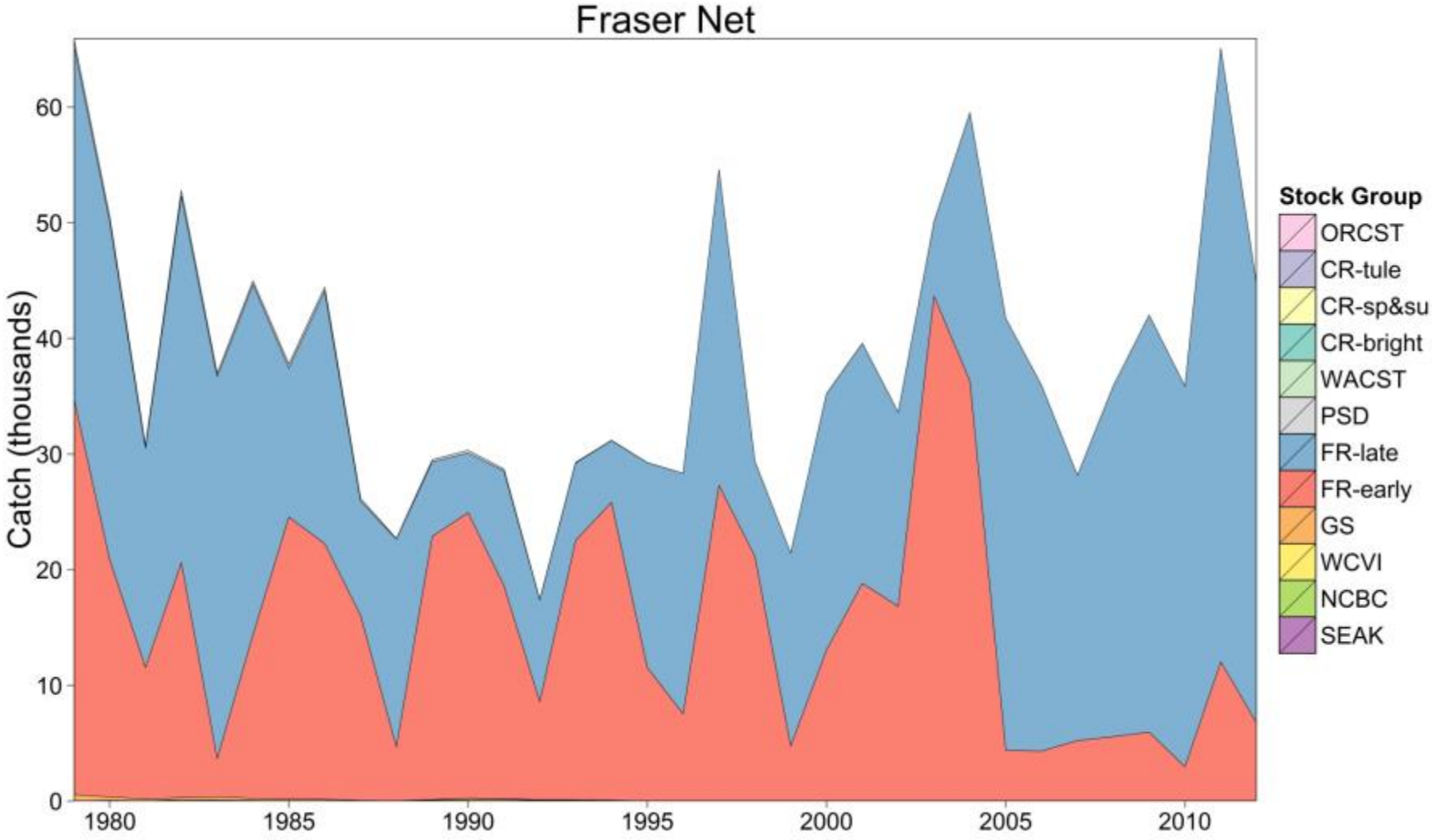
Appendix E14 Chinook Model estimates of landed catch stock composition for Washington Coast Net 1979-2012



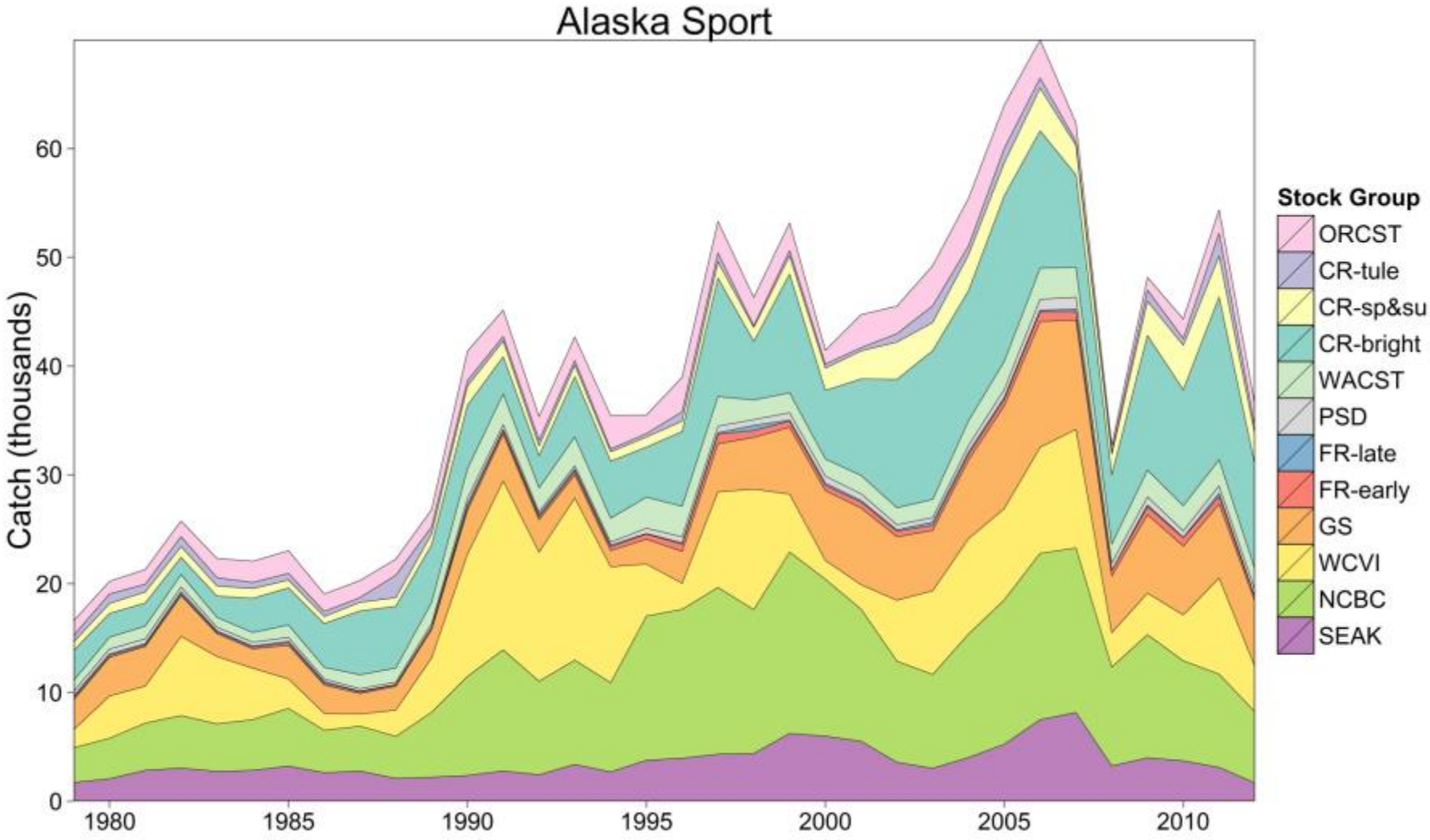
Appendix E15 Chinook Model estimates of landed catch stock composition for Columbia River Net 1979-2012



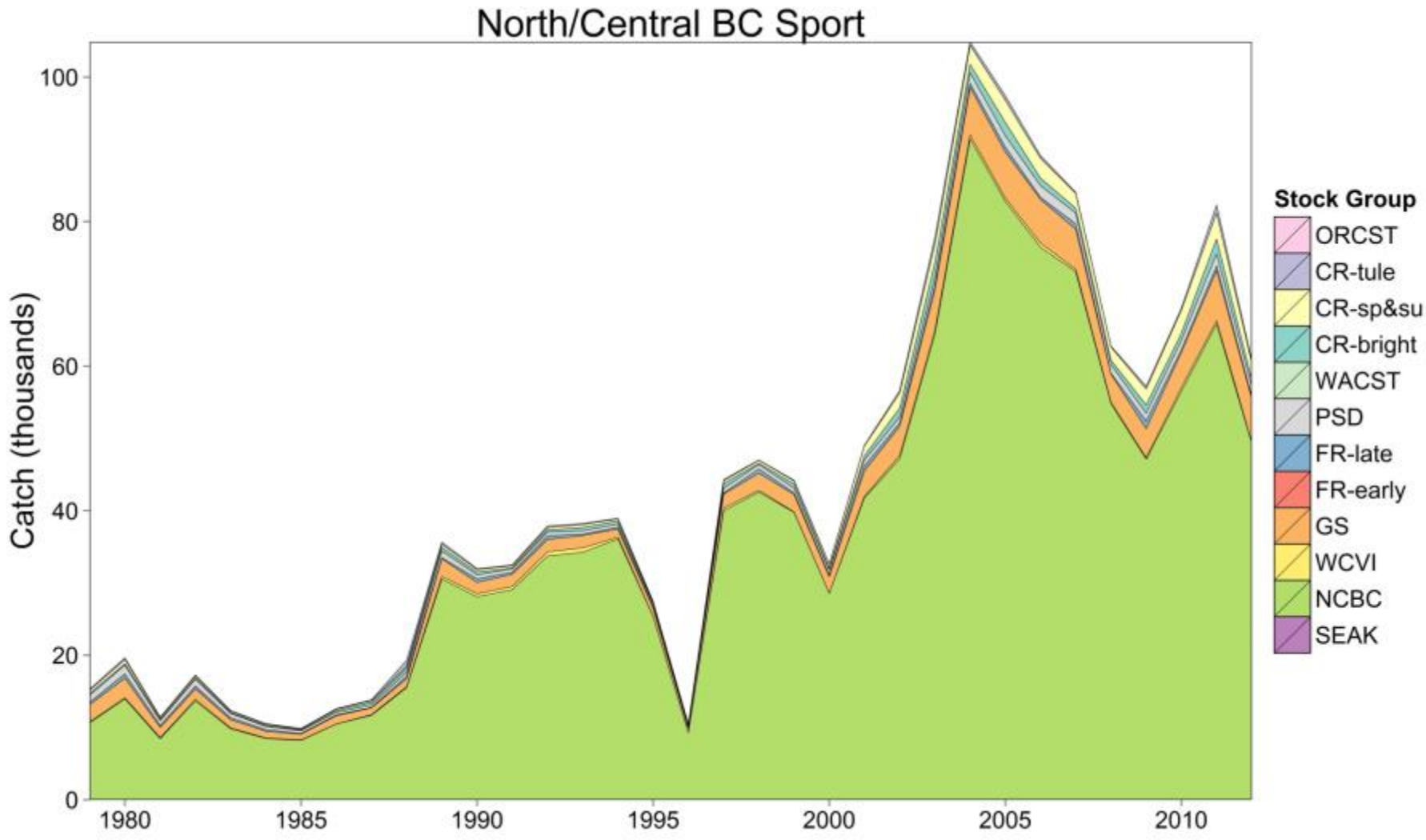
Appendix E16 Chinook Model estimates of landed catch stock composition for Johnstone Strait Net 1979-2012



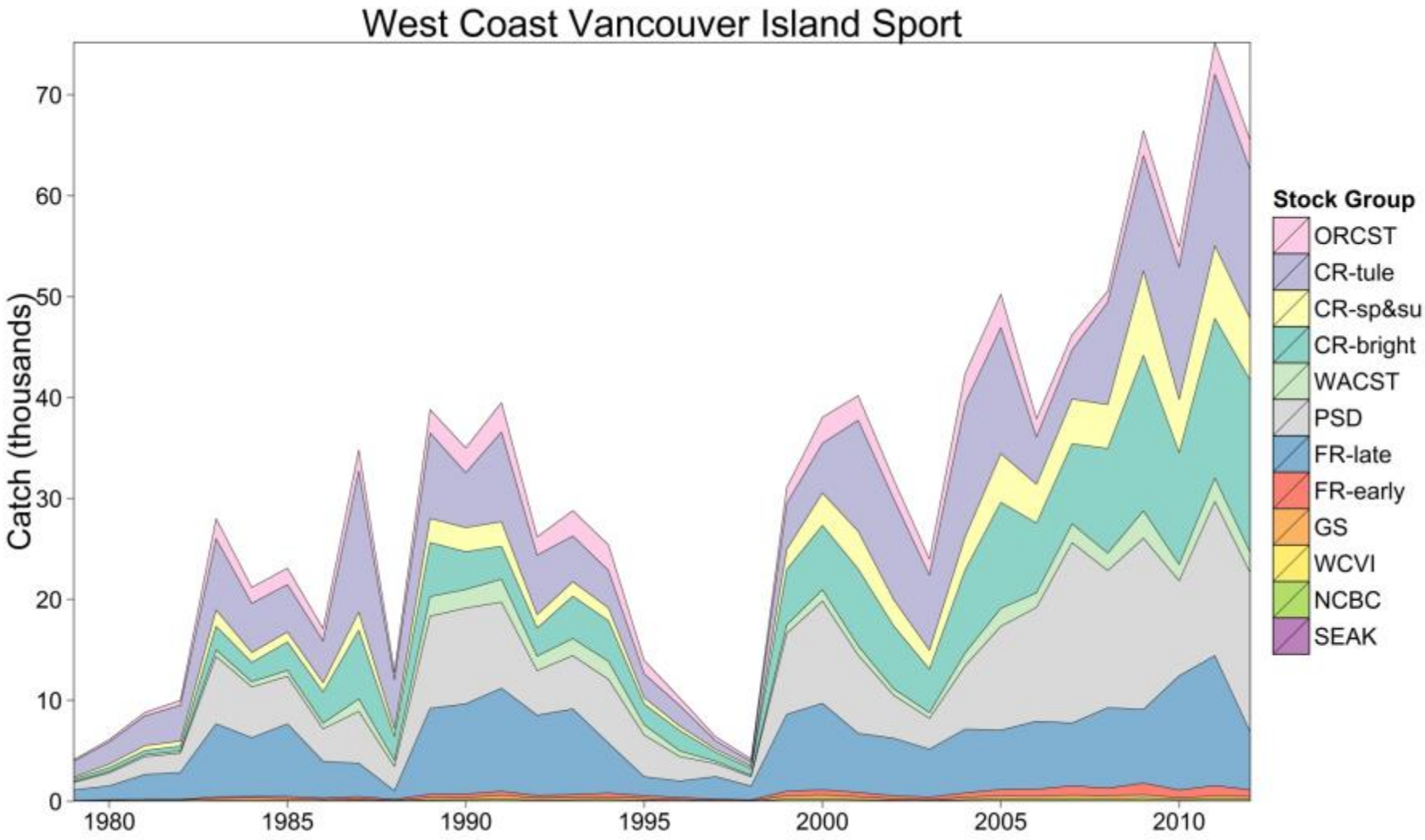
Appendix E17 Chinook Model estimates of landed catch stock composition for Fraser Net 1979-2012



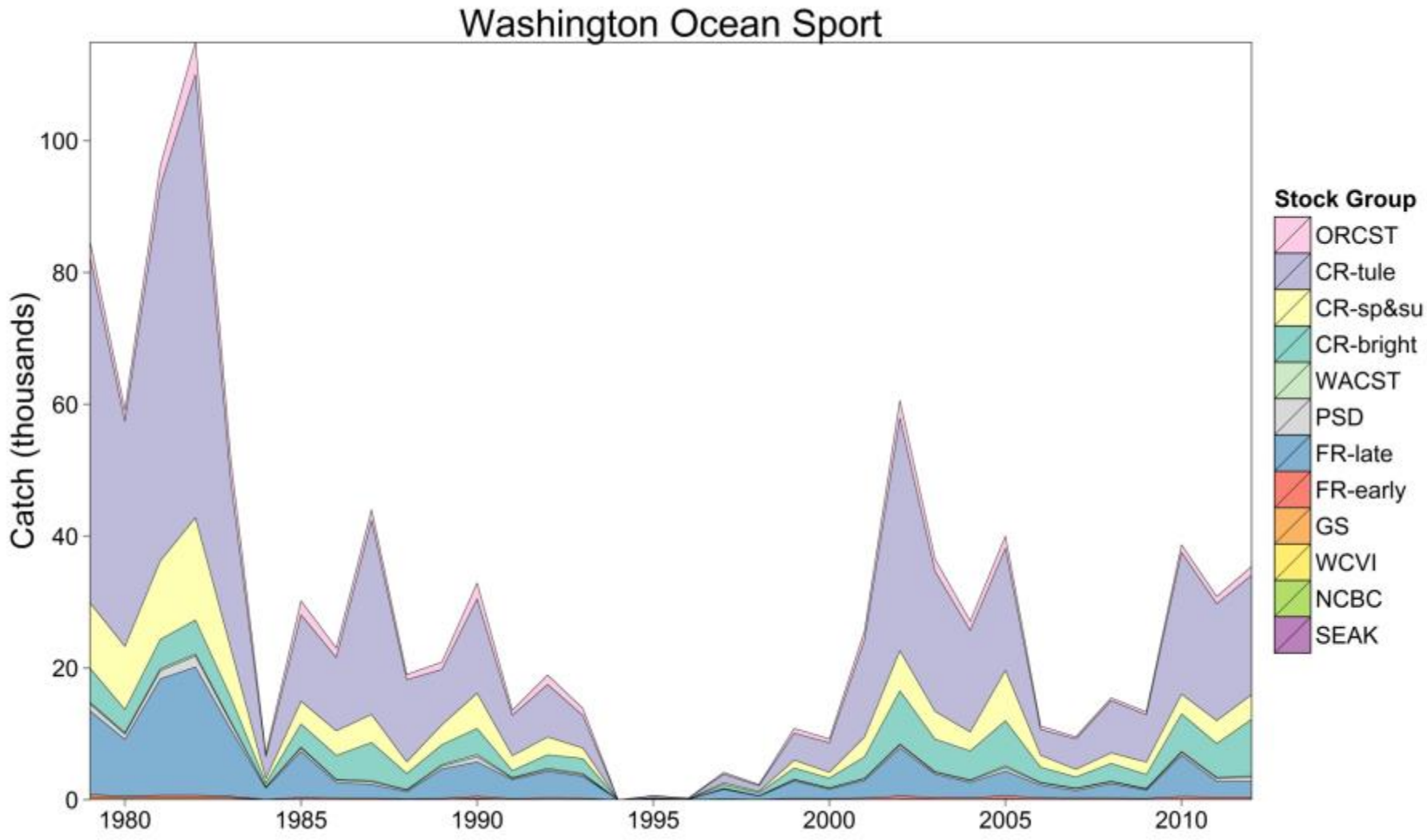
Appendix E18 Chinook Model estimates of landed catch stock composition for Alaska Sport 1979-2012



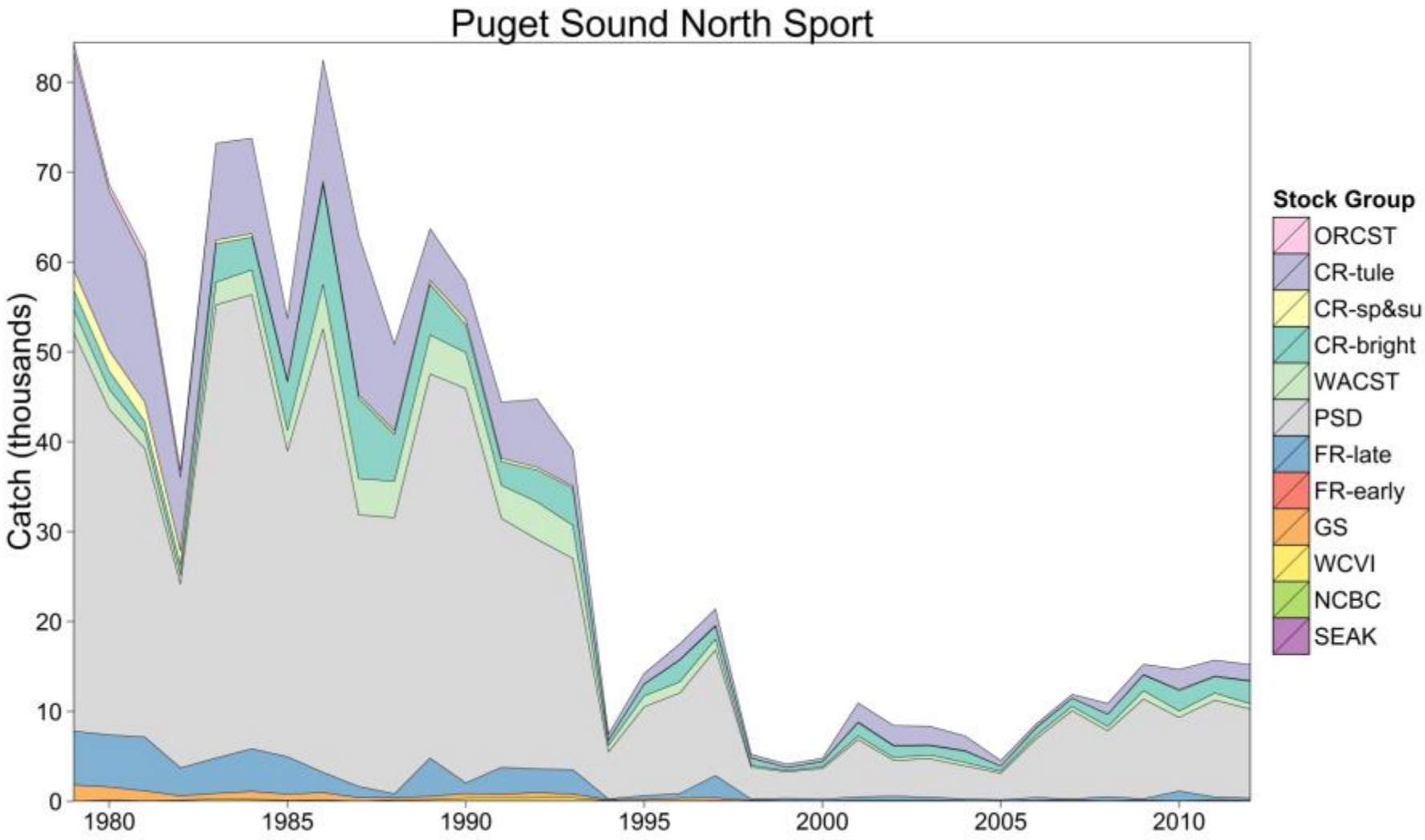
Appendix E19 Chinook Model estimates of landed catch stock composition for North/Central BC Sport 1979-2012



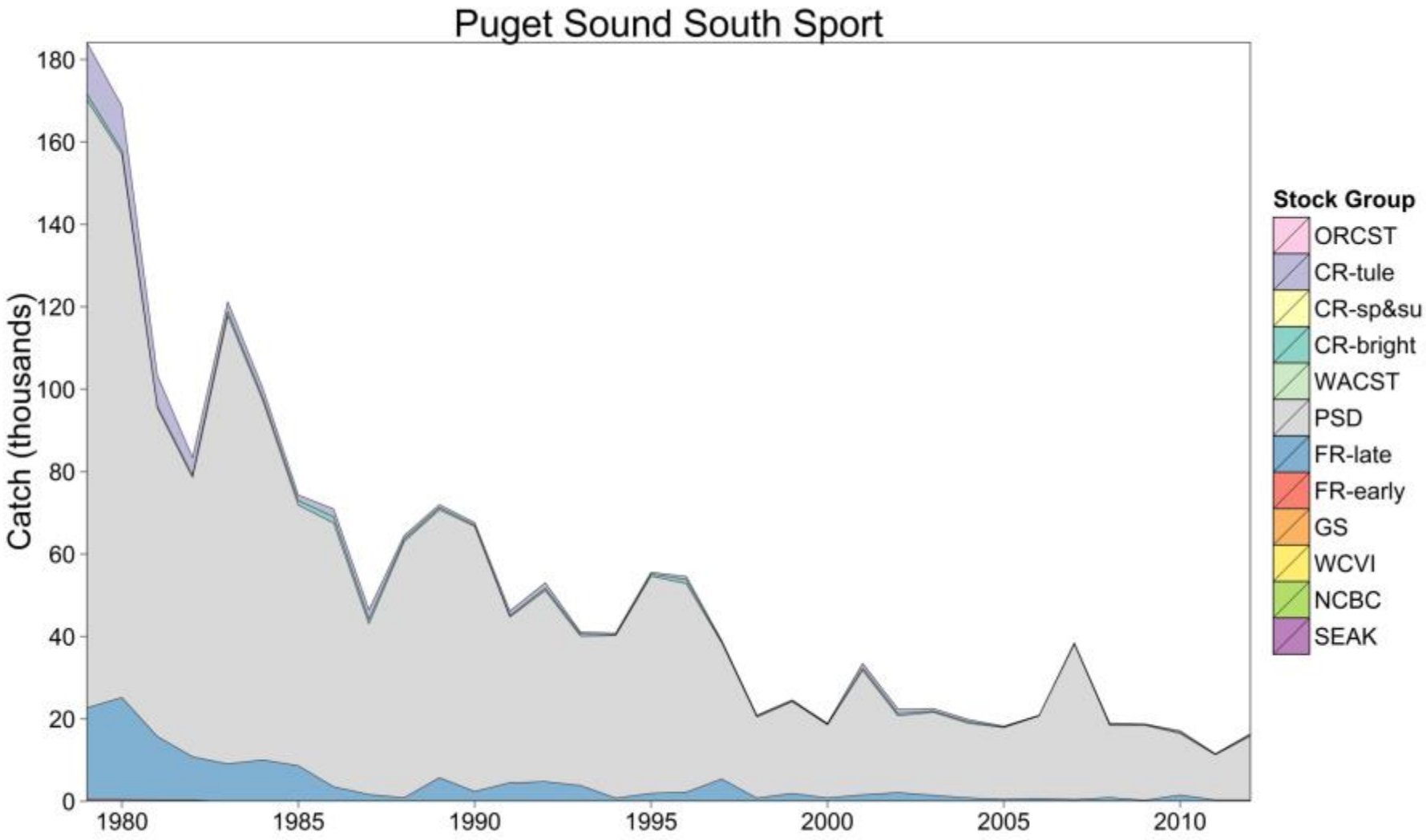
Appendix E20 Chinook Model estimates of landed catch stock composition for West Coast Vancouver Island Sport 1979-2012



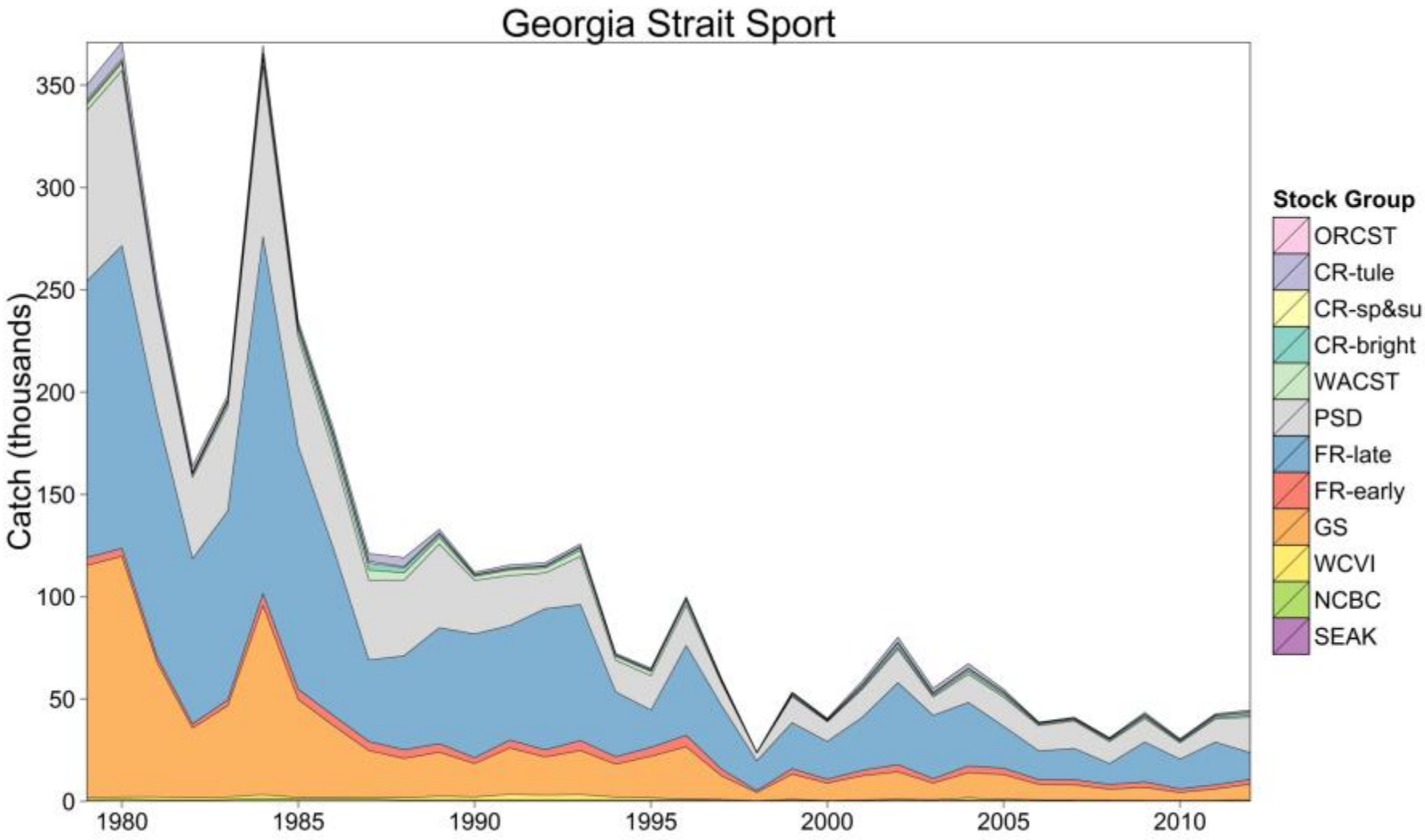
Appendix E21 Chinook Model estimates of landed catch stock composition for Washington Ocean Sport 1979-2012



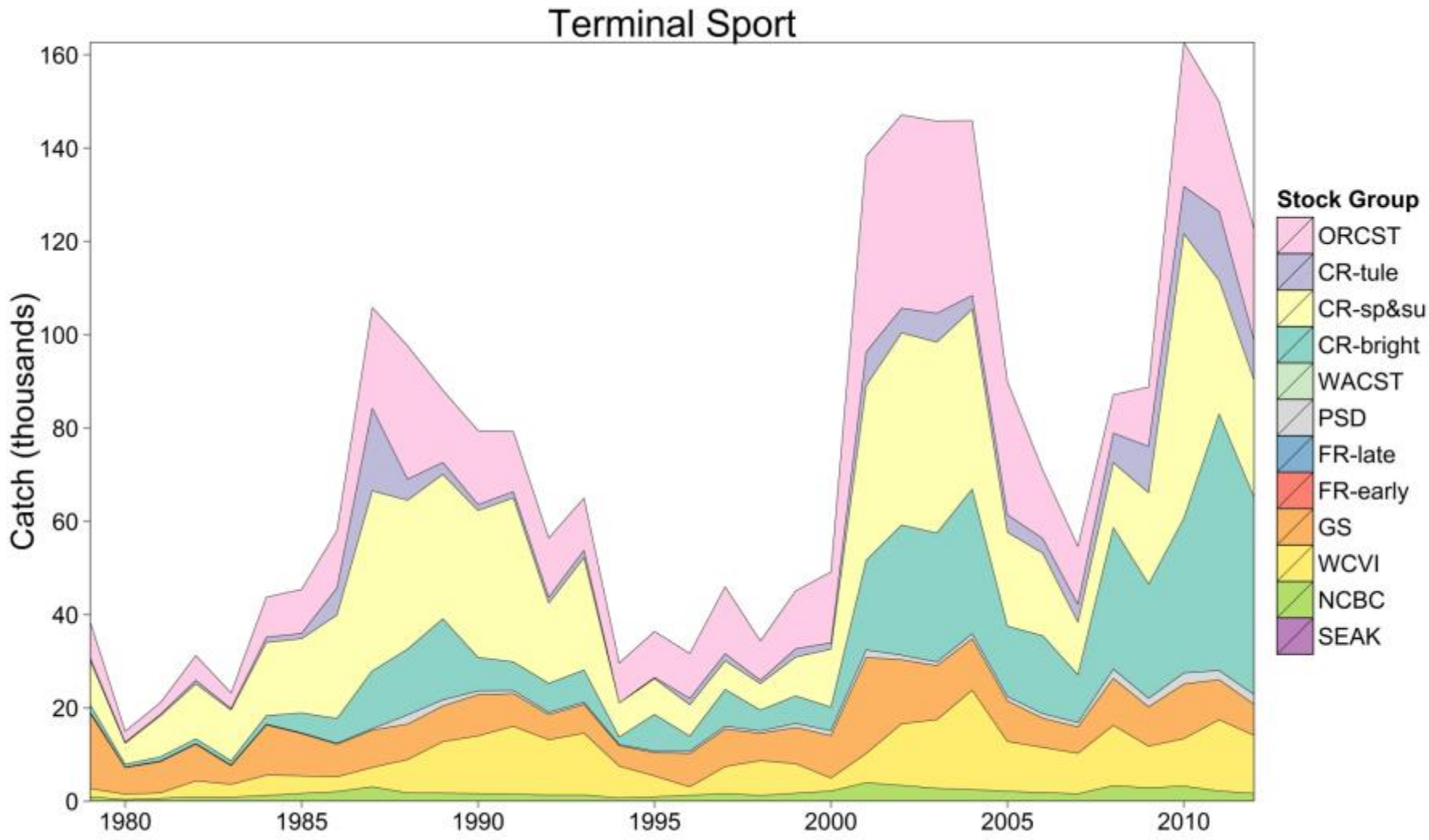
Appendix E22 Chinook Model estimates of landed catch stock composition for Puget Sound North Sport 1979-2012



Appendix E23 Chinook Model estimates of landed catch stock composition for Puget Sound South Sport 1979-2012



Appendix E24 Chinook Model estimates of landed catch stock composition for Georgia Strait Sport 1979-2012



Appendix E25 Chinook Model estimates of landed catch stock composition for Terminal Sport 1979-2012

APPENDIX F: INCIDENTAL MORTALITY RATES APPLIED IN THE CTC MODEL

Appendix F. Incidental mortality rates applied in the CTC model. Rates in original model were applied to all years. In the current model, rates in some fisheries vary in accordance to changes in management regulations.

		Rates in original Model			Rates applied in Model CLB1308			
Fishery Number	Fishery	Sublegal Rate	Legal Rate	Dropoff	Sublegal Rate	Legal Rate	Dropoff	Applicable Years
1	Alaska T	0.3	0.3	0	0.255	0.211	0.008	All
2	North T	0.3	0.3	0	0.255	0.211	0.017	1979–1995
2	North T				0.220	0.185	0.016	1996–current
3	Centr T	0.3	0.3	0	0.255	0.211	0.017	1979–1995
3	Centr T				0.220	0.185	0.016	1996–current
4	WCVI T	0.3	0.3	0	0.255	0.211	0.017	1979–1997
4	WCVI T				0.220	0.185	0.016	1998–current
5	WA/OR T	0.3	0.3	0	0.255	0.211	0.017	1979–1983
5	WA/OR T				0.220	0.185	0.016	1984–current
6	Str of Geo T	0.3	0.3	0	0.255	0.211	0.017	1979–1985,1987–1996
6	Str of Geo T				0.220	0.185	0.016	1986, 1998–current
7	Alaska N	0.9	0.9	0	0.9	0.9	0	All
8	North N	0.9	0.9	0	0.9	0.9	0	All
9	Centr N	0.9	0.9	0	0.9	0.9	0	All
10	WCVI N	0.9	0.9	0	0.9	0.9	0	All
11	J De F N	0.9	0.9	0	0.9	0.9	0	All
12	PgtNth N	0.9	0.9	0	0.9	0.9	0	All
13	PgtSth N	0.9	0.9	0	0.9	0.9	0	All
14	WashCst N	0.9	0.9	0	0.9	0.9	0	All
15	Col R N	0.9	0.9	0	0.9	0.9	0	All
16	John St N	0.9	0.9	0	0.9	0.9	0	All
17	Fraser N	0.9	0.9	0	0.9	0.9	0	All
18	Alaska S	0.3	0.3	0	0.123	0.123	0.036	All
19	Nor/Cen S	0.3	0.3	0	0.123	0.123	0.036	All
20	WCVI S	0.3	0.3	0	0.123	0.123	0.069	All
21	WashOcn S	0.3	0.3	0	0.123	0.123	0.069	All
22	PgtNth S	0.3	0.3	0	0.123	0.123	0.145	All
23	PgtSth S	0.3	0.3	0	0.123	0.123	0.145	All
24	Str of Geo S	0.3	0.3	0	0.322	0.322	0.069	1979–1981
24	Str of Geo S				0.123	0.123	0.069	1982–current
25	Col R S	0.3	0.3	0	0.123	0.123	0.069	All

APPENDIX G: TIME SERIES OF ABUNDANCE INDICES

Appendix G. Time series of abundance indices from 1979 to 2013 for SEAK, NBC, and WCVI AABM fisheries as estimated by CTC Chinook Model calibrations CLB1309 (1979-2014).

Year	Alaska T	North T	WCVI T
1979	0.96	1.03	1.11
1980	1.02	0.97	0.96
1981	0.92	0.94	0.92
1982	1.10	1.06	1.00
1983	1.29	1.21	0.93
1984	1.45	1.37	0.99
1985	1.31	1.29	0.96
1986	1.48	1.45	1.03
1987	1.73	1.72	1.20
1988	2.12	1.83	1.15
1989	1.84	1.66	1.00
1990	1.87	1.63	0.91
1991	1.79	1.52	0.77
1992	1.67	1.40	0.80
1993	1.66	1.41	0.70
1994	1.56	1.23	0.53
1995	1.05	0.96	0.42
1996	0.93	0.92	0.50
1997	1.23	1.10	0.60
1998	1.18	1.00	0.57
1999	1.09	0.95	0.51
2000	0.98	0.94	0.53
2001	1.17	1.21	0.81
2002	1.76	1.70	1.18
2003	2.21	1.92	1.24
2004	2.03	1.78	1.03
2005	1.80	1.54	0.84
2006	1.51	1.24	0.66
2007	1.15	0.92	0.53
2008	0.88	0.80	0.57
2009	1.04	0.95	0.57
2010	1.13	1.09	0.78
2011	1.42	1.22	0.82
2012	1.24	1.15	0.76
2013[1]	1.42	1.27	0.91
2014	1.75	1.41	0.89

Note: This time series is NOT the first postseason AI for each year and is for trend analysis only (Figures 3.10–3.12). For evaluation of overage and underage, use the first postseason AI instead (Source 1309 PABD).

[1] Due to a change in modeling assumptions, calibration 1309 AIs differ from the final 2013 preseason AIs (based on CLB 1308).

APPENDIX H: ABUNDANCE INDICES IN TOTAL AND BY MODEL STOCK FOR AABM FISHERIES, FROM CALIBRATION 1309

LIST OF APPENDIX H TABLES

Table H1. Abundance indices (AIs) for the Southeast Alaska troll fishery by model stock and year (stock groups 1–15 this page; 16–30 on following page), from CLB 1309. Numbers shown represent the portion of the AI total estimated for each model stock; the summation across all 30 stock groups equals the AI total for each calendar year.

Year	Alaska South SE	North/Centr	Fraser Early	Fraser Late	WCVI Hatchery	WCVI Natural	St. of Georgia Upper	St. of Georgia Lwr Nat	St. of Georgia Lwr Hat	Nooksack Fall	Pgt Sd Fing	Pgt Sd NatF	Pgt Sd Year	Nooksack Spring	Skagit Wild	AI Total
1979	0.03	0.12	0.06	0.00	0.05	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.96
1980	0.03	0.13	0.05	0.00	0.10	0.15	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02
1981	0.04	0.13	0.04	0.00	0.08	0.11	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.92
1982	0.04	0.14	0.04	0.00	0.19	0.21	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.10
1983	0.05	0.16	0.04	0.00	0.31	0.15	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.29
1984	0.06	0.18	0.05	0.00	0.29	0.10	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.45
1985	0.06	0.20	0.07	0.00	0.15	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.31
1986	0.07	0.22	0.07	0.00	0.12	0.04	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.48
1987	0.07	0.23	0.07	0.00	0.09	0.03	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.73
1988	0.06	0.24	0.07	0.00	0.21	0.06	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.12
1989	0.04	0.25	0.06	0.00	0.31	0.07	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.84
1990	0.03	0.26	0.06	0.00	0.47	0.10	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.87
1991	0.03	0.27	0.06	0.00	0.59	0.13	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.79
1992	0.03	0.26	0.06	0.00	0.55	0.13	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.67
1993	0.04	0.24	0.06	0.00	0.51	0.13	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.66
1994	0.03	0.22	0.06	0.00	0.42	0.11	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.56
1995	0.03	0.23	0.07	0.00	0.15	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.05
1996	0.03	0.23	0.08	0.00	0.05	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.93
1997	0.03	0.23	0.09	0.00	0.17	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.23
1998	0.03	0.23	0.08	0.00	0.27	0.07	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.18
1999	0.04	0.24	0.07	0.00	0.14	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.09
2000	0.05	0.25	0.07	0.00	0.05	0.01	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98
2001	0.05	0.25	0.08	0.00	0.07	0.01	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.17
2002	0.04	0.25	0.10	0.00	0.23	0.03	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.76
2003	0.04	0.24	0.10	0.00	0.36	0.04	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.21
2004	0.04	0.25	0.09	0.00	0.36	0.03	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.03
2005	0.04	0.24	0.09	0.00	0.26	0.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.80
2006	0.05	0.22	0.10	0.00	0.23	0.03	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.51
2007	0.05	0.21	0.08	0.00	0.24	0.03	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.15
2008	0.03	0.19	0.08	0.00	0.12	0.01	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88
2009	0.03	0.18	0.08	0.00	0.10	0.01	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.04
2010	0.03	0.17	0.10	0.00	0.11	0.02	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.13
2011	0.03	0.15	0.09	0.00	0.24	0.03	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.42
2012	0.02	0.14	0.06	0.00	0.17	0.02	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.24

-continued-

Table H1. Page 2 of 2 (stock groups 16–30).

Year	Stillaguamish Wild	Snohomish Wild	WA Coastal Hat	UpRiver Brights	Spring Creek Hat	Lwr Bonneville Hat	Fall Cowlitz Hat	Lewis R Wild	Willamette R	Spr Cowlitz Hat	Col R Summer	Oregon Coast	WA Coastal Wild	Lyons Ferry	Mid-Col R Brights	AI Total
1979	0.00	0.00	0.03	0.18	0.00	0.00	0.03	0.02	0.02	0.00	0.04	0.23	0.03	0.00	0.00	0.96
1980	0.00	0.00	0.03	0.14	0.00	0.00	0.03	0.02	0.03	0.00	0.04	0.17	0.04	0.00	0.00	1.02
1981	0.00	0.00	0.02	0.10	0.00	0.00	0.03	0.02	0.03	0.01	0.03	0.16	0.04	0.00	0.01	0.92
1982	0.00	0.00	0.02	0.06	0.00	0.00	0.03	0.01	0.03	0.00	0.02	0.19	0.03	0.00	0.01	1.10
1983	0.00	0.00	0.02	0.09	0.00	0.00	0.03	0.01	0.04	0.00	0.03	0.25	0.03	0.00	0.02	1.29
1984	0.00	0.00	0.02	0.20	0.00	0.00	0.03	0.01	0.04	0.00	0.03	0.35	0.03	0.00	0.02	1.45
1985	0.00	0.00	0.02	0.23	0.00	0.00	0.03	0.01	0.03	0.00	0.02	0.32	0.04	0.00	0.01	1.31
1986	0.00	0.00	0.02	0.33	0.00	0.00	0.03	0.01	0.04	0.00	0.03	0.35	0.05	0.00	0.02	1.48
1987	0.00	0.00	0.04	0.48	0.00	0.00	0.03	0.02	0.05	0.01	0.03	0.40	0.06	0.00	0.07	1.73
1988	0.00	0.00	0.05	0.51	0.00	0.00	0.14	0.04	0.06	0.00	0.03	0.38	0.07	0.00	0.13	2.12
1989	0.00	0.00	0.06	0.32	0.00	0.00	0.05	0.04	0.06	0.00	0.03	0.30	0.08	0.00	0.12	1.84
1990	0.00	0.00	0.05	0.24	0.00	0.00	0.02	0.02	0.07	0.00	0.02	0.31	0.07	0.00	0.08	1.87
1991	0.00	0.00	0.05	0.12	0.00	0.00	0.01	0.01	0.05	0.00	0.02	0.29	0.06	0.00	0.05	1.79
1992	0.00	0.00	0.05	0.10	0.00	0.00	0.02	0.01	0.03	0.00	0.02	0.26	0.05	0.00	0.04	1.67
1993	0.00	0.00	0.05	0.18	0.00	0.00	0.01	0.01	0.03	0.00	0.02	0.25	0.05	0.00	0.05	1.66
1994	0.00	0.00	0.05	0.21	0.00	0.00	0.01	0.01	0.02	0.00	0.02	0.27	0.05	0.00	0.05	1.56
1995	0.00	0.00	0.04	0.12	0.00	0.00	0.01	0.01	0.02	0.00	0.01	0.21	0.04	0.00	0.04	1.05
1996	0.00	0.00	0.04	0.13	0.00	0.00	0.02	0.01	0.02	0.00	0.02	0.17	0.04	0.00	0.05	0.93
1997	0.00	0.00	0.03	0.18	0.00	0.00	0.01	0.01	0.02	0.00	0.02	0.20	0.04	0.00	0.09	1.23
1998	0.00	0.00	0.02	0.12	0.00	0.00	0.00	0.01	0.02	0.00	0.02	0.16	0.04	0.00	0.06	1.18
1999	0.00	0.00	0.02	0.21	0.00	0.00	0.01	0.00	0.02	0.00	0.02	0.16	0.03	0.00	0.06	1.09
2000	0.00	0.00	0.02	0.18	0.00	0.00	0.01	0.01	0.03	0.00	0.04	0.13	0.03	0.00	0.05	0.98
2001	0.00	0.00	0.02	0.20	0.00	0.00	0.01	0.01	0.03	0.00	0.07	0.19	0.03	0.00	0.07	1.17
2002	0.00	0.00	0.03	0.33	0.00	0.00	0.02	0.02	0.07	0.00	0.10	0.27	0.03	0.00	0.16	1.76
2003	0.00	0.00	0.03	0.48	0.00	0.00	0.05	0.02	0.05	0.00	0.10	0.36	0.04	0.00	0.22	2.21
2004	0.00	0.00	0.04	0.37	0.00	0.00	0.03	0.02	0.06	0.00	0.09	0.39	0.04	0.00	0.16	2.03
2005	0.00	0.00	0.04	0.37	0.00	0.00	0.03	0.01	0.02	0.00	0.09	0.32	0.04	0.00	0.13	1.80
2006	0.00	0.00	0.04	0.26	0.00	0.00	0.02	0.02	0.03	0.00	0.08	0.20	0.04	0.00	0.11	1.51
2007	0.00	0.00	0.03	0.12	0.00	0.00	0.01	0.00	0.01	0.00	0.07	0.12	0.03	0.00	0.08	1.15
2008	0.00	0.00	0.03	0.13	0.00	0.00	0.00	0.00	0.01	0.00	0.06	0.05	0.03	0.00	0.09	0.88
2009	0.00	0.00	0.03	0.22	0.00	0.00	0.02	0.01	0.02	0.00	0.08	0.08	0.03	0.00	0.11	1.04
2010	0.00	0.00	0.03	0.23	0.00	0.00	0.01	0.01	0.05	0.00	0.09	0.11	0.03	0.00	0.09	1.13
2011	0.00	0.00	0.03	0.32	0.00	0.00	0.04	0.01	0.04	0.00	0.10	0.14	0.03	0.01	0.12	1.42
2012	0.00	0.00	0.03	0.28	0.00	0.00	0.02	0.01	0.03	0.00	0.08	0.17	0.03	0.01	0.10	1.24

Table H2. Abundance indices (AIs) for the Northern B.C. troll fishery by stock and year (stock groups 1–15 this page; 16–30 on following page), from CLB 1309. Numbers shown represent the portion of the AI total estimated for each model stock; the summation across all 30 stock groups equals the AI total for each calendar year.

Year	Alaska South SE	North/Centr	Fraser Early	Fraser Late	WCVI Hatchery	WCVI Natural	St. of Georgia Upper	St. of Georgia Lwr Nat	St. of Georgia Lwr Hat	Nooksack Fall	Pgt Sd Fing	Pgt Sd NatF	Pgt Sd Year	Nooksack Spring	Skagit Wild	AI Total
1979	0.00	0.08	0.07	0.01	0.04	0.05	0.06	0.02	0.02	0.01	0.00	0.00	0.00	0.02	0.01	1.03
1980	0.00	0.08	0.06	0.01	0.05	0.08	0.05	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.01	0.97
1981	0.00	0.09	0.05	0.01	0.06	0.08	0.06	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.01	0.94
1982	0.00	0.10	0.04	0.01	0.12	0.11	0.05	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.01	1.06
1983	0.00	0.11	0.05	0.01	0.17	0.08	0.04	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.01	1.21
1984	0.00	0.12	0.06	0.02	0.15	0.05	0.05	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.01	1.37
1985	0.00	0.13	0.07	0.01	0.08	0.03	0.06	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.01	1.29
1986	0.00	0.14	0.09	0.01	0.06	0.02	0.06	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.01	1.45
1987	0.00	0.15	0.08	0.01	0.07	0.02	0.07	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.72
1988	0.00	0.16	0.08	0.01	0.12	0.03	0.05	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	1.83
1989	0.00	0.17	0.08	0.01	0.19	0.04	0.06	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.66
1990	0.00	0.17	0.08	0.01	0.27	0.06	0.05	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.63
1991	0.00	0.17	0.08	0.01	0.32	0.07	0.05	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.52
1992	0.00	0.17	0.07	0.01	0.31	0.07	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.40
1993	0.00	0.16	0.07	0.01	0.28	0.07	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.41
1994	0.00	0.16	0.08	0.00	0.20	0.05	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.23
1995	0.00	0.15	0.08	0.00	0.07	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.96
1996	0.00	0.15	0.09	0.01	0.04	0.01	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.92
1997	0.00	0.16	0.11	0.01	0.11	0.03	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.10
1998	0.00	0.16	0.10	0.01	0.13	0.03	0.04	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.00
1999	0.00	0.16	0.09	0.01	0.07	0.01	0.05	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.95
2000	0.00	0.16	0.08	0.01	0.03	0.00	0.06	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.94
2001	0.00	0.17	0.09	0.01	0.06	0.01	0.07	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	1.21
2002	0.00	0.17	0.11	0.01	0.14	0.02	0.07	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.70
2003	0.00	0.17	0.12	0.01	0.19	0.02	0.08	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	1.92
2004	0.00	0.18	0.11	0.01	0.20	0.02	0.08	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.01	1.78
2005	0.00	0.17	0.10	0.01	0.14	0.01	0.08	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	1.54
2006	0.00	0.16	0.11	0.01	0.14	0.02	0.08	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.01	1.24
2007	0.00	0.15	0.10	0.00	0.11	0.01	0.06	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.92
2008	0.00	0.13	0.10	0.00	0.07	0.01	0.05	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.80
2009	0.00	0.12	0.10	0.00	0.05	0.01	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.95
2010	0.00	0.12	0.11	0.01	0.08	0.01	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.09
2011	0.00	0.11	0.11	0.01	0.12	0.02	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.22
2012	0.00	0.10	0.09	0.00	0.08	0.01	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.15

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Table H2. Page 2 of 2 (stock groups 16–30).

Year	Stillaguamish Wild	Snohomish Wild	WA Coastal Hat	UpRiver Brights	Spring Creek Hat	Lwr Bonneville Hat	Fall Cowlitz Hat	Lewis R Wild	Willamette R	Spr Cowlitz Hat	Col R Summer	Oregon Coast	WA Coastal Wild	Lyons Ferry	Mid-Col R Brights	AI Total
1979	0.00	0.01	0.04	0.12	0.00	0.00	0.02	0.01	0.06	0.01	0.02	0.30	0.05	0.00	0.00	1.03
1980	0.00	0.01	0.04	0.09	0.00	0.00	0.02	0.01	0.06	0.01	0.02	0.25	0.06	0.00	0.00	0.97
1981	0.00	0.00	0.04	0.06	0.00	0.00	0.02	0.01	0.07	0.01	0.02	0.24	0.06	0.00	0.01	0.94
1982	0.00	0.00	0.03	0.04	0.00	0.00	0.02	0.01	0.09	0.01	0.02	0.30	0.06	0.00	0.01	1.06
1983	0.00	0.00	0.03	0.07	0.00	0.00	0.02	0.01	0.09	0.01	0.02	0.39	0.06	0.00	0.02	1.21
1984	0.00	0.00	0.03	0.14	0.00	0.00	0.02	0.01	0.09	0.01	0.02	0.49	0.06	0.00	0.01	1.37
1985	0.00	0.00	0.03	0.16	0.00	0.00	0.02	0.01	0.08	0.00	0.02	0.45	0.06	0.00	0.01	1.29
1986	0.00	0.00	0.05	0.24	0.00	0.00	0.02	0.01	0.10	0.01	0.02	0.49	0.08	0.00	0.02	1.45
1987	0.00	0.00	0.07	0.33	0.00	0.00	0.03	0.02	0.13	0.01	0.02	0.53	0.10	0.00	0.05	1.72
1988	0.00	0.00	0.09	0.32	0.00	0.00	0.08	0.02	0.14	0.01	0.02	0.47	0.12	0.00	0.09	1.83
1989	0.00	0.00	0.09	0.20	0.00	0.00	0.02	0.01	0.14	0.01	0.02	0.40	0.12	0.00	0.07	1.66
1990	0.00	0.00	0.08	0.15	0.00	0.00	0.01	0.01	0.14	0.00	0.01	0.40	0.11	0.00	0.05	1.63
1991	0.00	0.00	0.08	0.08	0.00	0.00	0.01	0.01	0.10	0.00	0.01	0.37	0.10	0.00	0.03	1.52
1992	0.00	0.00	0.09	0.07	0.00	0.00	0.01	0.01	0.07	0.01	0.01	0.34	0.09	0.00	0.03	1.40
1993	0.00	0.00	0.08	0.12	0.00	0.00	0.01	0.00	0.06	0.00	0.01	0.36	0.08	0.00	0.03	1.41
1994	0.00	0.00	0.07	0.13	0.00	0.00	0.00	0.01	0.05	0.00	0.01	0.32	0.07	0.00	0.03	1.23
1995	0.00	0.00	0.07	0.08	0.00	0.00	0.01	0.01	0.04	0.00	0.01	0.29	0.07	0.00	0.03	0.96
1996	0.00	0.00	0.06	0.09	0.00	0.00	0.01	0.01	0.04	0.00	0.01	0.24	0.07	0.00	0.04	0.92
1997	0.00	0.00	0.05	0.12	0.00	0.00	0.01	0.00	0.05	0.00	0.01	0.26	0.07	0.00	0.06	1.10
1998	0.00	0.00	0.03	0.08	0.00	0.00	0.00	0.00	0.05	0.00	0.02	0.22	0.05	0.00	0.04	1.00
1999	0.00	0.00	0.03	0.14	0.00	0.00	0.01	0.00	0.06	0.00	0.02	0.19	0.04	0.00	0.04	0.95
2000	0.00	0.00	0.03	0.11	0.00	0.00	0.00	0.00	0.07	0.00	0.04	0.23	0.04	0.00	0.03	0.94
2001	0.00	0.00	0.03	0.15	0.00	0.00	0.01	0.01	0.11	0.00	0.05	0.30	0.04	0.00	0.05	1.21
2002	0.00	0.00	0.04	0.24	0.00	0.00	0.02	0.01	0.15	0.00	0.06	0.44	0.05	0.00	0.11	1.70
2003	0.00	0.00	0.05	0.31	0.00	0.00	0.03	0.01	0.13	0.01	0.06	0.51	0.06	0.00	0.14	1.92
2004	0.00	0.00	0.06	0.24	0.00	0.00	0.01	0.01	0.10	0.01	0.06	0.49	0.07	0.00	0.10	1.78
2005	0.00	0.00	0.06	0.24	0.00	0.00	0.02	0.01	0.06	0.00	0.05	0.39	0.07	0.01	0.08	1.54
2006	0.00	0.00	0.06	0.16	0.00	0.00	0.01	0.00	0.05	0.01	0.05	0.23	0.06	0.01	0.07	1.24
2007	0.00	0.00	0.05	0.08	0.00	0.00	0.00	0.00	0.03	0.00	0.05	0.13	0.05	0.01	0.05	0.92
2008	0.00	0.00	0.04	0.10	0.00	0.00	0.00	0.00	0.04	0.00	0.05	0.08	0.04	0.00	0.06	0.80
2009	0.00	0.00	0.05	0.15	0.00	0.00	0.01	0.00	0.08	0.00	0.05	0.12	0.05	0.01	0.07	0.95
2010	0.00	0.00	0.05	0.16	0.00	0.00	0.01	0.00	0.10	0.00	0.06	0.18	0.05	0.01	0.06	1.09
2011	0.00	0.00	0.05	0.21	0.00	0.00	0.02	0.01	0.08	0.00	0.06	0.21	0.05	0.01	0.08	1.22
2012	0.00	0.00	0.05	0.20	0.00	0.00	0.01	0.01	0.07	0.00	0.06	0.24	0.05	0.01	0.07	1.15

Table H3. Abundance indices (AIs) for the WCVI troll fishery by stock and year stock groups 1–15 this page; 16–30 on following page), from CLB 1309. Numbers shown represent the portion of the AI total estimated for each model stock; the summation across all 30 stock groups equals the AI total for each calendar year.

Year	Alaska South SE	North/Centr	Fraser Early	Fraser Late	WCVI Hatchery	WCVI Natural	St. of Georgia Upper	St. of Georgia Lwr Nat	St. of Georgia Lwr Hat	Nooksack Fall	Pgt Sd Fing	Pgt Sd NatF	Pgt Sd Year	Nooksack Spring	Skagit Wild	AI Total
1979	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1980	0.00	0.00	0.01	0.28	0.01	0.02	0.00	0.01	0.01	0.08	0.04	0.03	0.02	0.00	0.02	1.11
1981	0.00	0.00	0.01	0.21	0.02	0.02	0.00	0.01	0.01	0.09	0.04	0.02	0.02	0.00	0.02	0.96
1982	0.00	0.00	0.00	0.24	0.02	0.03	0.00	0.00	0.01	0.09	0.04	0.02	0.02	0.00	0.02	0.92
1983	0.00	0.00	0.00	0.25	0.04	0.03	0.00	0.00	0.01	0.09	0.04	0.02	0.02	0.00	0.01	1.01
1984	0.00	0.00	0.01	0.22	0.05	0.02	0.00	0.00	0.00	0.10	0.06	0.03	0.02	0.00	0.01	0.92
1985	0.00	0.00	0.01	0.25	0.04	0.01	0.00	0.00	0.01	0.11	0.06	0.02	0.02	0.00	0.02	0.99
1986	0.00	0.00	0.01	0.28	0.03	0.01	0.00	0.00	0.01	0.09	0.05	0.02	0.01	0.00	0.01	0.97
1987	0.00	0.00	0.01	0.23	0.02	0.01	0.00	0.00	0.00	0.08	0.06	0.03	0.01	0.00	0.01	1.05
1988	0.00	0.00	0.01	0.11	0.02	0.01	0.00	0.00	0.00	0.06	0.08	0.03	0.01	0.00	0.01	1.21
1989	0.00	0.00	0.01	0.07	0.04	0.01	0.00	0.00	0.00	0.05	0.09	0.03	0.01	0.00	0.01	1.14
1990	0.00	0.00	0.01	0.18	0.06	0.01	0.00	0.00	0.00	0.06	0.10	0.03	0.02	0.00	0.01	0.99
1991	0.00	0.00	0.01	0.21	0.09	0.02	0.00	0.00	0.00	0.07	0.10	0.03	0.01	0.00	0.01	0.90
1992	0.00	0.00	0.01	0.16	0.09	0.02	0.00	0.00	0.00	0.04	0.07	0.03	0.01	0.00	0.00	0.77
1993	0.00	0.00	0.01	0.21	0.09	0.02	0.00	0.00	0.00	0.03	0.06	0.02	0.01	0.00	0.00	0.80
1994	0.00	0.00	0.01	0.17	0.09	0.02	0.00	0.00	0.00	0.03	0.06	0.02	0.01	0.00	0.00	0.70
1995	0.00	0.00	0.01	0.10	0.05	0.01	0.00	0.00	0.00	0.02	0.06	0.02	0.01	0.00	0.00	0.53
1996	0.00	0.00	0.01	0.05	0.01	0.00	0.00	0.00	0.00	0.02	0.08	0.02	0.01	0.00	0.00	0.43
1997	0.00	0.00	0.01	0.08	0.02	0.00	0.00	0.00	0.00	0.02	0.07	0.01	0.01	0.00	0.00	0.50
1998	0.00	0.00	0.01	0.17	0.04	0.01	0.00	0.00	0.00	0.03	0.06	0.01	0.01	0.00	0.01	0.59
1999	0.00	0.00	0.01	0.18	0.04	0.01	0.00	0.00	0.00	0.03	0.06	0.01	0.00	0.00	0.00	0.57
2000	0.00	0.00	0.01	0.11	0.01	0.00	0.00	0.00	0.00	0.03	0.08	0.01	0.01	0.00	0.01	0.51
2001	0.00	0.00	0.01	0.12	0.01	0.00	0.00	0.00	0.00	0.03	0.08	0.01	0.01	0.00	0.01	0.54
2002	0.00	0.00	0.01	0.12	0.02	0.00	0.00	0.00	0.00	0.04	0.09	0.02	0.01	0.00	0.01	0.84
2003	0.00	0.00	0.01	0.19	0.05	0.01	0.00	0.00	0.00	0.04	0.09	0.02	0.01	0.00	0.01	1.17
2004	0.00	0.00	0.01	0.23	0.06	0.01	0.00	0.00	0.00	0.02	0.09	0.01	0.01	0.00	0.01	1.22
2005	0.00	0.00	0.01	0.15	0.05	0.00	0.00	0.00	0.00	0.02	0.09	0.02	0.01	0.00	0.01	1.02
2006	0.00	0.00	0.01	0.09	0.04	0.00	0.00	0.00	0.00	0.02	0.10	0.01	0.02	0.00	0.01	0.84
2007	0.00	0.00	0.01	0.10	0.04	0.01	0.00	0.00	0.00	0.02	0.11	0.01	0.02	0.00	0.01	0.66
2008	0.00	0.00	0.01	0.07	0.03	0.00	0.00	0.00	0.00	0.02	0.12	0.02	0.03	0.00	0.01	0.53
2009	0.00	0.00	0.01	0.08	0.02	0.00	0.00	0.00	0.00	0.02	0.10	0.01	0.02	0.00	0.01	0.57
2010	0.00	0.00	0.01	0.06	0.02	0.00	0.00	0.00	0.00	0.02	0.09	0.01	0.02	0.00	0.01	0.57
2011	0.00	0.00	0.01	0.14	0.03	0.00	0.00	0.00	0.00	0.03	0.09	0.01	0.02	0.00	0.00	0.79
2012	0.00	0.00	0.01	0.14	0.04	0.00	0.00	0.00	0.00	0.03	0.09	0.01	0.02	0.00	0.01	0.82

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Table H3. Page 2 of 2 (stock groups 16–30).

Year	Stillaguamish Wild	Snohomish Wild	WA Coastal Hat	UpRiver Brights	Spring Creek Hat	Lwr Bonneville Hat	Fall Cowlitz Hat	Lewis R Wild	Willamette R	Spr Cowlitz Hat	Col R Summer	Oregon Coast	WA Coastal Wild	Lyons Ferry	Mid-Col R Brights	AI Total
1979	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1980	0.00	0.01	0.01	0.06	0.17	0.14	0.09	0.01	0.01	0.01	0.02	0.04	0.01	0.00	0.00	1.11
1981	0.00	0.01	0.01	0.04	0.14	0.10	0.09	0.01	0.01	0.02	0.02	0.04	0.01	0.00	0.00	0.96
1982	0.00	0.01	0.01	0.03	0.12	0.09	0.08	0.01	0.02	0.01	0.02	0.04	0.01	0.00	0.01	0.92
1983	0.00	0.01	0.01	0.03	0.13	0.10	0.09	0.01	0.02	0.01	0.01	0.05	0.01	0.00	0.01	1.01
1984	0.00	0.01	0.01	0.05	0.04	0.09	0.08	0.01	0.02	0.01	0.02	0.06	0.01	0.00	0.00	0.92
1985	0.00	0.01	0.01	0.08	0.05	0.08	0.07	0.01	0.02	0.01	0.02	0.07	0.01	0.00	0.00	0.99
1986	0.00	0.00	0.01	0.10	0.03	0.07	0.08	0.01	0.02	0.01	0.01	0.07	0.02	0.00	0.02	0.97
1987	0.00	0.00	0.01	0.15	0.02	0.12	0.09	0.01	0.02	0.01	0.02	0.07	0.02	0.00	0.04	1.05
1988	0.00	0.00	0.02	0.18	0.01	0.25	0.18	0.02	0.03	0.01	0.02	0.07	0.02	0.00	0.04	1.21
1989	0.00	0.00	0.02	0.14	0.03	0.12	0.28	0.02	0.03	0.01	0.02	0.07	0.03	0.00	0.03	1.14
1990	0.00	0.00	0.02	0.09	0.04	0.05	0.13	0.01	0.03	0.01	0.01	0.06	0.03	0.00	0.02	0.99
1991	0.00	0.00	0.02	0.06	0.04	0.03	0.06	0.01	0.03	0.01	0.01	0.06	0.02	0.00	0.01	0.90
1992	0.00	0.00	0.02	0.04	0.05	0.05	0.04	0.01	0.02	0.01	0.01	0.05	0.02	0.00	0.02	0.77
1993	0.00	0.00	0.02	0.05	0.04	0.06	0.05	0.01	0.01	0.01	0.01	0.05	0.02	0.00	0.02	0.80
1994	0.00	0.00	0.02	0.06	0.02	0.03	0.04	0.00	0.01	0.00	0.01	0.05	0.02	0.00	0.01	0.70
1995	0.00	0.00	0.01	0.05	0.02	0.02	0.02	0.01	0.01	0.00	0.01	0.05	0.02	0.00	0.01	0.53
1996	0.00	0.00	0.01	0.04	0.02	0.02	0.03	0.00	0.01	0.00	0.01	0.04	0.01	0.00	0.02	0.43
1997	0.00	0.00	0.01	0.06	0.03	0.02	0.04	0.00	0.01	0.00	0.01	0.04	0.01	0.00	0.03	0.50
1998	0.00	0.00	0.01	0.05	0.02	0.02	0.03	0.00	0.01	0.00	0.01	0.04	0.01	0.00	0.02	0.59
1999	0.00	0.00	0.01	0.05	0.02	0.02	0.02	0.00	0.01	0.00	0.01	0.03	0.01	0.00	0.02	0.57
2000	0.00	0.00	0.01	0.07	0.03	0.01	0.02	0.00	0.01	0.00	0.02	0.03	0.01	0.00	0.02	0.51
2001	0.00	0.00	0.01	0.06	0.02	0.02	0.02	0.01	0.01	0.00	0.03	0.03	0.01	0.00	0.04	0.54
2002	0.00	0.00	0.01	0.10	0.10	0.06	0.04	0.01	0.03	0.00	0.04	0.05	0.01	0.01	0.07	0.84
2003	0.00	0.00	0.01	0.14	0.18	0.08	0.07	0.01	0.03	0.01	0.06	0.07	0.01	0.01	0.06	1.17
2004	0.00	0.00	0.01	0.14	0.19	0.06	0.11	0.01	0.03	0.01	0.05	0.08	0.01	0.01	0.05	1.22
2005	0.00	0.00	0.01	0.13	0.17	0.04	0.09	0.01	0.02	0.01	0.05	0.07	0.02	0.01	0.04	1.02
2006	0.00	0.00	0.01	0.11	0.10	0.02	0.08	0.01	0.01	0.01	0.05	0.05	0.01	0.01	0.03	0.84
2007	0.00	0.00	0.01	0.07	0.03	0.01	0.04	0.00	0.01	0.01	0.05	0.03	0.01	0.01	0.03	0.66
2008	0.00	0.00	0.01	0.04	0.02	0.01	0.02	0.00	0.01	0.00	0.04	0.02	0.01	0.01	0.03	0.53
2009	0.00	0.00	0.01	0.07	0.06	0.02	0.02	0.00	0.01	0.00	0.04	0.01	0.01	0.01	0.03	0.57
2010	0.00	0.00	0.01	0.08	0.04	0.01	0.04	0.00	0.02	0.00	0.05	0.02	0.01	0.01	0.03	0.57
2011	0.00	0.00	0.01	0.10	0.09	0.02	0.05	0.00	0.02	0.00	0.05	0.03	0.01	0.01	0.04	0.79
2012	0.00	0.00	0.01	0.11	0.06	0.02	0.09	0.01	0.02	0.00	0.05	0.03	0.01	0.02	0.04	0.82

APPENDIX I: FISHERY EXPLOITATION RATE INDICES BY STOCK, AGE AND FISHERY, BASED ON CWT DATA, 1975–2011.

LIST OF APPENDIX I TABLES

Table I1. Alaska troll Stratified Proportion Fishery Index (SPFI) values as landed catch, based on CWT data.

YEAR	SPFI	WIN/SPR	JUNE IN	JUNE OUT	JULY IN	JULY OUT	FALL
1979	0.8131	1.1282	0.5177	1.0798	0.3822	0.7709	0.7709
1980	1.2919	0.6395	1.4586	0.9509	1.8606	1.5645	1.5645
1981	1.0997	1.2270	0.9145	1.0699	0.8558	1.0532	1.0532
1982	0.7953	1.0053	1.1092	0.8994	0.9014	0.6114	0.6114
1983	0.8665	1.0570	0.6747	0.5967	0.7950	1.2217	1.2217
1984	0.6155	0.3652	1.1556	0.9418	0.2730	0.5204	0.5204
1985	0.6729	0.4484	0.8822	0.5931	0.6999	0.8214	0.8214
1986	0.4532	0.4366	0.4243	0.1557	0.5249	1.2471	1.2471
1987	0.4743	0.5889	0.5889	0.1683	1.2746	0.6278	0.6278
1988	0.4130	1.3749	0.1425	0.0014	1.1381	0.6441	0.6441
1989	0.5012	0.8389	0.4570	0.2041	0.4915	0.5312	0.5312
1990	0.6926	0.6408	0.9163	0.1121	1.0531	1.1143	1.1143
1991	0.5907	1.3592	0.9455	0.2199	0.4866	0.7496	0.7496
1992	0.3788	1.0335	0.5345	0.0658	0.2028	0.3849	0.3849
1993	0.4137	0.7442	0.2904	0.0153	0.2419	0.8744	0.8744
1994	0.3983	0.6643	0.1163	0.0370	0.1500	0.6473	0.6473
1995	0.4899	0.4631	0.3232	0.0507	0.8689	0.7585	0.7585
1996	0.4135	0.5628	0.6349	0.0853	0.4621	0.5383	0.5383
1997	0.5844	0.6322	0.6342	0.1382	0.0780	1.4675	1.4675
1998	0.3826	0.7999	0.1444	0.0522	0.3707	0.9504	0.9504
1999	0.5676	0.7801	0.2855	0.1033	0.1071	0.9562	0.9562
2000	0.4274	0.8858	0.1040	0.0794	0.0537	1.4168	1.4168
2001	0.3735	0.5728	0.1301	0.0708	0.1244	0.6352	0.6352
2002	0.4910	0.4251	0.1013	0.0607	0.1473	1.1168	1.1168
2003	0.4757	0.7097	0.1361	0.0688	0.3045	0.8544	0.8544
2004	0.4276	0.8324	0.1873	0.0735	0.2800	0.9260	0.9260
2005	0.4550	0.9244	0.1945	0.1183	0.4011	1.2158	1.2158
2006	0.6124	1.5479	0.7413	0.1165	0.1103	1.3763	1.3763
2007	0.5883	1.3052	0.9653	0.1355	0.1739	1.1205	1.1205
2008	0.4235	0.8456	0.7882	0.0687	0.0860	0.6769	0.6769
2009	0.5703	0.7029	0.3653	0.1496	0.1463	1.0582	1.0582
2010	0.3611	1.1285	0.3610	0.0404	0.0824	0.7073	0.7073
2011	0.3170	0.9606	0.2046	0.0424	0.1007	0.7301	0.7301

ER Stock Identifiers			
Alaska Southeast	Age 4	Age 5	Age 6
Quinsam	Age 4	Age 5	
Robertson Creek	Age 3	Age 4	Age 5
Salmon River Hatchery	Age 4	Age 5	
Columbia Upriver Brights	Age 4	Age 5	
Willamette Spring Hatchery	Age 4	Age 5	

Table I2. Alaska troll Stratified Proportion Fishery Index (SPFI) values as total mortality, based on CWT data.

YEAR	SPFI	WIN/SPR	JUNE IN	JUNE OUT	JULY IN	JULY OUT	FALL
1979	0.7899	1.0865	0.5061	1.0708	0.3797	0.7403	0.7403
1980	1.2201	0.6409	1.4790	0.9151	1.7645	1.4170	1.4170
1981	1.0989	1.2206	0.8842	1.1002	0.8043	1.0643	1.0643
1982	0.8911	1.0521	1.1307	0.9139	1.0514	0.7784	0.7784
1983	0.9802	1.0207	0.7234	0.6082	0.7239	1.6356	1.6356
1984	0.6518	0.3716	1.1330	0.9381	0.4213	0.6118	0.6118
1985	0.7740	0.4646	0.8425	0.5755	0.6795	1.0718	1.0718
1986	0.5157	0.4865	0.4357	0.1542	0.6049	1.4656	1.4656
1987	0.5429	0.6026	0.5384	0.1597	1.6734	0.7569	0.7569
1988	0.4259	1.2953	0.1533	0.0114	1.2276	0.6538	0.6538
1989	0.5613	0.8083	0.4422	0.2026	0.5666	0.6087	0.6087
1990	0.8650	0.7973	0.9735	0.1274	1.0337	1.4407	1.4407
1991	0.6122	1.2770	0.8723	0.2072	0.6120	0.7841	0.7841
1992	0.4323	0.9816	0.4944	0.0621	0.2102	0.5488	0.5488
1993	0.4566	0.7131	0.2656	0.0162	0.2434	1.0220	1.0220
1994	0.4758	0.6420	0.1415	0.0370	0.1968	0.8373	0.8373
1995	0.5785	0.4681	0.3362	0.0521	0.8846	0.9192	0.9192
1996	0.4944	0.5627	0.6037	0.0908	0.4871	0.6637	0.6637
1997	0.5786	0.6207	0.5789	0.1364	0.0956	1.4150	1.4150
1998	0.3656	0.7744	0.1445	0.0529	0.3241	0.8913	0.8913
1999	0.6184	0.7700	0.2702	0.0994	0.1447	1.0608	1.0608
2000	0.4470	0.8874	0.1066	0.0855	0.0814	1.4673	1.4673
2001	0.3896	0.5548	0.1211	0.0679	0.1536	0.6668	0.6668
2002	0.4834	0.4531	0.1023	0.0636	0.1632	1.0568	1.0568
2003	0.4611	0.7230	0.1307	0.0697	0.2777	0.8021	0.8021
2004	0.4188	0.8218	0.1763	0.0741	0.2776	0.8852	0.8852
2005	0.4697	1.0145	0.2501	0.1224	0.3722	1.1945	1.1945
2006	0.6123	1.4989	0.7280	0.1173	0.1174	1.3574	1.3574
2007	0.5823	1.2787	0.9621	0.1315	0.1641	1.0946	1.0946
2008	0.4352	0.8080	0.7235	0.0711	0.1093	0.6997	0.6997
2009	0.5843	0.7184	0.3536	0.1436	0.1682	1.0714	1.0714
2010	0.3754	1.1347	0.3495	0.0424	0.0886	0.7326	0.7326
2011	0.3096	0.9026	0.1887	0.0395	0.0976	0.7154	0.7154

ER Stock Identifiers			
Alaska Southeast	Age 4	Age 5	Age 6
Quinsam	Age 4	Age 5	
Robertson Creek	Age 3	Age 4	Age 5
Salmon River Hatchery	Age 4	Age 5	
Columbia Upriver Brights	Age 4	Age 5	
Willamette Spring Hatchery	Age 4	Age 5	

Table I3. Landed catch exploitation rate indices by stock and age in the NBC troll fishery, based on CWT data. Base period is 1979–1982.

	ER Stock Identifiers[1]												
Year	AKS Age 4	QUI Age 3	QUI Age 4	RBT Age 3	RBT Age 4	RBT Age 5	SRH Age 3	SRH Age 4	SRH Age 5	URB Age 4	URB Age 5	WSH Age 4	Fishery Index
1979		0.5510	0.8718	1.1531	0.8274	0.4793	1.1800			1.1917		0.6463	0.8339
1980		0.8007	0.9775	1.0492	0.8534	0.7707		0.9276		0.9893	1.2710	1.1841	0.9429
1981		1.7646	1.4512	0.8536	1.0407	1.7500	1.3089		1.0000	1.1512	1.3118	1.5272	1.2628
1982	1.0000	0.8838	0.6995	0.9441	1.2784		0.5111	1.0724		0.6678	0.4172	0.6424	0.8412
1983	1.5922	1.2412	1.4711	0.9826	0.7324	0.7472	0.5739	1.1720	0.2433	1.3045		1.2691	0.8031
1984	1.1231	0.2515	0.5020	0.3869	1.3672	1.6702		1.4222	1.2803	2.1053		0.4595	1.2144
1985	0.7726	0.2518	0.5805	0.9467	1.8650	1.6956	0.3934		1.2260	1.7148	1.6791	0.2010	1.2211
1986	0.7135	0.9365	0.8469		0.9164		0.1131	1.1439		1.2496	1.9961		1.0107
1987	0.5971	0.3481	0.6218	0.4490			0.2034	0.7955	1.0121	1.7646	2.0835		0.9404
1988	1.9823	0.1845	0.6967	0.3027	0.6197			0.6540	0.3360	1.0783	2.3568	0.7874	0.6958
1989	0.9049	0.4339	0.4475	0.3690	0.8762	1.0483	0.1357	0.5667	0.9968	1.0273	4.2322	0.3660	0.9802
1990	1.9064	0.3558	0.9622	0.2800	0.7116	0.5506	0.1769	0.5073	0.9242	1.2459	2.3862	0.3030	0.7986
1991	0.6355	0.4220	0.6669	0.3512	0.7109	1.0942	0.1347	0.8443	0.9549			0.2775	0.7441
1992	0.1138		1.8662	0.2688	0.5723	0.6314	0.1224	0.5190	0.4480			0.1003	0.5756
1993	0.2671			0.1485	0.6249	0.8366	0.1325	1.1340	1.0304	1.1664		0.2092	0.7788
1994	0.0498			0.2884	0.7537	0.8564	0.2194	1.1164	0.9365	0.9472	2.0801	0.1175	0.8642
1995	0.0000				0.4137	0.2331	0.1280	0.0000	0.3981		0.5720	0.1519	0.3006
1996	0.0000			0.0000			0.0000	0.0000	0.0000	0.0000		0.0000	0.0000
1997		0.3509	0.2542	0.2061	0.3120		0.2170	0.2317	0.1812	0.5450		0.1340	0.2553
1998	0.0000		0.0000		0.4911		0.0756	1.1232	0.5922		1.2611	0.0000	0.5527
1999	0.0000	0.1655	0.1930		0.3369	0.5500	0.1057	0.4059	0.2297	1.1973		0.0000	0.3563
2000	0.0000	0.0000	0.0626				0.0493	0.5744	0.1579	0.0000	0.0000	0.0137	0.1397
2001		0.0000	0.0149	0.0000			0.0482	0.3597	0.4181	0.0000		0.0208	0.2016
2002	0.4663		0.1415	0.0000	0.4642		0.1909	0.6251	0.7023	0.2106		0.1864	0.4289
2003	0.0000	0.0000	0.0000	0.0435	0.0514	0.0000	0.0540	0.6393	0.2538	0.7563	1.0825	0.0525	0.2497
2004	0.9023	0.0000	0.0570	0.0845	0.1957	0.4271	0.0939	0.5337	0.4382	0.7488	1.3801	0.1907	0.3988
2005	0.1789	0.0749	0.0431	0.0310	0.3222	0.1039	0.1141	0.9562	0.4545	1.4960	1.0650	0.0958	0.4303
2006	0.3737	0.0817	0.0674	0.0944	0.2582	0.2676	0.0381	1.0029	0.7293	1.4005	1.5138	0.0481	0.5379
2007	0.0882		0.4450		0.4860	0.4982	0.0000	0.5975	0.6790			0.0000	0.4866
2008	0.1032	0.0000		0.0805	0.6214	0.1899	0.0751	0.6972				0.0502	0.3087
2009	0.8952		0.1066	0.1878	0.2055		0.0138	1.3476	0.9605	1.9228		0.0340	0.6907
2010	0.1935	0.0000		0.1413	0.0869		0.1961	1.0643	0.4235			0.1310	0.3515
2011	0.0000	0.0000	0.0000	0.0000	0.3325		0.0169	0.7983	0.5450	0.5716		0.1260	0.3520

[1] Stock Identifiers: AKS = ALASKA SPRING; QUI = QUINSAM; RBT = ROBERTSON CREEK; SRH = SALMON RIVER HATCHERY; URB = COLUMBIA UPRIVER BRIGHT; WSH = WILLAMETTE SPRING

Table I4. NBC troll fishery Stratified Proportion Fishery Index (SPFI) values as landed catch, based on CWT data.

YEAR	SPFI
1979	0.9470
1980	0.8084
1981	1.2639
1982	0.9807
1983	0.9316
1984	0.9218
1985	0.8990
1986	0.7293
1987	0.7195
1988	0.6477
1989	0.6525
1990	0.5687
1991	0.6268
1992	0.4334
1993	0.4947
1994	0.5955
1995	0.2604
1996	0.0000
1997	0.2109
1998	0.3994
1999	0.3015
2000	0.0850
2001	0.0796
2002	0.3045
2003	0.2096
2004	0.2731
2005	0.3893
2006	0.3809
2007	0.3332
2008	0.2589
2009	0.5269
2010	0.3082
2011	0.2380

ER Stock Identifiers			
Alaska Southeast	Age 4	Age 5	Age 6
Quinsam	Age 4	Age 5	
Robertson Creek	Age 3	Age 4	Age 5
Salmon River Hatchery	Age 4	Age 5	
Columbia Upriver Brights	Age 4	Age 5	
Willamette Spring Hatchery	Age 4	Age 5	

Table I5. Total mortality exploitation rate indices by stock and age in the NBC troll fishery, based on CWT data. Base period is 1979–1982.

	ER Stock Identifiers[1]												
Year	AKS Age 4	QUI Age 3	QUI Age 4	RBT Age 3	RBT Age 4	RBT Age 5	SRH Age 3	SRH Age 4	SRH Age 5	URB Age 4	URB Age 5	WSH Age 4	Fishery Index
1979		0.5670	0.8599	1.1626	0.8328	0.4758	1.1811			1.1968		0.6283	0.8389
1980		0.8089	0.9813	1.0240	0.8544	0.7651		0.9342		0.9889	1.2674	1.1458	0.9411
1981		1.7505	1.4516	0.8503	1.0357	1.7592	1.2925		1.0000	1.1573	1.3236	1.5229	1.2627
1982	1.0000	0.8736	0.7072	0.9631	1.2771		0.5264	1.0658		0.6571	0.4090	0.7030	0.8429
1983	1.6361	1.2223	1.4806	0.9749	0.7338	0.7555	0.6349	1.1719	0.2398	1.2836		1.2499	0.8109
1984	1.1322	0.2620	0.5122	0.4902	1.3680	1.6816		1.4265	1.2814	2.1232		0.4610	1.2111
1985	0.8049	0.2748	0.5814	1.0924	1.8601	1.7214	0.4404		1.2268	1.7176	1.6459	0.1930	1.2187
1986	0.7308	0.9433	0.8353		0.9138		0.1620	1.1408		1.2652	1.9565		1.0012
1987	0.6704	0.4732	0.6667	0.4911			0.3239	0.8279	1.0159	1.8284	2.1102		0.9684
1988	2.1987	0.2966	0.7249	0.3500	0.6400			0.6773	0.3311	1.1413	2.3879	0.8961	0.7231
1989	0.9546	0.5003	0.4729	0.4410	0.8837	1.0586	0.2951	0.6068	1.0082	1.1048	4.2385	0.3829	1.0011
1990	2.3376	0.5295	1.0084	0.3817	0.7361	0.5642	0.3309	0.5448	0.9433	1.3373	2.4429	0.3325	0.8419
1991	0.7387	0.5797	0.6877	0.4682	0.7276	1.1160	0.3216	0.8722	0.9689			0.3045	0.7803
1992	0.2101		1.9746	0.4116	0.5998	0.6541	0.1918	0.5402	0.4599			0.1224	0.6075
1993	0.2465			0.3256	0.6495	0.8591	0.2978	1.1657	1.0472	1.2327		0.2350	0.8150
1994	0.1149			0.5059	0.7827	0.8742	0.4148	1.1446	0.9438	0.9868	2.1408	0.1311	0.9024
1995	0.0777				0.4312	0.2534	0.2350	0.0344	0.4255		0.6117	0.2115	0.3343
1996	0.1288			0.0674			0.0808	0.0280	0.0277	0.0642		0.0561	0.0464
1997		0.3829	0.2508	0.2568	0.3166		0.2356	0.2389	0.1786	0.5554		0.1373	0.2634
1998	0.0000		0.0000		0.4999		0.2031	1.1317	0.5949		1.2361	0.0000	0.5596
1999	0.0000	0.1847	0.1904		0.3292	0.5566	0.1377	0.4104	0.2264	1.2145		0.0000	0.3554
2000	0.0000	0.0000	0.0618				0.0725	0.5716	0.1556	0.0000	0.0000	0.0140	0.1388
2001		0.0000	0.0147	0.0000			0.0706	0.3637	0.4120	0.0000		0.0201	0.1963
2002	0.6026		0.1396	0.0316	0.4742		0.2427	0.6350	0.7108	0.2210		0.2122	0.4375
2003	0.0801	0.0000	0.0000	0.0445	0.0538	0.0000	0.1059	0.6538	0.2558	0.7805	1.1003	0.0576	0.2548
2004	0.9995	0.0000	0.0563	0.1297	0.2086	0.4462	0.1722	0.5614	0.4586	0.7651	1.4339	0.2071	0.4177
2005	0.2311	0.0668	0.0425	0.0635	0.3312	0.1032	0.2299	0.9901	0.4678	1.5649	1.1185	0.0981	0.4484
2006	0.4743	0.0729	0.0665	0.1345	0.2599	0.2656	0.1366	1.0011	0.7319	1.4379	1.5073	0.0615	0.5404
2007	0.1139		0.4389		0.4900	0.4945	0.0437	0.6033	0.6820			0.0000	0.4841
2008	0.0953	0.0000		0.1235	0.6429	0.1885	0.1277	0.7014				0.0571	0.3164
2009	0.9487		0.1052	0.1976	0.2008		0.1116	1.3595	0.9668	1.9517		0.0290	0.6913
2010	0.2144	0.0000		0.1690	0.0849		0.2168	1.0683	0.4290			0.1331	0.3515
2011	0.0609	0.0000	0.0000	0.0678	0.3649		0.0478	0.8631	0.5897	0.6267		0.1324	0.3809

[1] Stock Identifiers: AKS = ALASKA SPRING; QUI = QUINSAM; RBT = ROBERTSON CREEK; SRH = SALMON RIVER HATCHERY; URB = COLUMBIA UPRIVER BRIGHT; WSH = WILLAMETTE SPRING

Table I6. NBC troll fishery Stratified Proportion Fishery Index (SPFI) values as total mortality, based on CWT data.

YEAR	SPFI
1979	0.9457
1980	0.7948
1981	1.2741
1982	0.9855
1983	0.9404
1984	0.9099
1985	0.8804
1986	0.7344
1987	0.8019
1988	0.7006
1989	0.7271
1990	0.6429
1991	0.6328
1992	0.4830
1993	0.5366
1994	0.5796
1995	0.2800
1996	0.0000
1997	0.1994
1998	0.3809
1999	0.2925
2000	0.1001
2001	0.0982
2002	0.3267
2003	0.2217
2004	0.2958
2005	0.3915
2006	0.3765
2007	0.3387
2008	0.2861
2009	0.5224
2010	0.3371
2011	0.2501

ER Stock Identifiers			
Alaska Southeast	Age 4	Age 5	Age 6
Quinsam	Age 4	Age 5	
Robertson Creek	Age 3	Age 4	Age 5
Salmon River Hatchery	Age 4	Age 5	
Columbia Upriver Brights	Age 4	Age 5	
Willamette Spring Hatchery	Age 4	Age 5	

Table I7. Landed catch exploitation rate indices by stock and age in the WCVI troll fishery, based on CWT data. Base period is 1979–1982.

	ER Stock Identifiers[1]																							
Year	CWF Age 4	GAD Age 3	GAD Age 4	LRH Age 3	LRH Age 4	LRW Age 4	RBT Age 3	RBT Age 4	RBT Age 5	SAM Age 3	SAM Age 4	SAM Age 5	SPR Age 3	SPR Age 4	SPS Age 3	SPS Age 4	SRH Age 3	SRH Age 4	SUM Age 4	URB Age 3	URB Age 4	UWA Age 3	UWA Age 4	WSH Age 4	Fishery Index
1979				1.10			1.20	1.25			1.00	1.00	0.94	0.83		1.13	1.53			1.37	1.75	0.69	1.23	1.00	1.05
1980				0.57	0.99		1.38	1.42					1.17	1.41				1.10	0.69	1.32	0.95	1.37	0.86	1.10	1.04
1981	0.79	0.72		1.15	0.74	0.85	0.66	0.60	1.00				0.93	0.62	0.73		0.47		1.31	0.27	0.88	0.83	0.87	0.64	0.85
1982	1.21	1.28	1.00	1.17	1.27	1.15	0.75	0.72		1.00			0.96	1.14	1.27	0.87		0.90		1.05	0.41	1.11	1.04	1.27	1.06
1983	1.38		1.41	1.66	1.58	0.96	0.45	0.83	1.87		0.96		1.41	0.93	1.58	0.89	1.42			0.38	0.43	0.71	1.08	0.30	1.16
1984	1.32	1.89		2.11	2.76		1.31	1.11	1.08			1.08	1.25	1.33	1.57	0.96		0.42		0.88	1.27	1.67	0.75	0.64	1.40
1985	0.92		0.84	1.25	1.11		0.49	0.00					0.56	0.92	0.81	0.65				0.84	1.03	0.78	1.03	0.43	0.86
1986	1.32			1.18	1.14	0.47		1.10					1.17	0.99	0.91	1.06		0.18		1.45	1.41	0.85	1.08		1.06
1987	0.89			1.24		1.50	0.30						0.46		0.94	0.53	0.37	0.25		1.19	0.86	0.46	0.43		0.71
1988	0.92	0.53		1.38	1.45	1.11	0.49	0.60		0.75			1.00		0.41	0.72		0.69	1.20	0.56	2.04		0.81	0.95	0.99
1989	0.55	0.40	0.50	0.33	0.59	0.59	0.24	0.34	0.00	0.38	0.61		0.63	0.40	0.42	0.39	0.39		0.78		0.95			0.56	0.50
1990	0.76	1.17	0.95	1.20	0.45	1.24	0.71	0.53	1.55	0.51	0.86		0.95	0.74	0.99	0.84	0.81	0.46	1.50		1.68			0.90	0.91
1991			0.98	0.77		0.77	0.66	0.55	1.40	0.45	0.58	1.09	0.62	0.64	0.56	0.54	0.95	0.39	0.48					0.09	0.70
1992	1.17		0.34	0.79		0.34	1.89	2.51	5.24	1.02	0.27		0.52	0.76	0.82	0.73	1.41	2.56	0.81					0.25	0.84
1993				1.25	0.73		1.48	2.36	2.53	1.22	0.44		0.61	1.02	1.16	0.53	1.53	1.17		0.95	2.05			0.47	0.93
1994	0.12					0.24	0.70	0.73	1.33	0.27	0.71		0.87	0.66	0.26	0.46		0.41			1.00			0.28	0.56
1995		0.32				0.48		0.48	0.36	0.27	0.41		0.43	0.38	0.35	0.28	0.10							0.15	0.36
1996	0.03	0.07	0.03	0.06			0.04			0.07	0.02		0.04		0.07	0.02	0.06	0.01	0.03	0.09	0.06			0.03	0.04
1997	0.38		0.22	0.91			0.01	0.04		0.09	0.25		0.56	0.44	0.15	0.31	0.00	0.03	0.07		0.07			0.00	0.34
1998								0.00			0.08		0.04	0.00	0.00	0.03	0.00	0.00	0.00	0.01				0.03	0.03
1999		0.04		0.08					0.00		0.07		0.01		0.02	0.05	0.00	0.00	0.03		0.00			0.00	0.04
2000			1.21	0.08	1.67						1.08		0.05	0.74	0.03	0.70	0.00	0.00	0.21	0.11	0.50			0.07	0.68
2001		0.67	1.26	0.27	0.84	0.70	0.00			0.37	0.36		0.14	0.58	0.43	0.54	0.00	0.05	0.45	0.11	0.17			0.16	0.52
2002	0.57	0.16	0.62	0.27	0.36		0.01	0.00		0.22	0.40		0.26	0.68	0.37	0.48	0.00	0.00	0.50	0.08	0.27			0.27	0.40
2003	0.53	0.10	0.71	0.25	0.72	0.12	0.00	0.00			0.57		0.27	0.57	0.32	0.54	0.00	0.00	0.57	0.16	0.10			0.54	0.45
2004		0.07	1.18	0.36	0.99	0.12	0.03	0.02	0.00	0.16	0.56		0.32	0.80	0.31	0.82	0.17	0.26	0.26	0.14	0.48			2.07	0.58
2005	0.30	0.65	0.97	0.61	1.62	0.12	0.00	0.00		0.10	0.79		0.81	1.17	0.50	0.75	0.15	0.24	0.49	0.12	0.45			1.14	0.74
2006		0.24	0.93			0.45	0.00	0.00	0.00	0.35	0.75		0.52	1.39	0.46	0.71	0.15	0.28	0.33		0.71			1.34	0.68
2007		0.85	0.79	0.63				0.02		1.08	0.56		0.55	0.90	0.87	0.68	0.00	0.00	0.46		0.13			0.20	0.63
2008		0.39	0.37	0.40			0.00		0.00	0.62	0.33		0.19		0.44	0.31	0.21	0.00	0.25	0.27				0.16	0.31
2009	0.00	0.51	0.50	0.21	0.22			0.00		0.56	0.15		0.14	0.05	0.50	0.18	0.04	0.04	0.35		0.11			0.09	0.21
2010	0.11	0.83	0.44	0.31			0.04	0.25		0.85	0.13		0.22	0.33	0.43	0.12	0.00	0.00	0.20	0.11				0.20	0.26
2011	0.07	0.30	0.22	0.34	0.68		0.00	0.00		0.00	0.40		0.23	0.57	0.05	0.20	0.03	0.49	0.20	0.00	0.33			0.39	0.30

[1] Stock Identifiers: CWF = COWLITZ FALL TULE; RBT = ROBERTSON CREEK; SRH = SALMON RIVER HATCHERY; WSH = WILLAMETTE SPRING; GAD = G ADAMS FALL FING; SAM = SAMISH FALL FING; SUM = COL RIVER SUMMERS; CHI = CHILLAWACK; LRH = LOWER RIVER TULE; SPR = SPRING CREEK TULE; URB = COLUMBIA UPRIVER BRIGHT; LRW = LEWIS RIVER WILD; SPS = SO SOUND FALL FING; UWA = U OF W FALL ACCEL (*discontinued*)

Table I8. WCVI troll fishery Stratified Proportion Fishery Index (SPFI) values as landed catch, based on CWT data.

YEAR	SPFI
1979	1.0735
1980	1.1676
1981	0.8636
1982	0.8952
1983	0.9953
1984	1.3398
1985	1.2227
1986	0.9086
1987	1.3795
1988	1.6955
1989	0.8191
1990	1.1115
1991	0.5797
1992	1.6674
1993	0.7258
1994	0.5114
1995	0.5872
1996	0.0000
1997	0.4070
1998	0.0167
1999	0.1710
2000	0.6828
2001	0.2191
2002	0.2118
2003	0.5262
2004	0.3999
2005	0.6072
2006	0.4179
2007	0.3785
2008	0.3594
2009	0.1225
2010	0.1087
2011	0.2016

ER Stock Identifiers			
Cowlitz Fall Tule	Age 4		
George Adams	Age 3	Age 4	
Lower River Hatchery	Age 3	Age 4	
Lewis River Wild	Age 4		
Robertson Creek	Age 3	Age 4	Age 5
Samish	Age 3	Age 4	
Spring Creek	Age 3	Age 4	
South Puget Sound Fingerling	Age 3	Age 4	
Salmon River Hatchery	Age 3	Age 4	Age 5
Columbia River Summers	Age 4		
Columbia Upriver Brights	Age 3	Age 4	
U of WA Accel. (*discontinued*)	Age 3	Age 4	
Willamette Spring Hatchery	Age 4		
Chilliwack	Age 3	Age 4	

Table I9. Total mortality exploitation rate indices by stock and age in the WCVI troll fishery, based on CWT data. Base period is 1979–1982.

	Stock Identifiers[1]																							
Year	CWF Age 4	GAD Age 3	GAD Age 4	LRH Age 3	LRH Age 4	LRW Age 4	RBT Age 3	RBT Age 4	RBT Age 5	SAM Age 3	SAM Age 4	SAM Age 5	SPR Age 3	SPR Age 4	SPS Age 3	SPS Age 4	SRH Age 3	SRH Age 4	SUM Age 4	URB Age 3	URB Age 4	UWA Age 3	UWA Age 4	WSH Age 4	Fishery Index
1979				1.1037			1.2033	1.2541			1.0000	1.0000	0.9439	0.8294		1.1332	1.5304			1.3664	1.7541	0.6897	1.2270	1.0004	1.0500
1980				0.5678	0.9854		1.3821	1.4242					1.1658	1.4102				1.1006	0.6875	1.3154	0.9485	1.3688	0.8620	1.0960	1.0400
1981	0.7860	0.7196		1.1540	0.7410	0.8487	0.6636	0.5977	1.0000				0.9274	0.6224	0.7331		0.4696		1.3125	0.2665	0.8837	0.8329	0.8669	0.6360	0.8468
1982	1.2140	1.2804	1.0000	1.1744	1.2736	1.1513	0.7510	0.7240		1.0000			0.9629	1.1380	1.2669	0.8668		0.8994		1.0517	0.4137	1.1086	1.0440	1.2676	1.0602
1983	1.3803		1.4051	1.6578	1.5765	0.9615	0.4497	0.8349	1.8740		0.9567		1.4109	0.9277	1.5788	0.8864	1.4171			0.3768	0.4259	0.7112	1.0766	0.3022	1.1647
1984	1.3152	1.8893		2.1105	2.7623		1.3118	1.1118	1.0771			1.0844	1.2498	1.3326	1.5681	0.9623		0.4197		0.8760	1.2716	1.6689	0.7468	0.6417	1.4001
1985	0.9153		0.8355	1.2524	1.1135		0.4911	0.0000					0.5583	0.9191	0.8097	0.6538				0.8443	1.0336	0.7787	1.0275	0.4333	0.8608
1986	1.3181			1.1831	1.1441	0.4727		1.0956					1.1736	0.9898	0.9133	1.0586		0.1811		1.4481	1.4137	0.8492	1.0836		1.0631
1987	0.8915			1.2415		1.5027	0.2966						0.4568		0.9362	0.5252	0.3738	0.2493		1.1875	0.8567	0.4559	0.4327		0.7068
1988	0.9240	0.5258		1.3844	1.4522	1.1074	0.4941	0.5989		0.7540			1.0049		0.4093	0.7203		0.6866	1.2036	0.5640	2.0420		0.8109	0.9497	0.9897
1989	0.5549	0.3965	0.4996	0.3336	0.5866	0.5909	0.2383	0.3387	0.0000	0.3769	0.6123		0.6328	0.4012	0.4200	0.3878	0.3945		0.7794		0.9546			0.5639	0.5048
1990	0.7647	1.1692	0.9488	1.2020	0.4545	1.2376	0.7114	0.5322	1.5462	0.5122	0.8637		0.9450	0.7420	0.9877	0.8437	0.8076	0.4553	1.5019		1.6840			0.8998	0.9086
1991			0.9780	0.7685		0.7694	0.6627	0.5543	1.4026	0.4546	0.5813	1.0913	0.6236	0.6424	0.5613	0.5366	0.9517	0.3850	0.4849					0.0877	0.7021
1992	1.1689		0.3403	0.7855		0.3359	1.8927	2.5077	5.2377	1.0153	0.2729		0.5163	0.7638	0.8163	0.7273	1.4141	2.5565	0.8080					0.2473	0.8397
1993				1.2519	0.7285		1.4825	2.3589	2.5348	1.2238	0.4435		0.6103	1.0219	1.1644	0.5291	1.5266	1.1682		0.9517	2.0474			0.4675	0.9336
1994	0.1154					0.2438	0.7015	0.7277	1.3286	0.2673	0.7093		0.8663	0.6560	0.2576	0.4595		0.4148			1.0010			0.2757	0.5604
1995		0.3214				0.4818		0.4752	0.3579	0.2693	0.4125		0.4303	0.3813	0.3473	0.2759	0.0977							0.1485	0.3645
1996	0.0339	0.0737	0.0254	0.0607			0.0361			0.0680	0.0155		0.0430		0.0697	0.0212	0.0574	0.0124	0.0286	0.0937	0.0606			0.0291	0.0376
1997	0.3830		0.2179	0.9133			0.0051	0.0414		0.0891	0.2482		0.5637	0.4431	0.1522	0.3058	0.0000	0.0310	0.0657		0.0724			0.0000	0.3401
1998								0.0000			0.0812		0.0405	0.0000	0.0000	0.0295	0.0000	0.0000	0.0000	0.0136				0.0316	0.0270
1999		0.0398		0.0809					0.0000		0.0711		0.0142		0.0173	0.0527	0.0000	0.0000	0.0254		0.0000			0.0000	0.0418
2000			1.2076	0.0789	1.6681						1.0786		0.0494	0.7374	0.0300	0.7026	0.0000	0.0000	0.2087	0.1056	0.5000			0.0690	0.6757
2001		0.6662	1.2550	0.2657	0.8440	0.6983	0.0000			0.3672	0.3556		0.1422	0.5821	0.4316	0.5382	0.0000	0.0539	0.4498	0.1144	0.1658			0.1636	0.5186
2002	0.5706	0.1573	0.6182	0.2739	0.3611		0.0145	0.0000		0.2193	0.3973		0.2569	0.6839	0.3685	0.4810	0.0000	0.0000	0.4991	0.0791	0.2740			0.2690	0.4047
2003	0.5282	0.0961	0.7103	0.2503	0.7224	0.1206	0.0000	0.0000			0.5706		0.2661	0.5706	0.3177	0.5443	0.0000	0.0000	0.5745	0.1568	0.1029			0.5371	0.4505
2004		0.0654	1.1826	0.3597	0.9905	0.1207	0.0298	0.0204	0.0000	0.1556	0.5633		0.3248	0.7973	0.3102	0.8188	0.1707	0.2589	0.2597	0.1441	0.4817			2.0695	0.5824
2005	0.2970	0.6548	0.9678	0.6148	1.6190	0.1193	0.0000	0.0000		0.0994	0.7857		0.8059	1.1712	0.5007	0.7533	0.1452	0.2368	0.4892	0.1157	0.4522			1.1435	0.7422
2006		0.2368	0.9275			0.4493	0.0000	0.0000	0.0000	0.3453	0.7512		0.5221	1.3857	0.4648	0.7114	0.1455	0.2802	0.3254		0.7073			1.3388	0.6762
2007		0.8495	0.7864	0.6280				0.0178		1.0846	0.5599		0.5525	0.9004	0.8727	0.6835	0.0000	0.0000	0.4572		0.1274			0.2002	0.6333
2008		0.3931	0.3725	0.3969			0.0000		0.0000	0.6158	0.3266		0.1946		0.4365	0.3105	0.2101	0.0000	0.2472	0.2721				0.1553	0.3060
2009	0.0000	0.5108	0.5037	0.2053	0.2247			0.0000		0.5566	0.1521		0.1427	0.0528	0.4991	0.1794	0.0352	0.0380	0.3470		0.1129			0.0902	0.2130
2010	0.1067	0.8327	0.4380	0.3120			0.0362	0.2496		0.8486	0.1275		0.2196	0.3332	0.4282	0.1183	0.0000	0.0000	0.1979	0.1125				0.1987	0.2637
2011	0.0699	0.2957	0.2207	0.3441	0.6826		0.0000	0.0000		0.0000	0.4000		0.2305	0.5657	0.0467	0.2006	0.0331	0.4925	0.1958	0.0000	0.3339			0.3924	0.3011

[1] Stock identifiers: CWF = COWLITZ FALL TULE; RBT = ROBERTSON CREEK; SRH = SALMON RIVER HATCHERY; WSH = WILLAMETTE SPRING; GAD = G ADAMS FALL FING; SAM = SAMISH FALL FING; SUM = COL RIVER SUMMERS; CHI = CHILLAWACK; LRH = LOWER RIVER TULE; SPR = SPRING CREEK TULE; URB = COLUMBIA UPRIVER BRIGHT; LRW = LEWIS RIVER WILD; SPS = SO SOUND FALL FING; UWA = U OF W FALL ACCEL (*discontinued*)

Table I10. WCVI troll fishery Stratified Proportion Fishery Index (SPFI) values as total mortality, based on CWT data.

YEAR	SPFI
1979	1.0589
1980	1.1578
1981	0.8761
1982	0.9072
1983	0.9727
1984	1.3404
1985	1.2066
1986	0.9007
1987	1.5724
1988	1.7908
1989	0.9498
1990	1.1438
1991	0.6252
1992	1.7207
1993	0.7486
1994	0.5185
1995	0.6934
1996	0.0000
1997	0.3912
1998	0.0154
1999	0.1618
2000	0.6425
2001	0.2073
2002	0.2002
2003	0.4961
2004	0.3772
2005	0.5732
2006	0.3938
2007	0.3561
2008	0.3382
2009	0.1154
2010	0.1025
2011	0.1898

ER Stock Identifiers			
Cowlitz Fall Tule	Age 4		
George Adams	Age 3	Age 4	
Lower River Hatchery	Age 3	Age 4	
Lewis River Wild	Age 4		
Robertson Creek	Age 3	Age 4	Age 5
Samish	Age 3	Age 4	
Spring Creek	Age 3	Age 4	
South Puget Sound Fingerling	Age 3	Age 4	
Salmon River Hatchery	Age 3	Age 4	Age 5
Columbia River Summers	Age 4		
Columbia Upriver Brights	Age 3	Age 4	
U of WA Accel. (*discontinued*)	Age 3	Age 4	
Willamette Spring Hatchery	Age 4		
Chilliwack	Age 3	Age 4	

APPENDIX J. PRESEASON FORECASTS AND POSTSEASON ESTIMATES FOR PSC MODEL STOCKS, 1999–2012.

Appendix J. Preseason forecasts and postseason estimates for PSC model stocks, 1999–2012.

Stock	Year	Model Forecast	Agency Forecast	Postseason Return	Model Fcst/ Agency Fcst	Agency Fcst/ Postseason	Model Fcst/ Postseason
AKS[1]	1999	11,866	n/a	12,654	n/a	n/a	94%
(Alaska SSE)	2000	18,967	n/a	15,909	n/a	n/a	119%
	2001	22,130	n/a	21,226	n/a	n/a	104%
	2002	15,650	n/a	19,473	n/a	n/a	80%
	2003	22,316	n/a	14,206	n/a	n/a	157%
	2004	11,880	n/a	16,420	n/a	n/a	72%
	2005	25,204	n/a	16,102	n/a	n/a	157%
	2006	17,966	n/a	20,866	n/a	n/a	86%
	2007	25,653	n/a	15,095	n/a	n/a	170%
	2008	14,626	n/a	13,865	n/a	n/a	105%
	2009	14,362	n/a	11,296	n/a	n/a	127%
	2010	16,445	n/a	16,194	n/a	n/a	102%
	2011	17,065	n/a	11,938	n/a	n/a	143%
	2012	12,557	n/a	6,784	n/a	n/a	185%
	2013	4,838	n/a		n/a	n/a	
	AVG.				n/a	n/a	122%
NTH[2]	1999	149,593	n/a	150,775	n/a	n/a	99%
(North/	2000	159,818	n/a	185,147	n/a	n/a	86%
Central B.C.)	2001	189,088	n/a	228,774	n/a	n/a	83%
	2002	228,073	n/a	136,625	n/a	n/a	167%
	2003	154,103	n/a	166,568	n/a	n/a	93%
	2004	171,070	n/a	152,207	n/a	n/a	112%
	2005	154,552	n/a	127,075	n/a	n/a	122%
	2006	132,710	n/a	151,812	n/a	n/a	87%
	2007	156,017	n/a	123,565	n/a	n/a	126%
	2008	131,262	n/a	105,806	n/a	n/a	124%
	2009	119,761	n/a	126,605	n/a	n/a	95%
	2010	136,998	n/a	113,361	n/a	n/a	121%
	2011	119,323	n/a	95,175	n/a	n/a	125%
	2012	98,010	n/a	78,714	n/a	n/a	125%
	2013	86,819	n/a		n/a		
	AVG.				n/a	n/a	112%
RBH+RBT[2]	1999	78,074	68,400	98,400	114%	70%	79%
(WCVI	2000	21,040	15,040	37,090	140%	41%	57%
Hatchery +	2001	33,702	30,633	86,787	110%	35%	39%
Natural)	2002	128,068	109,882	109,882	117%	100%	117%
	2003	111,430	105,801	215,345	105%	49%	52%
	2004	166,548	144,180	247,500	116%	58%	67%
	2005	244,768	218,840	154,594	112%	142%	158%
	2006	152,483	138,878	197,097	110%	70%	77%
	2007	151,925	117,321	118,082	129%	99%	129%
	2008	67,347	60,255	98,744	112%	61%	68%
	2009	76,063	58,382	88,429	130%	66%	86%
	2010	75,748	61,586	92,534	123%	67%	82%
	2011	98,929	74,708	161,914	132%	46%	61%
	2012	70,838	54,765	84,432	129%	65%	84%
	2013	32,180	n/a		n/a		
	AVG.				120%	69%	83%

-continued-

Stock	Year	Model Forecast	Agency Forecast	Postseason Return	Model Fcst/ Agency Fcst	Agency Fcst/ Postseason	Model Fcst/ Postseason
GSQ[1] (Upper Strait of Georgia)	1999	16,472	n/a	16,142	n/a	n/a	102%
	2000	19,452	n/a	22,200	n/a	n/a	88%
	2001	25,828	n/a	35,620	n/a	n/a	73%
	2002	41,492	n/a	29,986	n/a	n/a	138%
	2003	36,882	n/a	31,059	n/a	n/a	119%
	2004	39,766	n/a	28,359	n/a	n/a	140%
	2005	38,798	n/a	31,517	n/a	n/a	123%
	2006	39,171	n/a	33,024	n/a	n/a	119%
	2007	41,711	n/a	22,674	n/a	n/a	184%
	2008	30,065	n/a	20,641	n/a	n/a	146%
	2009	26,173	n/a	19,923	n/a	n/a	131%
	2010	26,624	n/a	18,523	n/a	n/a	144%
	2011	23,998	n/a	19,469	n/a	n/a	123%
	2012	25,756	n/a	24,304	n/a	n/a	106%
	2013	31,498	n/a		n/a		
	AVG.				n/a	n/a	124%
GSH[2] (Lower Strait of Georgia Hatchery)	1999	23,648	n/a	20,000	n/a	n/a	118%
	2000	19,165	n/a	20,286	n/a	n/a	94%
	2001	17,547	n/a	27,458	n/a	n/a	64%
	2002	25,051	n/a	23,557	n/a	n/a	106%
	2003	21,222	n/a	24,084	n/a	n/a	88%
	2004	16,573	n/a	22,119	n/a	n/a	75%
	2005	21,046	n/a	28,226	n/a	n/a	75%
	2006	18,169	n/a	22,756	n/a	n/a	80%
	2007	24,378	n/a	13,155	n/a	n/a	185%
	2008	11,765	n/a	13,410	n/a	n/a	88%
	2009	17,551	n/a	14,398	n/a	n/a	122%
	2010	7,999	n/a	14,360	n/a	n/a	56%
	2011	14,671	n/a	9,555	n/a	n/a	154%
	2012	10,104	n/a	8,449	n/a	n/a	120%
	2013	5,568	n/a		n/a		
	AVG.				n/a	n/a	102%
GST[1] (Lower Strait of Georgia Natural)	1999	14,737	n/a	9,032	n/a	n/a	163%
	2000	11,094	n/a	8,119	n/a	n/a	137%
	2001	7,955	n/a	8,836	n/a	n/a	90%
	2002	8,833	n/a	8,188	n/a	n/a	108%
	2003	8,088	n/a	5,374	n/a	n/a	151%
	2004	5,157	n/a	3,700	n/a	n/a	139%
	2005	4,459	n/a	5,415	n/a	n/a	82%
	2006	4,070	n/a	7,469	n/a	n/a	54%
	2007	7,782	n/a	4,778	n/a	n/a	163%
	2008	6,823	n/a	4,926	n/a	n/a	139%
	2009	5,701	n/a	2,966	n/a	n/a	192%
	2010	2,972	n/a	5,676	n/a	n/a	52%
	2011	10,778	n/a	7,873	n/a	n/a	137%
	2012	11,433	n/a	6,070	n/a	n/a	188%
	2013	8,267	n/a		n/a		
	AVG.				n/a	n/a	128%

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Stock	Year	Model Forecast	Agency Forecast	Postseason Return	Model Fcst/ Agency Fcst	Agency Fcst/ Postseason	Model Fcst/ Postseason
FRE[2]	1999	163,342	n/a	106,000	n/a	n/a	154%
(Fraser Early)	2000	118,058	n/a	116,750	n/a	n/a	101%
	2001	122,333	n/a	180,952	n/a	n/a	68%
	2002	170,232	n/a	214,347	n/a	n/a	79%
	2003	202,363	n/a	188,183	n/a	n/a	108%
	2004	185,450	n/a	141,029	n/a	n/a	131%
	2005	151,591	n/a	134,461	n/a	n/a	113%
	2006	141,517	n/a	203,212	n/a	n/a	70%
	2007	196,060	n/a	110,884	n/a	n/a	177%
	2008	128,347	n/a	148,284	n/a	n/a	87%
	2009	153,593	n/a	134,307	n/a	n/a	114%
	2010	144,214	n/a	171,819	n/a	n/a	84%
	2011	174,183	n/a	164,913	n/a	n/a	106%
	2012	175,729	n/a	73,865	n/a	n/a	238%
	2013	83,719	n/a		n/a		
	AVG.				n/a	n/a	116%
FRL[1]	1999	144,316	82,650	189,400	175%	44%	76%
(Fraser Late)	2000	187,970	220,400	195,542	85%	113%	96%
	2001	141,745	131,800	141,196	108%	93%	100%
	2002	132,946	160,100	165,245	83%	97%	80%
	2003	127,144	114,780	313,929	111%	37%	41%
	2004	104,597	97,227	196,396	108%	50%	53%
	2005	121,315	108,061	124,704	112%	87%	97%
	2006	115,489	116,682	108,639	99%	107%	106%
	2007	122,402	107,311	105,385	114%	102%	116%
	2008	125,100	116,038	88,012	108%	132%	142%
	2009	119,892	91,391	87,365	131%	105%	137%
	2010	119,953	118,891	201,334	101%	59%	60%
	2011	353,646	284,604	178,224	124%	160%	198%
	2012	107,738	93,652	69,530	115%	135%	155%
	2013	70,178	73,584		95%		
	AVG.				111%	94%	104%
NKS[1]	1999	1,068	n/a	n/a	n/a	n/a	n/a
(Nooksack	2000	834	n/a	n/a	n/a	n/a	n/a
Spring)	2001	982	n/a	n/a	n/a	n/a	n/a
	2002	1,216	n/a	n/a	n/a	n/a	n/a
	2003	1,301	n/a	n/a	n/a	n/a	n/a
	2004	1,708	n/a	n/a	n/a	n/a	n/a
	2005	1,549	n/a	330	n/a	n/a	469%
	2006	583	677	630	86%	107%	93%
	2007	582	575	334	101%	172%	174%
	2008	371	378	351	98%	108%	106%
	2009	336	315	291	107%	108%	115%
	2010	374	390	390	96%	100%	96%
	2011	340	309	309	110%	100%	110%
	2012	271	243	1,236	112%	20%	22%
	2013	1,331	n/a		na		
	AVG.				101%	102%	148%

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Stock	Year	Model Forecast	Agency Forecast	Postseason Return	Model Fcst/ Agency Fcst	Agency Fcst/ Postseason	Model Fcst/ Postseason
NKF[2]	1999	27,472	27,000	27,000	102%	100%	102%
(Nooksack/	2000	21,277	19,000	24,000	112%	79%	89%
Samish Fall	2001	33,974	36,450	36,450	93%	100%	93%
Fingerling)	2002	50,361	54,420	53,310	93%	102%	94%
	2003	48,259	45,750	45,750	105%	100%	105%
	2004	37,980	34,200	17,803	111%	192%	213%
	2005	19,808	19,523	14,841	101%	132%	133%
	2006	16,795	16,899	30,591	99%	55%	55%
	2007	22,086	18,834	23,485	117%	80%	94%
	2008	34,392	35,271	28,969	98%	122%	119%
	2009	26,072	23,014	21,548	113%	107%	121%
	2010	32,061	32,627	32,627	98%	100%	98%
	2011	39,144	37,902	37,975	81%	100%	103%
	2012	45,719	43,973	41,832	104%	105%	109%
	2013	50,065	48,257		104%		
	AVG.				102%	105%	109%
SNO[2]	1999	5,823	5,600	5,600	104%	100%	104%
(Snohomish	2000	5,997	6,000	6,000	100%	100%	100%
Wild)	2001	5,876	5,760	5,760	102%	100%	102%
	2002	6,524	6,700	7,245	97%	92%	90%
	2003	6,033	5,450	5,450	111%	100%	111%
	2004	12,845	15,700	10,830	82%	145%	119%
	2005	10,161	n/a	4,612	n/a	n/a	220%
	2006	7,824	8,729	8,438	90%	103%	93%
	2007	11,153	12,289	4,005	91%	307%	278%
	2008	6,103	6,541	8,490	93%	77%	72%
	2009	8,503	8,410	2,391	101%	352%	356%
	2010	8,050	9,858	9,858	82%	100%	82%
	2011	8,281	7,600	1,192	109%	638%	695%
	2012	2,506	2,775	5,355	90%	52%	47%
	2013	3,835	3,161		121%		
	AVG.				98%	174%	176%
SKG[2]	1999	9,107	7,600	7,600	120%	100%	120%
(Skagit	2000	6,988	7,300	16,843	96%	43%	41%
Summer/	2001	9,064	9,183	14,005	99%	66%	65%
Fall Wild)	2002	12,635	13,455	19,807	94%	68%	64%
	2003	11,906	11,348	11,348	105%	100%	105%
	2004	18,761	20,359	21,757	92%	94%	86%
	2005	16,220	19,493	21,555	83%	90%	75%
	2006	22,402	21,811	21,246	103%	103%	105%
	2007	12,324	14,252	12,868	86%	111%	96%
	2008	18,598	18,302	14,035	102%	130%	133%
	2009	22,193	20,400	10,989	109%	186%	202%
	2010	9,894	11,853	7,926	83%	150%	125%
	2011	12,556	13,044	8,382	96%	156%	150%
	2012	10,020	8,337	8,337	120%	100%	120%
	2013	7,287	13,018		56%		
	AVG.				96%	107%	106%

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Stock	Year	Model Forecast	Agency Forecast	Postseason Return	Model Fcst/ Agency Fcst	Agency Fcst/ Postseason	Model Fcst/ Postseason
PSN[2]	1999	28,800	28,400	28,400	101%	100%	101%
(Puget Sound	2000	15,364	10,000	20,050	154%	50%	77%
Natural)	2001	19,938	18,900	18,900	105%	100%	105%
	2002	20,008	19,801	21,477	101%	92%	93%
	2003	25,743	26,600	26,600	97%	100%	97%
	2004	24,616	23,200	33,333	106%	70%	74%
	2005	22,208	17,715	13,394	125%	132%	166%
	2006	20,182	21,301	23,555	95%	90%	86%
	2007	18,964	17,014	22,670	111%	75%	84%
	2008	23,118	21,100	23,193	110%	91%	100%
	2009	24,698	23,073	8,305	107%	278%	297%
	2010	14,734	15,128	19,491	97%	78%	76%
	2011	18,115	15,997	11,659	113%	137%	155%
	2012	14,396	13,860	17,594	104%	79%	82%
	2013	12,079	8,767		138%		
	AVG.				111%	105%	114%
STL[1]	1999	1,332	n/a	1,098	n/a	n/a	121%
(Stillaguamish	2000	1,370	1,500	1,457	91%	91%	94%
Summer/Fall	2001	1,328	1,360	1,360	98%	98%	98%
Wild)	2002	1,372	1,449	1,588	95%	91%	86%
	2003	1,860	2,050	2,050	91%	207%	91%
	2004	1,795	n/a	1,506	n/a	n/a	119%
	2005	1,377	n/a	963	n/a	n/a	143%
	2006	1,113	1,169	1,254	95%	92%	89%
	2007	1,424	1,510	785	94%	192%	181%
	2008	689	637	1,800	108%	35%	38%
	2009	1,268	1,086	1,001	117%	108%	127%
	2010	898	817	817	110%	100%	110%
	2011	812	783	1,017	104%	77%	80%
	2012	569	395	1,534	144%	26%	37%
	2013	1,393	1,328		105%		
	AVG.				104%	102%	101%
PSF+PSY[2]	1999	66,876	69,285	97,685	97%	71%	68%
(Puget Sound	2000	67,306	69,800	125,850	96%	55%	53%
Fingerling +	2001	102,899	105,955	124,855	97%	85%	82%
Yearling)	2002	114,889	124,608	92,234	92%	135%	125%
	2003	114,275	133,850	160,450	85%	83%	71%
	2004	127,902	132,300	130,922	97%	101%	98%
	2005	104,084	110,542	114,814	94%	96%	91%
	2006	107,292	113,486	141,591	95%	80%	76%
	2007	127,115	135,714	201,012	94%	68%	63%
	2008	166,071	159,200	161,118	104%	99%	103%
	2009	138,299	133,187	121,132	104%	110%	114%
	2010	138,238	140,074	181,842	99%	77%	76%
	2011	172,415	168,642	142,763	102%	118%	121%
	2012	153,462	153,989	195,888	100%	79%	78%
	2013	189,645	184,783		103%		
	AVG.				97%	90%	87%

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Stock	Year	Model Forecast	Agency Forecast	Postseason Return	Model Fcst/ Agency Fcst	Agency Fcst/ Postseason	Model Fcst/ Postseason
WCN[2] (Washington Coastal Natural)	1999	42,129	43,780	27,945	96%	175%	151%
	2000	34,741	n/a	27,290	n/a	n/a	127%
	2001	34,563	35,306	27,978	98%	99%	124%
	2002	33,902	33,489	33,489	101%	90%	101%
	2003	32,785	n/a	25,479	n/a	n/a	129%
	2004	28,185	n/a	29,715	n/a	n/a	95%
	2005	34,857	n/a	37,255	n/a	n/a	94%
	2006	43,866	n/a	34,150	n/a	n/a	128%
	2007	35,695	32,362	36,499	110%	89%	98%
	2008	32,187	26,923	39,246	120%	69%	82%
	2009	35,485	31,318	38,616	113%	81%	92%
	2010	39,215	n/a	31,783	n/a	n/a	123%
	2011	32,205	n/a	43,925	n/a	n/a	73%
	2012	45,153	41,500	27,812	n/a	n/a	162%
	2013	35,464	34,023		n/a		
	AVG.				106%	100%	113%
WCH[2] (Washington Coastal Hatchery)	1999	35,239	42,752	8,964	82%	292%	393%
	2000	16,244	0	14,447	n/a	n/a	112%
	2001	15,792	0	22,859	n/a	n/a	69%
	2002	23,678	0	21,351	n/a	n/a	111%
	2003	20,755	18,222	25,812	114%	44%	80%
	2004	28,900	0	24,406	n/a	n/a	118%
	2005	28,626	0	32,421	n/a	n/a	88%
	2006	36,950	0	38,633	n/a	n/a	96%
	2007	41,801	40,497	35,880	103%	113%	117%
	2008	34,841	31,251	36,568	111%	85%	95%
	2009	41,756	42,595	36,908	98%	115%	113%
	2010	38,347	0	35,638	n/a	n/a	108%
	2011	38,208	0	38,810	n/a	n/a	98%
	2012	45,128	44,300	43,545	n/a	n/a	104%
	2013	33,629	25,304		n/a		
	AVG.				102%	130%	122%
CWS[2] (Cowlitz Spring)	1999	3,363	3,950	4,296	85%	92%	78%
	2000	4,597	6,050	5,598	76%	108%	82%
	2001	3,891	4,849	5,508	80%	88%	71%
	2002	5,126	6,800	9,910	75%	69%	52%
	2003	8,821	11,700	22,691	75%	52%	39%
	2004	18,106	27,350	32,344	66%	85%	56%
	2005	16,291	24,850	15,700	66%	158%	104%
	2006	10,699	15,250	20,081	70%	76%	53%
	2007	8,946	10,600	11,959	84%	89%	75%
	2008	8,185	12,400	6,741	66%	184%	121%
	2009	5,122	14,400	7,183	36%	200%	71%
	2010	14,459	19,409	12,410	74%	156%	117%
	2011	8,427	10,602	6,264	79%	169%	135%
	2012	7,733	8,724	11,627	89%	75%	67%
	2013	9,348	7,727		121%		
	AVG.				76%	114%	80%

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Stock	Year	Model Forecast	Agency Forecast	Postseason Return	Model Fcst/ Agency Fcst	Agency Fcst/ Postseason	Model Fcst/ Postseason
WSH[2] (Willamette Spring)	1999	46,187	49,875	55,801	93%	89%	83%
	2000	57,202	61,211	55,900	93%	110%	102%
	2001	59,207	59,600	84,000	99%	71%	70%
	2002	73,151	77,434	127,200	94%	61%	58%
	2003	108,530	112,521	129,700	96%	87%	84%
	2004	113,708	112,701	112,701	101%	100%	101%
	2005	105,111	122,280	59,500	86%	206%	177%
	2006	48,880	52,388	52,388	93%	100%	93%
	2007	44,542	61,071	44,509	73%	137%	100%
	2008	20,185	40,851	40,050	49%	102%	50%
	2009	44,161	41,205	38,110	107%	108%	116%
	2010	70,960	66,360	119,114	107%	56%	60%
	2011	117,375	109,600	84,603	107%	130%	139%
	2012	105,098	88,202	70,153	119%	126%	150%
	2013	58,436	65,982		89%		
	AVG.				94%	106%	99%
SUM[2] (Columbia River Summer)	1999	21,651	20,900	22,276	104%	94%	97%
	2000	27,214	28,038	30,700	97%	91%	89%
	2001	27,029	24,500	54,521	110%	45%	50%
	2002	70,290	77,700	129,000	90%	60%	54%
	2003	97,280	87,600	83,084	111%	105%	117%
	2004	83,246	78,569	65,446	106%	120%	127%
	2005	66,190	62,400	60,060	106%	104%	110%
	2006	75,848	78,512	78,196	97%	100%	97%
	2007	56,948	45,555	37,200	125%	122%	153%
	2008	50,171	52,000	55,500	96%	94%	90%
	2009	68,114	70,700	53,878	96%	131%	126%
	2010	81,403	88,800	72,364	92%	123%	112%
	2011	89,000	91,900	80,574	97%	114%	110%
	2012	91,202	91,200	58,300	100%	156%	156%
	2013	72,042	73,500		98%		
	AVG.				102%	104%	106%
BON+CWF[2] (Bonneville + Cowlitz Hatcheries)	1999	26,651	34,800	37,300	77%	93%	71%
	2000	17,095	23,700	27,000	72%	88%	63%
	2001	28,732	32,200	94,200	89%	34%	31%
	2002	100,401	137,600	156,400	73%	88%	64%
	2003	100,196	115,900	154,983	86%	75%	65%
	2004	64,696	77,100	108,300	84%	71%	60%
	2005	65,971	74,100	77,799	89%	95%	85%
	2006	49,173	55,800	58,317	88%	96%	84%
	2007	49,219	54,900	32,689	90%	168%	151%
	2008	58,557	59,000	60,268	99%	98%	97%
	2009	91,519	88,800	76,738	103%	116%	119%
	2010	95,581	90,600	103,055	105%	88%	93%
	2011	139,873	133,430	108,961	105%	122%	128%
	2012	132,629	126,999	84,798	104%	150%	156%
	2013	86,456	94,600		91%		
	AVG.				90%	99%	91%

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Stock	Year	Model Forecast	Agency Forecast	Postseason Return	Model Fcst/ Agency Fcst	Agency Fcst/ Postseason	Model Fcst/ Postseason
SPR[2]	1999	62,831	65,800	49,200	95%	134%	128%
(Spring Creek	2000	17,335	21,900	20,100	79%	109%	86%
Hatchery)	2001	56,089	56,600	125,000	99%	45%	45%
	2002	153,070	144,400	160,900	106%	90%	95%
	2003	89,116	96,900	180,600	92%	54%	49%
	2004	124,820	138,000	175,300	90%	79%	71%
	2005	92,021	114,100	93,145	81%	122%	99%
	2006	43,421	50,000	27,918	87%	179%	156%
	2007	19,421	21,800	14,583	89%	149%	133%
	2008	87,109	87,200	79,433	100%	110%	110%
	2009	46,652	59,300	48,970	79%	121%	95%
	2010	167,251	169,000	130,768	99%	129%	128%
	2011	105,900	116,400	70,577	91%	165%	150%
	2012	72,135	63,800	56,766	113%	112%	127%
	2013	36,276	38,000		95%		
	AVG.				93%	114%	105%
URB[2]	1999	173,866	147,500	166,700	118%	88%	104%
(Columbia	2000	212,317	171,100	155,900	124%	110%	136%
Upriver	2001	150,973	127,200	232,500	119%	55%	65%
Bright)	2002	249,721	281,000	276,900	89%	101%	90%
	2003	246,890	280,400	373,200	88%	75%	66%
	2004	246,943	292,200	367,900	85%	79%	67%
	2005	318,535	352,200	268,744	90%	131%	119%
	2006	231,319	253,900	227,535	91%	112%	102%
	2007	168,594	182,400	114,491	92%	159%	147%
	2008	151,839	162,500	196,881	93%	83%	77%
	2009	259,415	259,900	212,047	100%	123%	122%
	2010	296,816	310,800	324,908	96%	96%	91%
	2011	388,138	398,200	322,234	97%	124%	120%
	2012	365,693	353,500	294,947	103%	120%	124%
	2013	437,422	432,500		101%		
	AVG.				99%	104%	102%
LYF[1]	1999	542	n/a	1,631	n/a	n/a	33%
(Snake River	2000	1,243	n/a	900	n/a	n/a	138%
Wild)	2001	733	734	2,652	100%	14%	28%
	2002	2,066	n/a	2,185	n/a	n/a	95%
	2003	2,493	2,185	3,895	114%	56%	64%
	2004	4,323	3,725	4,000	116%	93%	108%
	2005	4,453	4,000	3,454	111%	116%	129%
	2006	8,285	3,500	2,743	237%	128%	302%
	2007	3,128	2,700	2,016	116%	134%	155%
	2008	2,718	2,534	1,598	107%	159%	170%
	2009	5,743	6,952	1,430	83%	486%	402%
	2010	2,609	2,610	9,583	100%	27%	27%
	2011	9,199	8,006	9,215	115%	87%	100%
	2012	10,401	8,683	11,115	120%	78%	94%
	2013	15,154	14,900		102%		
	AVG.				118%	125%	132%

-continued-

Stock	Year	Model Forecast	Agency Forecast	Postseason Return	Model Fcst/ Agency Fcst	Agency Fcst/ Postseason	Model Fcst/ Postseason
MCB[2] (Mid-Columbia Bright)	1999	37,997	38,300	50,100	99%	76%	76%
	2000	53,460	50,600	36,800	106%	138%	145%
	2001	45,055	43,500	66,400	104%	66%	68%
	2002	102,085	96,200	108,300	106%	89%	94%
	2003	126,698	104,800	150,300	121%	70%	84%
	2004	94,895	90,400	117,600	105%	77%	81%
	2005	93,837	89,400	97,900	105%	91%	96%
	2006	90,780	88,300	80,471	103%	110%	113%
	2007	77,470	68,000	47,106	114%	144%	164%
	2008	59,481	54,000	75,489	110%	72%	79%
	2009	99,685	94,400	73,069	106%	129%	136%
	2010	82,454	72,600	78,937	114%	92%	104%
	2011	108,005	100,000	87,263	108%	115%	124%
	2012	100,809	90,800	61,850	111%	147%	163%
	2013	113,333	105,200		108%		
	AVG.				108%	101%	109%
LRW[2] (Lewis River Wild)	1999	3,072	2,600	3,400	118%	76%	90%
	2000	4,053	3,500	10,200	116%	34%	40%
	2001	16,574	16,700	15,700	99%	106%	106%
	2002	18,910	18,200	24,900	104%	73%	76%
	2003	25,820	24,600	25,900	105%	95%	100%
	2004	24,590	24,100	21,200	102%	114%	116%
	2005	21,937	20,200	16,767	109%	120%	131%
	2006	19,818	16,600	17,896	119%	93%	111%
	2007	10,306	10,100	4,276	102%	236%	241%
	2008	4,479	3,800	7,120	118%	53%	63%
	2009	9,363	8,500	7,533	110%	113%	124%
	2010	11,034	9,700	10,862	114%	89%	102%
	2011	13,429	12,500	15,180	107%	82%	88%
	2012	17,806	16,200	13,926	110%	116%	128%
	2013	16,713	14,200		118%		
	AVG.				110%	100%	108%
ORC[1] (Oregon Coastal)	1999	65,338	72,084	66,039	91%	109%	99%
	2000	61,457	63,259	52,889	97%	120%	116%
	2001	58,062	66,412	100,548	87%	66%	58%
	2002	73,055	73,914	149,649	99%	49%	49%
	2003	101,310	85,483	145,302	119%	59%	70%
	2004	135,716	131,904	129,579	103%	102%	105%
	2005	133,886	167,213	167,211	80%	100%	80%
	2006	125,550	136,373	112,797	92%	121%	111%
	2007	108,338	131,195	47,011	83%	279%	230%
	2008	53,417	70,101	39,615	76%	177%	135%
	2009	32,254	48,072	41,800	67%	115%	77%
	2010	51,234	59,806	64,799	86%	92%	79%
	2011	73,043	78,199	87,646	93%	89%	83%
	2012	82,789	80,749	87,540	103%	92%	95%
	2013	70,385	80,095		88%		
	AVG.				91%	112%	99%

Note: n/a = not available.

Note: Model and agency forecast and postseason return are from the first postseason run for the separate yearly calibrations.

[1] Escapement.

[2] Terminal Run.

APPENDIX K: ISSUES WITH ERA AND MODEL CALIBRATION

Issues with CWT data

- **Alaska Spring:** As in previous years, the rack return, cost-recovery, personal use and stray recoveries for AKS were imported as auxiliary data.
- **Chilkat, Unuk and Taku Spring:** The escapement and stray recoveries for CHK, UNU and TAK were imported as auxiliary data.

Changes to the input data for the Chinook Model calibration

- **Chinook nonretention file**

  SEAK net: SEAK gillnet harvest from 2005 to 2012 is no longer stratified into large (>28 inches total length) and nonlarge (<28 inches total length) in the Alaska Department of Fish and Game fish ticket database. The treaty only applies to large Chinook salmon, so the total gillnet harvest from 2005 to 2012 was stratified into large and nonlarge categories using age-sex-length data when available and CWT data when age-sex-length data was not available. The SEAK gillnet treaty harvest reflects these changes.

Table K1. List of calibrations and associated input changes considered during the 2013 preseason calibration process.

CLB No.	Conditions	Comments
1301	5-year average EVs	same assumptions as 2012 pre-season.
	long-term average mat rates	
	no WCVI forecast	
1302	1-year average EVs	
	5-year average mat rates	
	no WCVI forecast	
	no FRL forecast	
1303	2-year average EVs	
	else same as 1302	
1304	WCVI forecast	
	else same as 1302	
1305	Long-term average mat rates	this configuration is analogous to how calib 12…was run and will be used for post-season assessment; contains possible discrepancies in cnr file; will necessitate another set of calib runs
	5-year average EVs	
	No WCVI Forecast	
	FRL Forecast	
1306	5-year average mat rates	contains possible discrepancies in cnr file; will necessitate another set of calib runs
	1-year average EVs	
	No WCVI Forecast	
	FRL Forecast	
1307	Long-term average mat rates	this configuration is analogous to how calib 12…was run and will be used for post-season assessment; cnr discrepancies resolved
	5-year average EVs	
	No WCVI Forecast	
	FRL Forecast	
1308	5-year average mat rates	this configuration is how our pre-season AI is chosen; cnr discrepancies resolved
	1-year average EVs	
	No WCVI Forecast	
	FRL Forecast	
1309	Long-term mat rates	
	5-year average EVs	
	no WCVI forecast	
	FRL Forecast	
1310	5-year average mat rates	
	1-year average EVs	
	Bias-corrected WCVI (6-year series)	
	FRL Forecast	
1311	Long-term average mat rates	
	5-year average EVs	
	Bias-corrected WCVI (6-year series)	
	FRL Forecast	

APPENDIX L: PROGRESS REPORTS FOR INDIVIDUAL PROJECTS FUNDED IN 2012 UNDER THE CODED WIRE TAG IMPROVEMENT PROGRAM

2012 Canada Project Reporting

The Canadian projects summarized in nine categories were funded in FY 2012 (Table L1) for a total expenditure of $1,500,000. Below the table are summaries for each individual project, including a description of the project, deliverable benefits to the CWT system, and the particular issue identified in PSC Technical Report 25 (PSC 2008).

Table L1. Canadian CWT Project Expenditures for 2012–2013, approved in February, 2012.

Project Category	TR25 Issue	Project Title	Cost
Increased CWT marking of Canadian indicators	2	Incremental tagging of 12 Indicator Stocks (Robertson Creek, Cowichan, Big Qualicum, Quinsam, Lower Shuswap, Nicola, Chilliwack, Harrison, Taku, Stikine, Kitsumkalum, and Atnarko)[1]	$358,500
Increased deadpitch CWT recovery effort, all Indicators	5	Increased effort in CWT recovery in indicator escapement programs (Quinsam, Cowichan, Big Qualicum, Chilliwack, Harrison, and Nicola) [1]	$80,500
Uncertainty in estimates of escapement or terminal fishery catch	1, 6	Atnarko Chinook CWT Indicator Stock[1]	$110,000
Agency staffing (Programmer, Catch QA/QC Analyst, CWT Recovery Coordinator)	4, 7, 8, 9, 10, 11, 14, 15, 17, 18	Regional CWT Data system Programming, Regional CWT and Catch Estimation QA/QC, and Regional Sport and First Nations Fishery CWT Recovery Coordination[1]	$250,000
Increased head recovery costs	2, 4, 5, 7	CWT Head Lab Processing and Data Management[1]	$70,000
Low sample rates in terminal fisheries, sport, and First Nations CWT recovery improvements	4, 7, 9, 10, 11	Regional Commercial, Sport, and First Nations Fishery CWT Recovery Improvements[1]	$215,000
Low sample rates in terminal fisheries, First Nations fishery CWT recovery improvements	4, 10	Improvements in CWT Recovery in Terminal First Nations Fisheries (Fraser River, Strait of Georgia, WCVI, Bella Coola, and Cowichan) [1]	$80,000
Low sample rates in terminal fisheries, First Nations fishery CWT recovery improvements	4, 10	Improvements in Catch Estimates and CWT Recovery in Terminal Recreational Fisheries	$174,000
CWT data reporting system improvement	13, 15, 17	Database Improvements	$162,000
		Canada Total	**$1,500,000**

[1] Multiyear.

Project Title: Increased CWT Marking of Chinook Indicators

Agency: DFO

Approved funding for this cycle: $263,500

Total CWTIT funding approved to date: $1,132,500

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 2 (Determination of tagging levels)

Project Description, Accomplishments, Results and Deliverables: This project involved increasing CWT application and release levels on 9 Chinook indicator stocks in British Columbia. Tagging levels were set based on recent survival and fishery sampling rates in order to achieve stated precision objectives in the estimation of fishery-specific exploitation rates. The indicator stocks that received increased tagging through this project were: Robertson Creek, Cowichan River, Big Qualicum River, Quinsam River, Chilliwack River, Harrison River, Nicola River, Lower Shuswap River, and Atnarko River.

Increased tagging was initiated on selected stocks prior to brood year 2009 (e.g., Quinsam) through other external funding sources, but comprehensive increases in tagging levels began across these stocks in brood year 2009. To date, CWT release targets have been met for these stocks in all brood years, save for the Cowichan River in brood years 2009 and 2010 when poor escapements prevented collection of adequate broodstock for full release targets. Infrastructure improvements at DFO hatcheries that were funded through the first year of the Coded Wire Tag Improvement Program (CWTIP) continue to allow expanded tagging to be completed on an annual basis. Returns of marked 3-year-old adult Chinook to Salmonid Enhancement Program (SEP) hatcheries in 2012 from the first year of expanded tagging were strong, indicating that increased CWT recoveries are likely to be observed in future years as the fish released from the expanded marking mature and enter the various fishery and escapement strata.

This project can be considered to have been successful to date. Continued funding will be required to maintain current marking levels, otherwise marking will likely return to pre-2009 levels.

Continued CWTIT Funding Needed: Yes.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: Benefits to the CWTIP include increased CWT recoveries in all fishery and escapement strata for the 9 Chinook indicator stocks, which will allow for increased precision in the estimation of exploitation rates in the various fishery strata.

Project Title: Stikine River Chinook CWT Application and Tag Recovery

Project agency: DFO, Marc Labelle and Peter Etherton

Approved funding for this cycle: $30,000

Total CWTIT Funding approved to date: $120,000

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 2 (Determination of tagging levels)

Project Description, Accomplishments, Results and Deliverables: The project was designed to increase the CWT level of Stikine River Chinook salmon smolts. Approximately 35,000 additional wild Stikine Chinook smolts (including the Little Tahltan stock grouping) were tagged annually. In addition approximately 2% were measured for weight and length. This project can be considered to have been

successful to date.

Continued CWTIT Funding Needed: Yes**.** Continued funding will be required to maintain current marking levels, otherwise marking will likely return to pre-2009 levels.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: Tagging rates could not have been achieved without this funding source. Approximately 80% of the fishery catch in the Stikine River were sampled for CWTs and heads sent to J. L. Thomas Labs, Inc. for analysis. Loss of this funding would compromise Pacific Salmon Treaty commitments to monitor fishery impacts, i.e., fewer CWTs in U.S. fisheries for exploitation rate analysis, and lack of information to evaluate/refine Chinook escapement goal. In the absence of this funding, some baseline biological data (e.g., age, gender, size) could be collected from the fishery catches. However, the resulting small sample size would result in low precision after CWT expansion.

Project Title: Taku Chinook Fishery Monitoring and CWT Application

Project agency: DFO, Marc Labelle and Ian Boyce

Approved funding for this cycle: $30,000

Total CWTIT Funding approved to date: $120,000

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 2 (Determination of tagging levels)

Project Description, Accomplishments, Results and Deliverables: Application of CWTs to wild outmigrating Taku River juveniles for use in monitoring of directed Chinook fisheries was established in 2005. 8,000 additional wild Taku Chinook smolts were tagged as a result of this funding. This project can be considered to have been successful to date.

Continued CWTIT Funding Needed: Yes. Continued funding will be required to maintain current marking levels, otherwise marking will likely return to pre-2009 levels.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: Tagging could not have been achieved without this funding source. Prior to tagging, Taku fisheries were not sampled. During this program 20–70% sampling rates have been achieved.

Loss of this funding would compromise Pacific Salmon Treaty commitments to monitor fishery impacts (i.e., fewer CWTs in U.S. fisheries for determining exploitation rates), and compromise information to evaluate and refine Chinook escapement goal.

Project Title: Atnarko Chinook CWT Indicator Program: Uncertainty in estimates of escapement and terminal CWT catch

Agency: DFO

Approved funding for this cycle: $130,000

Total CWTIT funding approved to date: $346,500

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 1 (Representation of production regions), Issue 4 (Low sample rates in terminal fisheries), Issue 6 (Uncertainties in estimates of escapement or catch), Issue 10 (Incomplete coverage of fisheries or escapement)

Project Description, Accomplishments, Results and Deliverables: This project began in 2009 with the objective to expand the Atnarko assessment program to a Central Coast Chinook indicator stock (noted as lacking in Technical Report 25). The only northern indicator, Kitsumkalum, is a stream-type stock; Atnarko is an ocean-type stock. Progress included application of 250,000 incremental CWTs, sampling of the terminal commercial, sport, and First Nations fisheries, and reintroduction of a mark–recapture program to improve escapement estimates and CWT recoveries. This project has been successful in improving the sample rates and precision in the estimation of CWTs in escapement and terminal catch.

Is continuing funding required? Yes. Without continued funding, ongoing maintenance of the terminal mark–recapture program to estimate spawning escapement, terminal fishery sampling and increased CWT application will not be possible. Increased numbers of CWTs applied since 2009 may not be recovered in terminal fisheries and escapement without intensive sampling programs.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: The 2009 escapement mark–recapture program included application of 925 tags, 2,630 carcasses examined, and 24% of tags recovered, which provided a spawning estimate of 10,700 Chinook (CV 5.7%). The commercial fishery sampling rates ranged from 34–72% (and 110 CWTs recovered) with the exception that catch in the first week of July was not sampled. The Bella Coola First Nations fishery was sampled at 25% and 57 CWTs were recovered.

The 2010 escapement mark–recapture program was impacted by a major flood event at the end of September. Prior to the flooding event, 1,008 Chinook were tagged, 1,025 carcasses examined, and 87 tags recovered. The preliminary escapement estimate using the standard was 10,900–11,760 (CV 10–11%). The Bella Coola River First Nation fishery caught 3,200 fish (preliminary), 775 were examined for fin clips, and 76 heads collected for CWT dissection.

The 2011 escapement mark–recapture program was successfully implemented; 833 Chinook were tagged, 775 carcasses examined, and 68 tags recovered, providing a preliminary escapement estimate of 9,105 (CV 14%). In 2011 all terminal fisheries were monitored. More than 30% of the First Nations food, social, and ceremonial (FSC) fishery was sampled and 47 CWTs recovered. The commercial gillnet fishery caught 4,600 Chinook and the Bella Coola sport fishery caught less than 200 Chinook due to flow conditions.

The 2012 escapement mark–recapture program was successfully implemented; 644 Chinook were tagged, 1,097 carcasses examined, and 65 tags recovered, providing a preliminary escapement estimate of 10,389 (CV 12%). 98 CWTs were observed in the spawning escapement. In 2012 terminal FSC and commercial fisheries were monitored. Greater than 40% of the First Nations FSC fishery was sampled and 147 CWTs recovered. The commercial gillnet fishery caught 3,300 Chinook; CWT results are still pending.

Project Title: Salmonid Enhancement Program CWT Head Data Coordinator/Archival CWT Database Review

Agency: DFO

Approved funding for this cycle: $67,000

Total CWTIT funding approved to date: $67,000

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 10 (Intra-agency coordination), Issue 13 (Timeliness of reporting), Issue 15 (Uncertainty in catch estimates and CWT expansions, data management)

Project Description, Accomplishments, Results and Deliverables: This project funded the staffing of a term biologist position in the DFO Regional Salmonid Enhancement Program (SEP) sector for 10 months in 2012/2013. Two main objectives are listed below.

1. Develop a formal set of Best Practices for the collection, transfer, and management of CWT heads and data at all escapement projects. This includes serving as a Regional Head Data Coordinator for all escapement programs on an inseason basis.
2. Review archival escapement data from DFO enhancement programs to ensure standardized analytical techniques and data verification procedures have been employed.

Through the Regional Head Data coordinator role, this project served to provide a single point of contact to lead the annual program to collect CWT heads and deliver them to the dissection lab in a timely manner. In the course of this role, a thorough review of the current data and head transfer program was conducted, efficiencies were identified, and a complete set of Best Practices are being developed with the goal of improving data quality and delivery time, reducing costs at the dissection lab, and streamlining operations for current DFO staff.

The archival data review component of this project involves a systematic review of historic and recent SEP escapement data, including hard copy CWT sampling records, tag decoding, and stratum abundance estimates. As part of the implementation of a new SEP data management system in recent years, ongoing review of archival data has identified inconsistencies with the current database records that require reconciliation. This project has systematically begun a review of archival hard copy CWT sampling records, updating existing databases with retrieved CWT and stratum abundance estimate data as it has been located and/or corrected. As data updates are made to the new SEP Enhancement Planning and Escapement Database (EPAD), database updates will then be transferred to the CTC CWT database as part of the annual data upload. To date, there have been significant improvements made in the quality of the data that is provided annually for international and domestic data sharing, with future updates expected as this project continues. To date, significant progress has been made on both key objectives in this project.

Continued CWTIT Funding Needed: Yes. It is anticipated that the CWT Head Data Coordinator project will be completed successfully over the next few months. It is also anticipated that the historic CWT data review project will continue to make progress, although it was recognized at the beginning of this project that review of all CTC indicator data would not likely be completed in one year.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: Improvements in reporting of CWT data from escapement projects will directly benefit the CWT program and CTC by ensuring the current return year escapement data are available in time for annual CTC CWT analysis. In

addition improvements made in the delivery and CWT dissection system will serve to reduce future costs for processing of escapement heads. These savings will help to offset pressures from increased CWT recoveries expected as an outcome of the CWTIP, and will provide lasting improvements in the quality and timeliness of CWT reporting.

Project Title: Regional CWT Data System Programming

Agency: DFO, Kathryn Fraser

Approved funding for this cycle: $90,000

Total CWTIT funding approved to date: $350,000

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 13 (Timeliness of reporting), Issue 14 (Incomplete/no exchange of CWT data), Issue 15 (Inter/Intra agency coordination), Issue 17 (Updating CWT data difficulties), Issue 18 (Inadequate CWT validation)

Project Description, Accomplishments, Results and Deliverables: This project involves hiring a programmer/analyst to provide systems analysis, design and programming support to DFO CWT program system—the Mark Recovery Program (MRP). The objectives for this year's funding are to continue ongoing system improvements and new development including the items listed below.

1. Improve data through improvements to validation, corrections to data, and corrections to historical algorithms.
2. Improve data management through new data entry interfaces to central database.
3. Improve access to information for DFO users and exports to the Regional Mark Information Centre.
4. Improve interfaces with DFO hatcheries system, catch monitoring system, and escapement systems.
5. Implement modifications for new data sources from other CWTIT projects.

Continued Funding Needed: Yes, DFO has made significant progress but ongoing funding in 2012 and future years is requested in support of the above objectives. Additional programming support is still required to improve data management and automation for all CWT dissection activities, and for data management of First Nations fisheries and escapement sampling.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: This is the fourth year of funding to support improvements to the MRP system. Prior to CWTIP funding, DFO had a significant backlog of programming issues and was not able to meet the bilateral reporting requirements effectively as the MRP system was a legacy fortran system. With this additional resource, DFO has made significant progress in reviewing and converting the legacy system using current technology and in developing new interfaces to improve access to the information within DFO. This has allowed DFO to meet bilateral exchange deadlines and to make modifications that have been necessary or will be required in the future.

Project Title: Regional Sport and First Nations Fishery CWT Recovery Coordination

Agency: DFO, Kathryn Fraser

Approved funding for this cycle: $85,000

Total CWTIT funding approved to date: $326,400

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 4 (Low sample rates in terminal fisheries), Issue 7 (Low sample rates in highly mixed stock fisheries), Issue 9 (Nonrepresentative sampling), Issue 10 (Incomplete coverage of fisheries or escapement), Issue 11 (Voluntary sport fishery sampling programs)

Project Description, Accomplishments, Results and Deliverables: This project involves hiring a senior fisheries technician to implement fisheries sampling improvements within the DFO recreational and First Nations fisheries. Objectives are listed below.

1. Develop protocols and implement sampling programs to adequately represent First Nations fisheries.
2. Develop and implement program improvements to Increase participation in the recreational voluntary sport recovery program to increase sample rates representatively.
3. Provide technical support, including design, review, implementation, and QA/QC for all aspects of CWT sampling within commercial, recreational, test and First Nations fisheries.
4. Promote improvements to catch monitoring and sampling participation through communications promotional material, or improvements to sampling protocols.

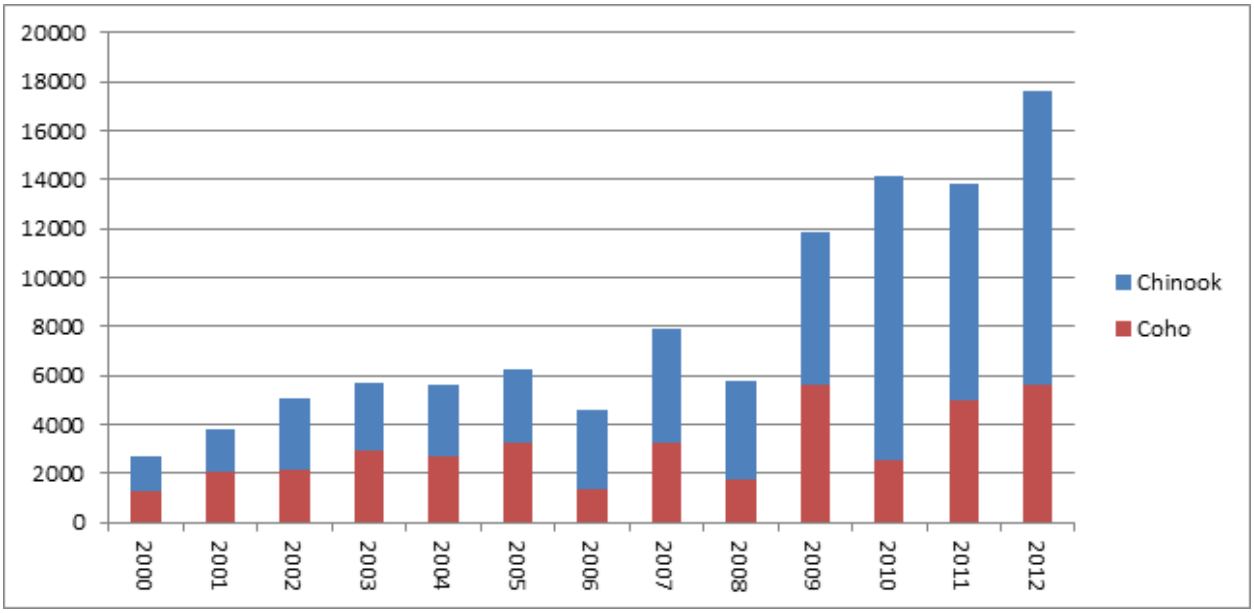
Continued Funding Needed: Yes, with the increased workload associated with the oversight and delivery of recreational and First Nations sampling programs, continued funding through 2012 and in future years is imperative to ensure that gains achieved are maintained across DFO fishery sampling programs.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: This is the fourth year of funding a fisheries technician to make improvements to sampling of recreational and First Nations fisheries. With the addition of a second fisheries technician, DFO has made significant progress in improving sampling across CWT fishery sampling programs (recreational, First Nations, commercial, and test fisheries) in terminal areas and in mixed stock fisheries.

Specific achievements in First Nations fisheries include the introduction and increasing progress toward adequate sampling rates in the following locations.

- Robertson Indicator, Alberni Inlet FSC First Nations fisheries: 2012 preliminary sample rate (SR) 52%
- Cowichan Indicator, Cowichan Tribes FSC fisheries sampled: 2012 SR not yet available
- Atnarko Indicator, Nuxalk FSC: 2012 SR 46%
- WCVI Mixed Stock T'aaquiihak economic fishery: 2012 SR 54%
- Lower Fraser, FSC fishery: 2012 SR 5–10%
- BC Interior, Kamloops Lake economic fishery: 2012 SR 100%, FSC 2012 SR not yet available

Improvements in recreational fishery sampling can be generally reviewed graphically in the following figure by observing the impressive increases in the number of recreational samples since this project commenced in 2009 compared to historical results.



Project Title: Regional CWT and Catch Estimation QA/QC

Agency: DFO, Bruce Patten

Approved funding for this cycle: $75,000

Total CWTIT funding approved to date: $264,700

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 6 (Uncertainty in estimates of escapement or terminal fishery catch), Issue 8 (Uncertainty in estimates of catch in highly mixed stock fisheries)

Project Description, Accomplishments, Results and Deliverables: This project provides QA/QC of all catch data associated with CWT recoveries and ensures proper stratification for tag expansions. Checks of current (2012) season's data were maintained as the data were received. Quality assurance of previous seasons' (2007–2011) salmon logbook data has been completed. As time allows, staff will continue checking 2006 and earlier seasons. Importing of historic test fishery data has been contracted out, to be completed by mid-March 2013.

Continued CWTIT Funding Needed: Yes. Loss of these resources would result in reduced QA/QC and consequently a reduction in data quality.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: This project has contributed to the accuracy of the CWT reporting system by systematically checking for, and resolving, errors.

Project Title: Improvements to Commercial Catch Databases Fishery Operations System

Agency: DFO, Bruce Patten

Approved funding for this cycle: $60,000

Total CWTIT funding approved to date: $60,700

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 6 (Uncertainty in estimates of escapement or terminal fishery catch), Issue 8 (Uncertainty in estimates of catch in highly mixed stock fisheries)

Project Description, Accomplishments, Results and Deliverables: This initiative funded a contractor to consult with the DFO Area Managers on the Salmon Post-Season Catch and Effort Estimate Finalization Policy. They also developed area-specific procedures to ensure the estimates will be finalized each year. The contractor will compile historical catch and effort data (2005 and later) and import it into the Fishery Operations System (FOS).

Continued CWTIT Funding Needed: Yes.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: This project is establishing standard procedures and finalizing catch estimates in the FOS, so that final postseason catch and effort estimates are available for use by the CTC in a timely manner. Once complete, this project will contribute to the accuracy of the catch data associated with CWT recoveries and ensure proper stratification for tag expansions. Regionally, this project is very important to ensure consistent postseason catch and effort estimates are available for use by the MRP.

Project Title: Mark Recovery Program Archive Data Recovery

Agency: DFO, Kathryn Fraser

Approved funding for this cycle: $20,000

Total CWTIT funding approved to date: $20,000

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issues 13 (Timeliness of reporting), Issue 14 (Incomplete/no exchange of CWT data)

Project Description, Accomplishments, Results and Deliverables: This project involves hiring two temporary technicians to review over 40 years of archived material associated with the DFO CWT program. The objectives for the funding are listed below.

1. Create an inventory of archived material—review and classify, identify gaps in DFO CWT information system vs source documents or CWTs, and identify data recovery projects.
2. Develop a strategy for retention. Options include data recovery/data entry, digital conversion of paper forms, CWT reading and digitizing, archive with retention requirements established, redistribute to appropriate existing DFO staff, or destroy.
3. Develop estimates to perform priority data recovery, scanning of paper forms, CWT reading and digitizing for 2013 CWTIT projects.
4. Perform priority data recovery, scanning of paper forms, CWT digitizing, as determined as employment period allows.

Continued CWTIT Funding Needed: Yes. This was year one of a two-year project.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: It is expected that this project will result in identification of historical sources of data (such as recoveries from test, research, or First Nations fisheries) or fields on data records that have never been entered into the CWT system. Additionally, performing this review will result in the development of new protocols for digital management of DFO CWT program records which will improve access to data for QA/QC in the future. Finally, the reduction of archived material will eliminate future expenditures by DFO for the management of large quantities of archive material and allow for these funds to be spent on CWT program delivery.

Project Title: Regional Commercial, Sport and First Nations Fishery CWT Recovery Improvements

Agency: DFO, Kathryn Fraser

Approved funding for this cycle: $215,000

Total CWTIT funding approved to date: $585,000

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 4 (Low sample rates in terminal fisheries), Issue 7 (Low sample rates in highly mixed stock fisheries), Issue 9 (Nonrepresentative sampling), Issue 10 (Incomplete coverage of fisheries or escapement), Issue 11 (Voluntary sport fishery sampling programs), Issue 12 (Sampling methods to facilitate MSF evaluations)

Project Description, Accomplishments, Results and Deliverables: This project is a portfolio of many activities being directed at Canadian fisheries management to make strategic improvements to CWT sampling programs and CWT data. The focus of these projects is to provide a legacy of improvements that can be sustained in the future. Projects include the following:

1. Replace, repair and upgrade sampling infrastructure requirements such as electronic sampling equipment or sampling tables for commercial fisheries.
2. Expand equipment to facilitate increases in recreational and First Nations sampling (e.g., freezers, freezer boxes, closed containers for brine solution).
3. Develop communications strategy for participation in meetings, related events, etc., and develop and distribute communication or promotional materials.
4. Review existing sampling programs onsite and introduce QA/QC through ongoing audits.
5. Review, develop, and produce improved data collection materials (e.g., forms, labels, sample kits).
6. Introduce sampling freezer troll vessels in B.C. fisheries to improve representative sampling in this fishery.

Continued CWTIT Funding Needed: Yes. Projects have been designed to become operational and will not require ongoing funding; however, future funding at a reduced level will be required for life-cycle replacement of equipment.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: This project has made improvements the quality and quantity of CWT data that is available for use in analysis across DFO fishery sectors sampling.

Project Title: CWT Head Lab Processing and Data Management

Agency: DFO, Kathryn Fraser

Approved funding for this cycle: $70,000

Total CWTIT funding approved to date: **$**316,400

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 2 (Determination of tagging levels), Issue 4 (Low sample rates in terminal fisheries), Issue 7 (Low sample rates in highly mixed stock fisheries), Issue 9 (Nonrepresentative sampling), Issue 10 (Incomplete coverage of fisheries or escapement), Issue 11 (Voluntary sport fishery sampling programs), Issue 12 (Sampling methods to facilitate MSF evaluations)

Project Description, Accomplishments, Results and Deliverables: This project is required to pay for increased costs to ship, dissect, and perform data entry for increased quantities of head recoveries from DFO-managed fisheries and escapement sampling programs. Increases are attributed to the implementation of other CWT improvement projects listed below.

1. Increased tag rates in fisheries as a result of bi-lateral increases to tagging (Issues 1–3)
2. Increased deadpitch CWT recovery efforts (Issue 5)
3. Increased sampling rates, in commercial, test or research fisheries (Issues 4, 7)
4. Introduction of First Nations sampling programs (issues 4, 7, 9)
5. Improvements to Voluntary Sport Head Recovery Program, resulting in increased sampling rates (Issues 4, 7, 11)
6. Introduction of sampling of freezer troll vessels in B.C. fisheries to improve representative sampling in this fishery (Issue 11)
7. Re-introduction of sampling of unmarked Chinook (double index tagged fish) to support assessment of mark selective fisheries (Issue 12)

Continued CWTIT Funding Needed: Yes. With increased head recoveries across DFO CWT recovery programs, continued funding will be required in 2012 and in future years.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: This project ensures that funds and effort spent to complete other projects that increase tag recoveries of indicator stocks result in useable CWT data to support analysis.

Project Title: Chinook Test Fishery CWT and Biosample data import into Fishery Operations System

Agency: DFO, Bruce Patten

Approved funding for this cycle: $15,000

Total CWTIT funding approved to date: $41,000

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 10 (Incomplete coverage of fisheries)

Project Description, Accomplishments, Results and Deliverables: This project incorporates historic data for Albion and Skeena Tyee Test Fisheries into the Fishery Operations System (FOS). The Skeena Tyee Test fishery project is complete. Fishery openings, catch data and biodata have been imported back to 1955. Staff are now able to report the inseason comparison with the historic index using an automated process rather than the previous manual one, increasing efficiency and quality control. For the Albion historic data import, 2002 data are currently being imported into FOS, 1997–2001 biodata have been imported into FOS and verified, 1990–1996 data have been reformatted and are ready to import into FOS, and 1980–1989 data are being updated.

Continued CWTIT Funding Needed: Yes

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: Regionally, this project enabled historical catch data associated with CWT recoveries and tag expansions to be imported and consequently available for use by the MRP, creating a more accurate time series on which to base calculations. Capturing the Albion and Skeena Tyee test fisheries data in FOS has improved the quality of CWT estimates for stocks and for the data used by the CTC for exploitation rate analysis of the Kitsumkalum, Lower Shuswap, Dome, Nicola, Chilliwack, and Harrison River indicator stocks. The data can be used to identify CWT recoveries in terminal net fisheries not previously available to the CTC. Once data are captured in FOS, it is easier to extract information, do historic analyses, and export data to the MRP program.

Project Title: Lower Fraser First Nations CWT Recovery Improvements

Agency: DFO, Kathryn Fraser

Approved funding for this cycle: $25,000

Total CWTIT funding approved to date: $80,000

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 4 (Low sample rates in terminal fisheries), Issue 10 (Incomplete coverage of fisheries or escapement)

Project Description, Accomplishments, Results and Deliverables: The Lower Fraser Fisheries Alliance (LFFA) is a relatively new organization formed in March 2010 which has been empowered by its 29-member First Nations to establish a First Nation to First Nation (Tier 1) working relationship to address issues of common interest and work with DFO toward resolutions for effective resource and fisheries management.

This is a collaborative project between the DFO and the LFFA to make improvements to CWT awareness and sampling in the Lower Fraser Area (LFA) through the following activities.

1. Build understanding of the CWT program and the Salmon Head Recovery Program throughout the LFA.
2. Provide technical support to LFA First Nations monitoring organizations on the collection and provision of biological samples and high quality supporting data associated with the CWT program.
3. Develop a communication plan, identifying the audience, message, strategy, form and timing of communication for First Nations in the LFA.
4. Develop communication presentations and products.
5. Provision communication, education and awareness sessions with LFA First Nations, targeted to First Nations Community leaders, fisheries managers, biologists and technical staff, and fishers.
6. Provision training to First Nations fishery monitoring programs to collect CWT biological samples and data to support and enhance existing First Nations fishery monitoring programs in the LFA.

Continued CWTIT Funding Needed: Yes. Targeted sampling and directed program discussions by LFFA and DFO staff, supplemented with monitoring training sessions and feedback on data quality, are proving to be effective in increasing submission of heads and improving data collection. Continued funding is needed to continue work in support of these objectives.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: This is the second year of a collaborative project between the LFFA and DFO targeting improvements to CWT sampling in the area addressing previously low sample rates in terminal fisheries. This project benefits the CWT program by increasing awareness within LFA communities, aiding monitoring organizations to implement changes and build tools to support CWT sampling and data collection, and increasing the number of head samples collected from fisheries.

Summary of head recoveries in Lower Fraser First Nations fisheries, 2010–2012.

Species	2010 FSC[1]	2011 FSC	2011 Econ[2]	2012 FSC
Chinook	8	14	11	19
Coho	0	3	36	16
TBD	0	0	0	2
Totals	8	17	47	37

Note: Retention of Chinook and coho salmon was not licensed in 2012 fisheries with a sales component.
[1] FSC = Food, social, and ceremonial fisheries.
[2] Econ = Fisheries with a sales component.

Project Title: Operational Support for First Nations CWT Sampling Projects

Agency: DFO

Approved funding for this cycle: $25,000

Total CWTIT funding approved to date: $25,000

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 4 (Sampling rates in terminal fisheries), Issue 10 (Incomplete coverage of fisheries or escapement)

Project Description, Accomplishments, Results and Deliverables: This project involves hiring a seasonal technician to provide support to the Lower Fraser Area (LFA), DFO, and First Nations monitoring groups targeting increased sampling of Chinook and coho for CWTs and improving collection of supporting mark

rate information. The objectives for this year's funding are listed below.

1. Continue to build the relationship between DFO and the Lower Fraser Fisheries Alliance (LFFA) around CWT sampling in First Nations fisheries.
2. Work with staff from the LFFA on initiatives to increase understanding of the importance of the CWT Program within the LFA First Nations communities and monitoring organizations.
3. Provide support to LFA DFO and First Nations in order to increase the number of head samples collected from LFA First Nations fisheries and work on improving the systems for collection and quality of data on mark rates from LFA First Nations monitoring programs.

Continued CWTIT Funding Needed: Yes. Continued funding is needed to continue work in support of these objectives.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: This is the second year of a collaborative project between the LFFA and LFA DFO targeting improvements to CWT sampling in the area addressing low sample rates in terminal fisheries and was the first year funding was provided for DFO technical support. Both this project and the related LFFA funding provided in 2011–2012 and 2012–2013 benefit the CWT program by increasing awareness within LFA communities, aiding monitoring organizations to implement changes and build tools to support CWT sampling and data collection, and increasing the number of head samples collected from fisheries.

Project Title: WCVI First Nations Fisheries Chinook Assessment Enhancements

Agency: DFO

Approved funding for this cycle: $6,000

Total CWTIT funding approved to date: $18,000

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 6 (Uncertainty in estimates of escapement or terminal fishery catch)

Project Description, Accomplishments, Results and Deliverables: The objective of this project is to improve survey coverage, biosampling rates, estimates of Chinook mark rates and increase head recoveries from WCVI First Nations fisheries. This project improved sampling of the Somass First Nation fishery via support for a technician to collect catch data from the First Nations Economic Opportunity fishery and to sample catch for mark rate recovery and head recovery. This sampling provided an estimate of total catch, mark rate of the catch, and recoveries of heads and CWTs from marked Chinook.

Additional activities include the following.

1. Participate in a First Nations fisheries technician training workshop.
2. Create a MRP/CWT information pamphlet to improve awareness and participation in the program.
3. Purchase freezers and supplies to facilitate sampling and head recoveries.

Continued CWTIT Funding Needed: Yes.

Benefits to CWT Program and PSC Salmon Management: Benefits to the CWT program and PSC salmon management include improved estimates of Somass First Nations fisheries impacts on Somass Chinook (CTC indicator stock).

Project Title: Central Coast Chinook Mark Incidence and Catch Estimation Program

Agency: DFO

Approved funding for this cycle: $7,000

Total CWTIT funding approved to date: $10,500

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 7 (Low sample rates in highly mixed stock fisheries), Issue 10 (Incomplete coverage of fisheries or escapement)

Project Description, Accomplishments, Results and Deliverables: The objectives of this project were to increase survey effort for B.C. Central Coast sport fisheries, including lodge and independent catch, to accomplish the following items.

1. Obtain mark rate data for Central Coast sport fishery which is stratified both spatially and temporally from late June to late August when the majority of Chinook are caught.
2. Estimate independent catch for Areas 7–9 by month using conservation and protection collected independent fisher data.
3. Determine underreporting bias for marked head submission by comparing the lodge logbook mark rates to those collected by conservation and protection.
4. Calculate submission rates for Central Coast sport fishery either through integration of data into MRP or independently.

All objectives were met.

Continued CWTIT Funding Needed: Yes. Without an annual program to collect Central B.C. Chinook mark rate and independent angler catch data, proxy data from other areas would once again be used in MRP to expand CWT recoveries. The deficiencies inherent with this method have been highlighted previously and were the primary reason for initiating this project in 2011.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: Immediate benefits have been realized as program results have allowed calculation of Central B.C. (PFMA 7–10) submission rates as well as estimated expansion factors. The availability of these data has precluded the use of mark rates from other areas (global pooling) in DFO's MRP. The observed submission rates during the past two years are higher than proxy data previously used in MRP and corresponding expansion factors are believed to better represent Central B.C. sport fishing impacts on CWT stocks. This project has yielded catch estimates for the previously unaccounted for independent angler (nonlodge based) component of the fishery as well as submission rates and corresponding estimated expansion factors. This recreational fishery is a significant harvester of Chinook (approx. 6,000 in 2012).

Project Title: Operational Support for Recreational CWT sampling projects

Agency: DFO, Kathryn Fraser

Approved funding for this cycle: $30,000

Total CWTIT funding approved to date: $69,000

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 4 (Low sample rates in terminal fisheries), Issue 7 (Low sample rates in highly mixed stock fisheries), Issue 9 (Nonrepresentative sampling), Issue 10 (Incomplete coverage of fisheries or escapement), Issue 11 (Voluntary sport fishery sampling programs)

Project Description, Accomplishments, Results and Deliverables: This project involves hiring two seasonal fisheries technicians to support the implementation of fisheries sampling improvements within the DFO recreational fisheries. Objectives are listed below.

1. Perform audit inspections and recommend improvements to Voluntary Sport Head Recovery Program Depots in Southern B.C.
2. Implement specific recreational fishery sampling improvement projects in Southern B.C. to adequately represent recreational fisheries.
3. Perform public relations and communication with Voluntary Sport Head Recovery Program Depots or fishers in Southern B.C.
4. Perform QA/QC to improve recreational sampling data.

Continued CWTIT Funding Needed: Yes. With the increased workload associated with oversight and delivery of recreational and First Nations sampling programs, continued funding in 2012 is requested, however, long term funding is not required.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: This is the second year of funding seasonal fisheries technicians to make improvements to DFO sampling of recreational fisheries. With the addition of a second fisheries technician and seasonal staff, DFO has made significant progress in improving sampling through the voluntary sport head recovery program.

Project Title: Expansion of Catch Monitoring and Sampling in the Southern B.C. Sport Fishery (Operational enhancement of the southern B.C. marine waters recreational creel survey)

Agency: DFO

Approved funding for this cycle: $100,000

Total CWTIT funding approved to date: $280,000

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 4 (Sampling rates in terminal fisheries), Issue 6 (Uncertainty in estimates of escapement or terminal fishery catch), Issue 7 (Sampling rates in highly mixed stock fisheries), Issue 8 (Uncertainty in estimates of catch in highly mixed stock fisheries)

Project Description, Accomplishments, Results and Deliverables: This project funded operational enhancements to monitoring of marine recreational fisheries in Southern B.C., including the Strait of Georgia, Juan de Fuca Strait, the West Coast of Vancouver Island and Johnstone Strait. Operational

enhancements took two forms.

1. Conduct creel surveys at times and locations currently unsurveyed to verify assumptions of low Chinook and coho catches.
2. Increase recreational creel survey intensity (creel survey shifts and flight counts) in areas and times previously shown to be important for Chinook catch to improve estimates.

Operational enhancements in the 2011/12 funding year focused primarily on expanding coverage (No. 1 above). The results of this work verified assumptions that Chinook and coho catch rates in unsurveyed periods are low and focus for the project in 2012/13 was shifted to increasing survey intensity during peak catch periods (No. 2 above). Increases in survey interview coverage resulted in higher interview numbers and rates in key recreational fisheries relative to previous years increasing precision in catch per trip estimates. Increases in the number of aerial effort counts improved estimates of effort.

Continued CWTIT Funding Needed: Yes. Continued CWT improvement funding in this area would be used to support transformative improvements to recreational Chinook catch methods, as well as continued increases to creel coverage in key times and areas based on 2011–2012 results. Transformative recreational monitoring work being considered in 2013/14 includes the following.

1. Implement more cost effective internet-based alternative methods to collect data to estimate Chinook catch, particularly in areas and times where creel surveys are inefficient due to low fishing rates or the remote nature of the fisheries.
2. Focus current monitoring efforts to key areas and times to most effectively estimate and sample Chinook catch.
3. Engage the for-hire sport sector to improve the catch, effort and biosample data collected from this professional component of the recreational fishery.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: Direct benefits to the CWT program include improved estimates of Chinook (and coho) catch during peak recreational fisheries in the south coast of British Columbia, along with updated catch estimates during periods no longer monitored via creel. Indirect benefits include synergy with other CWT funded projects focused on review and improvements to recreational monitoring approaches and flow of data, particularly marked and unmarked Chinook and coho catch estimates, from field programs to analysts.

Funding pressures for recreational catch monitoring continue to be downward. CWTIP funding through 2012 has assisted in focusing future efforts towards improved cost effectiveness in recreational monitoring while improving our ability to estimate total annual recreational catch in the recreational fishery.

Project Title: Middle Shuswap Sport Fishery Catch Estimation and CWT Sampling

Agency: DFO

Approved funding for this cycle: $16,000

Total CWTIT funding approved to date: $31,000

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 4 (Sampling rates in terminal fisheries), Issue 6 (Uncertainty in estimates of escapement or terminal fishery catch)

Project Description, Accomplishments, Results and Deliverables: This project is one component of a broader objective to decrease the uncertainty in catch estimates and increase sample rates of terminal fisheries. The aim of this project was to estimate the encounters of Chinook salmon, and other species by clip status, and any other regulation variation that affects the age composition of retained and released catch. 2012 represented the second year of enhanced efforts to survey the recreational and FSC Chinook fisheries as well as promote the CWT program on the Middle Shuswap fishery.

Similar to 2011, there was considerably less effort and catch observed in the 2012 Middle Shuswap Chinook fishery than in past surveys. This was likely due to a management closure implemented to protect Bessette Chinook in 2011 and 2012, high water levels, and late arrival in 2011 and low returns of Chinook to the system in 2012. Although catch and effort has been atypical of past years the project has gained information required to meet objectives.

Continued CWTIT Funding Needed: Yes. Continued support for a multiyear creel survey would continue to build on a number of CWT improvement objectives that include decreasing the uncertainty in estimates of terminal fishery catch, increasing sample rates in terminal fisheries as well as promoting the CWT program.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: Benefits to the CWT program include decreasing the uncertainty in estimates of terminal fishery catch, increasing sample rates in terminal fisheries as well as promoting the CWT program. Information from the mid-Shuswap terminal fishery, in combination with other work, provides useful information required to evaluate fishery impacts.

Project Title: Expansion Catch Monitoring and Sampling Chilliwack River Recreational Fishery (Chilliwack River Creel Survey Extension)

Agency: DFO

Approved funding for this cycle: $15,000

Total CWTIT funding approved to date: $30,000

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 4 (Sampling rates in terminal fisheries), Issue 6 (Uncertainty in estimates of escapement or terminal fishery catch)

Project Description, Accomplishments, Results and Deliverables: The objectives of this project were to expand the coverage of catch monitoring of the Chilliwack River recreational fishery, and to evaluate the performance of indirectly estimating CWT recoveries by comparing them to direct estimates of CWT recoveries using creel survey data.

The Chilliwack River is an exploitation rate indicator stock used by the CTC. A significant recreational fishery targets fall-run Chinook salmon returning to the Chilliwack River. Historically, CWT recoveries from the Chilliwack River recreational fishery for the first half of September were indirectly estimated using the head recovery data and the submission rate measured with creel survey for the last half of September; the accuracy and prudence of this approach has not been evaluated. In 2011, the CWTIP funded DFO to initiate the Chilliwack River Creel Survey project two weeks earlier to allow direct estimates of catch and CWT recoveries for the entire month of September. The study was repeated in 2012. Both the 2011 and the 2012 studies have provided catch estimates, by species and mark status, and an estimate of total angler effort for the September 1–15 period. Additional bimonthly catch and effort estimates have been provided for the September 6 to November 15 period by DFO Fraser Stock Assessment using existing DFO funding. Work is ongoing to compare the 2011 and 2012 September 1–15 period direct and indirect estimates of catch and CWT recoveries.

Continued CWTIT Funding Needed: Yes. Comparison of analytical techniques will occur in early to mid-2013. Deliverables will include a recommendation about the use of indirect estimates of CWT recoveries and catch for any period of the Chilliwack River sport fishery that is not directly assessed.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: Benefits to the CWT program include an objective assessment on the CWT data for the Chilliwack River recreational fishery and guidance on use of indirect estimation for this fishery. This project will improve the accuracy of the terminal runs for the CWT indicator stock for 2011 and 2012, and provide advice about the suitability of the indirect estimation method for the Chilliwack River recreational fishery.

Project Title: 2008–2012 Campbell/Quinsam Chinook Mark–Recapture Improvements (assess bias in random mixing of carcass mark–recapture)

Program Agency: Fisheries and Ocean Canada

Approved funding for this cycle: $7,500

Total CWTIT funding approved to date: $37,500

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 5 (Low sample rates in escapement)

Project Description, Accomplishments, Results and Deliverables: CWT improvement funding was used to increase the stream area sampled for CWTs, specifically the Second Island Channel in the Campbell River (2009–2012), allowing more access to carcasses in deep pools. In addition, this project assessed the assumption in a carcass mark–recapture that the tagged and untagged carcasses mix randomly in the population. Two methods were employed and compared.

1. Carcasses were tagged and placed back where they were found (random mixing unlikely unless there was some sort of flood event after that placement).
2. Carcasses were marked and then placed into the flow of the river.

Population estimates derived using the old method were 1–16% less than new method except in 2011 (16% more). In recent years we had three very dramatically different flow conditions in order to evaluate the various release methods. Additional sampling effort and expanded spatial coverage contributed an increase in CWT recoveries on the Campbell River with only a slight reduction in sampling rate on the Quinsam River.

Continued CWTIT Funding Needed: Yes**.** Continued funding would be of value to maintain the expanded

snorkel coverage on Second Island Channel.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: Benefits to the CWT program include an improvement in the accuracy and precision of the mark–recapture estimates of escapement, and increased sampling effort and spatial coverage on the more challenging component of the system resulted in higher CWT recoveries on the Campbell River.

Project Title: 2011–2012 Phillips River Chinook Escapement Estimation and Increase CWT Application

Program Agency: Fisheries and Ocean Canada

Approved funding for this cycle: $10,000

Total CWTIT funding approved to date: $38,000

Continued CWTIT Funding Needed: Yes.

Objectives and Relationship to PSC Technical Report 25: Issue 1 (Incomplete representation of production regions), Issue 2 (Determination of tagging levels), Issue 6 (Uncertainty in estimates of escapement)

Project Description, Accomplishments, Results and Deliverables: This production area is not represented by a CTC indicator stock. This project supports existing community partnership efforts to develop an indicator. The two main objectives of this project are listed below.

1. Develop a mark–recapture program on a southern B.C. mainland inlet Chinook population to provide accurate and precise estimates of tagged and untagged Chinook escapement.
2. Increase the number of CWT tags released to 150,000 for this population.

This project involved a two-stage mark–recapture of adult Chinook returning to the Phillips River. Tags were applied via broodstock collection events and seining events. Deadpitch activities were conducted throughout the watershed. There was a significant improvement in the number of tags applied, carcasses recovered, and the precision of the estimate in 2012 relative to 2011. The clipped contribution to the return was estimated at 11.6%.

Preliminary results indicate that escapement estimates have shown improved precision over the last two years and brood collection in 2012 will result in the 150,000 CWT application target being met for release in 2013.

Continued CWTIT Funding Needed: Yes. Based on the recent success and increased CWT tagging it will be key to maintain the program to ensure the recoveries of those tags in the escapement in future years.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: Benefits to the CWT program include the following.

1. Develop a low cost indicator program for a Chinook population in the poorly monitored Mainland Inlet Area of the Southern B.C. coast appears feasible.
2. Over the duration of this project it has been demonstrated that we can achieve a precise estimate of Chinook escapement to the Phillips River as well as clipped contribution.
3. This project has demonstrated that increased CWT tag releases to the level of 150,000 are achievable in this remote location.

Project Title: Cowichan Chinook Assessment Enhancements

Agency: DFO

Approved funding for this cycle: $30,000

Total CWTIT funding approved to date: $120,000

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 5 (Sampling rates in escapement), Issue 6 (Uncertainty in estimates of escapement or terminal fishery catch), Issue 10 (Incomplete coverage of escapement areas)

Project Description, Accomplishments, Results and Deliverables: The objective of this project was to improve escapement survey effort and coverage, biosampling rates, estimates of Chinook mark rates, and increase head recoveries from escapement to Cowichan River. This improved escapement sampling complements increased tagging rates in Cowichan Chinook.

In 2012 drought conditions resulted in extremely low waters in Cowichan River until mid-October. Low water led to poor migration conditions and increased the potential for Chinook spawning in the lower river. This project supported additional deadpitch monitoring activities in the lower river in 2012 and greater sampling rates of carcasses from a wider area relative to the standard program.

In 2012, 577 carcasses were sampled, resulting in 569 scale samples, 145 adipose-fin-clipped Chinook (141 heads collected and submitted for processing), and a recapture of 46 marked carcasses. Forty-two carcasses (7.3%) were collected outside of the normal sampling area, and would not have been sampled without this project. Overall, 15% of the 3,730 adults and jacks' natural spawners estimated to have migrated past the fence were sampled by deadpitch crews.

Continued CWTIT Funding Needed: Yes

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: Benefits to the CWT program and PSC salmon management include improved escapement survey coverage, biosampling, and head recovery rates, resulting in improved accuracy and precision of escapement estimates for the Cowichan River.

Project Title: Improved CWT Recovery, Chilliwack River Indicator Stock Program

Agency: DFO

Approved funding for this cycle: $14,000

Total CWTIT funding approved to date: $56,000

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 5 (Sampling rates in escapement)

Project Description, Accomplishments, Results and Deliverables: This project provided additional staff on the Chilliwack River Chinook deadpitch program to increase survey frequency and the probability of recovery of carcasses. As a direct result, CWT recoveries were increased relative to expected at base survey frequency, thus increasing the precision of estimation of escapement by tag code.

Continued CWTIT Funding Needed: Yes. Loss of continued funding for this project will result in reduced CWT recoveries, thus estimates of return by tagcode will become less precise.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: It is difficult to quantitatively assess success to the annually variable rates of recovery resulting from different escapements of multiple species and annually variable environmental conditions. Sampling rates are dependent on the number of carcasses present, the prevalence of carcasses of other species, fluctuating water levels, predators, and a host of other factors. Carcass sampling rates on the Chilliwack River tend to be hindered by high flows and large escapements of chum salmon, which result in considerable extra effort being required to find and recover carcasses of Chinook. Increased Chinook carcass recoveries result from the increased sampling effort, thus improving CWT recovery rates. The relationship is NOT linear so at any escapement level, the net benefit will differ, but proportional benefits are greater in years of more unstable flows and larger chum salmon returns.

Project Title: Improved CWT Recovery, Harrison River Indicator Stock Program

Agency: DFO

Approved funding for this cycle: $16,000

Total CWTIT funding approved to date: $64,000

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 5 (Sampling rates in escapement)

Project Description, Accomplishments, Results and Deliverables: This project provided funding for additional effort to expand marking and recovery effort during Harrison River Chinook mark–recapture study, thus increasing the sampling rate and precision of the mark–recapture estimates.

Continued CWTIT Funding Needed: Yes. Loss of continued funding for this project will result in reduced CWT recoveries, thus estimates of return by tag code would be less precise.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: It is difficult to quantitatively assess success due to the annually variable rates of recovery resulting from different escapements of multiple species and annually variable environmental conditions. Sampling rates are dependent on the number of carcasses present, the prevalence of carcasses of other species, fluctuating water levels, predators, and a host of other factors. Carcass sampling rates on the Harrison River tend to be hindered by high water levels and large escapements of chum salmon, which result in considerable extra effort being required to find and recover carcasses of Chinook. Increased Chinook carcass recoveries result from the increased sampling effort, thus improving CWT recovery rates. The relationship is NOT linear so at any escapement level, the net benefit will differ, but proportional benefits are greater in years of more unstable flows and larger chum salmon returns.

Project Title: Improved CWT Recovery, Nicola River Indicator Stock Program

Agency: DFO

Approved funding for this cycle: $8,000

Total CWTIT funding approved to date: $32,000

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 5 (Sampling rates in escapement)

Project Description, Accomplishments, Results and Deliverables: This project provided funding for contracting additional staff to expand recovery effort and sampling frequency during the Nicola River Chinook deadpitch. By increasing the frequency at which the entire 50 km of river are surveyed, sampling rate was increased as carcasses are sampled prior to predator removal, thus increasing the sampling rate and precision of the mark–recapture estimates.

Continued CWTIT Funding Needed: Yes. Loss of continued funding for this project will result in reduced carcass and CWT recoveries due to predator removals, thus reducing the precision of the escapement estimate and CWT recoveries.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: It is difficult to quantitatively assess success to the annually variable rates of recovery resulting from different escapements of multiple species and annually variable environmental conditions. Sampling rates are dependent on the number of carcasses present, predators and other factors. Carcass sampling rates on the Nicola River tend to be hindered at escapements less than 10,000 due to the effects of predators. Until predator response is saturated, increasing recovery effort yields increased carcass recoveries by increasing the chances of encountering carcasses before predators, thus improving CWT recovery rates. The relationship is NOT linear so at any escapement level, the net benefit will differ, but proportional benefits are greater at depressed escapements.

2012 U.S. Project Reporting

A total of 12 U.S. projects were funded in FY 2012, inclusive of one using funding from FY 2011 (Table L2). The total expenditure of U.S. CWTIT projects in 2012 was $1,529,685, $1,500,000 from FY 2012 funds and $29,685 from FY 2011 funds. Below the table are summaries for each individual project, including a description of the project, deliverable benefits to the CWT system, and the issue covered in PSC Technical Report 25 (PSC 2008). Included is one project originally funded in 2010, but completed during this cycle, regarding a decision-theoretic to help guide future funding decisions for tagging stocks and sampling fisheries.

Table L2. U.S. CWT Project Expenditures for 2012–2013, approved in February, 2012.

Project Category	TR25 Issue	Project Title	Cost
Indicator hatchery stock tagging, terminal fishery and escapement # and sampling	1,3, 4, 6	Mid-Oregon Coast CWT Recovery, and Escapement of Elk River Fall Chinook[1]	$123,501
CWT Lab equipment purchase	13	Purchase of Microscope and Related Lab Equipment	$5,312
Database and reporting system upgrade	13, 14, 17, 18	Oregon Department of Fish and Wildlife CWT Database Program System	$110,000
Low sample rates in terminal fisheries and estimation of harvest	4, 6	CWT Harvest Estimation in Puget Sound Freshwater Chinook Sport Fisheries[1]	$185,122
Indicator stock tagging of wild stock without hatchery representation	1, 2	Stikine River Chinook Smolt CWT –Bilateral[1]	$121,883
CWT data reporting system improvement	8, 9	Spring Troll Restratification in SEAK	$29,685[2]
Replace outdated CWT equipment	12, 13	Replace Oregon Department of Fish and Wildlife Outdated Handheld CWT Wand Detectors[1]	$80,710[3]
Reduce head processing costs and improve sampling efficiency	4, 7, 13	Purchase Commercial Port Sampling Wands in SEAK	$131,309[3]
Replace outdated CWT equipment	12, 13	Replace WDFW Outdated Handheld CWT Wand Detectors[1]	$230,726[3]
CWT data reporting system improvement	13, 15, 17	Improve Timeliness of Washington Catch and Sample Datasets for CWT expansion	$72,206
Low sample rates in mixed-stock fisheries	7	Sampling Washington Ocean Salmon Fisheries[1]	$339,400
Low sample rates in mixed-stock fisheries	7, 13	Improvements to Oregon Ocean CWT Sampling in Columbia River Management Area	$100,101
		U.S. Total	**$1,529,685**

[1] Multiyear.

[2] Project to be funded with remaining FY11 funds.

[3] Wands will be purchased through WDFW; $401,521 total includes 26 SEAK wands @ $3,465 each ($90,085 total), 30 Oregon Department of Fish and Wildlife wands @ $2,690 each ($80,710 total), and 85 WDFW wands @ $2,690 each ($230,726 total). SEAK total includes funding for training, validation and sampling.

Project Title: Decision-Theoretic Tool (D-T) For Improving the CWT Program

Agency: MORI-ko, LLC (through Northwest Indian Fisheries Commission), Gary Morishima

Approved funding for this cycle: None

Total CWTIT funding approved to date: $141,586

Continued CWTIT Funding Needed: Not unless additional modifications or refinements are requested from user feedback

Objectives and Relationship to PSC Technical Report 25: Chapter 6: The CWT expert panel and CWT workgroups recommended that a Decision Theoretic Tool be developed.

Project Description, Accomplishments, Results and Deliverables: Produce a D-T tool to guide modifications to the CWT program as recommended by the CWT Expert Panel.[1] The proposed tool would be designed to simultaneously analyze interdependencies between investments involving CWT marking, sampling, and catch/estimation programs on multiple stocks and fisheries in terms of quantitative estimates of improvements in selected PSE/CVs of exploitation rates. Uncertainty surrounding estimates of exploitation rates would be computed using methods described by Bernard and Clark[2] and Chapter 5 of the CWT Workgroup Report.[3] The tool, largely based on the guidance provided in Appendix B of PSC TR25, would consist of four primary components: (1) a menu driven interface to enable users to select the types of statistics to be produced (e.g., stock-age-fishery, total fishery exploitation rate); (2) a simple, steady-state forward cohort model to approximate CWT recovery patterns resulting from changes in survival and fishery harvest rates from base period levels; (3) a module to estimate CVs, given tagging levels, sampling rates, and uncertainties surrounding catch/escapement estimates; and (4) an optimization module to allocate expenditures for proposed projects to improve the CWT program. The D-T tool would be parameterized using CWT data and fishery strata employed by the CTC.

Funding was not received until September 2010, delaying initiation of the project. CWTIT was consulted during development and modifications made as requested. The tool, named Plan It! (PI!), was completed early in 2012. Executable and source code, user guide, manual, and report have been delivered. The D-T project was originally proposed to be developed in the R statistical system, but was written as a stand-alone Visual Basic program since that is the primary language that is utilized by the CTC.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management:

1. Increased visibility and awareness of costs and benefits of modifying or investing in improving CWT programs
2. Improved allocation and use of limited funding to support CWT programs and increased awareness of the implications of CWT programs undertaken by one agency on other jurisdictions

[1] Pacific Salmon Commission. 2005. Report of the expert panel on the future of the coded wire tag program for Pacific Salmon. Pacific Salmon Commission Technical Report No. 18. http://www.psc.org/pubs/psctr18.pdf (Accessed February 4, 2014).

[2] Bernard, D. R., and J. E. Clark. 1996. Estimating salmon harvest based on return of coded-wire tags. Canadian Journal of Fisheries and Aquatic Sciences 53:2323-2332.

[3] PSC (Pacific Salmon Commission). 2008. An Action Plan in Response to Coded Wire Tag (CWT) Expert Panel Recommendations. A Report of the Pacific Salmon Commission CWT Workgroup. Pacific Salmon Commission Technical Report No. 25. http://www.psc.org/pubs/psctr25.pdf (Accessed February 4, 2014).

Project Title: Stikine River Chinook Smolt CWT

Project agency: ADF&G (note this project is also funded by Canada), Phillip Richards

Approved funding for this cycle: $121,883

Total CWTIT Funding approved to date: $356,965

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 1 (Incomplete representation of production regions), Issue 2 (Determination of tagging levels)

Project Description, Accomplishments, Results and Deliverables: This bilateral project was designed to represent the Stikine River population of Chinook salmon, which averages run sizes of about 50,000 adults, and to increase the level of CWT tagging of smolts to 35,000 or more annually. In addition, approximately 2% were measured for weight and length. The tagging goal has been reached each year. Returning adults are sampled in marine fisheries, with most CWTs recovered in SEAK sport, gillnet and troll fisheries near Petersburg; fewer numbers are recovered in other areas of SEAK and NBC. The escapement and inriver fisheries are sampled to determine the marked rate by brood year, which provides a basis to estimate harvest contributions, exploitation rates, smolt and adult abundance, and survival rates. The U.S. has paid the bulk of funding for the CWT portion of this program since its inception. Canada has paid for the bulk of escapement recoveries since its inception.

Continued CWTIT Funding Needed: Yes. Tagging rates could not have been achieved without this funding source.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: This program, along with the inriver run and escapement estimation program (funded by other sources) provides the tools to forecast and manage the terminal run of this stock per Chapter 1 of the 2009 Pacific Salmon Treaty Agreement.

Success: Yes; and additional data will be available when recently tagged broods recruit to fisheries in the future.

Project Title: Mid-Oregon Coastal Production Region CWT, Recovery and Escapement Estimation of Elk River Fall Chinook Salmon

Project agency: Oregon Department of Fish and Wildlife, Shelly Miller

Approved funding for this cycle: $123,501

Total CWTIT Funding approved to date: $376,184

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 1 (Incomplete representation of production regions), Issue 3 (Representation of hatchery production), Issue 4 (Low sample rates in terminal fisheries), Issue 6 (Uncertainty in estimates of escapement or terminal fisheries)

Project Description, Accomplishments, Results and Deliverables: Oregon Department of Fish and Wildlife (ODFW) considers the Elk River CWT Chinook Salmon Program as a candidate exploitation rate indicator stock for the Mid-Oregon coast aggregate. As such, it is critical to estimate the number of CWT Chinook salmon in the terminal run by sampling the freshwater harvest and spawning escapement thus continuing historic data collection efforts to characterize the Chinook salmon run in the Elk River.

Specific objectives include the following.

1. Conduct a statistical creel survey to sample harvested Chinook salmon and provide estimates of terminal catch within a usable time frame for fisheries management.
2. Assist with broodstock and hatchery collection and processing to recover CWTs from returning Chinook salmon adults.
3. Sample spawning grounds to recover a sample of escaping hatchery origin, tagged Chinook salmon.
4. Survey spawning areas to provide an estimate of spawning escapement of returning hatchery, CWT and naturally produced fish.
5. Tag (CWT) and remove adipose fins from approximately 325,000 Elk River fall Chinook salmon annually to provide harvest and escapement estimates in subsequent return years. Work under CWTIT funding for 2012–2013 is still ongoing but is on target for successful completion. As of Dec. 6, 2012, all aspects of the 2012 Elk River project are in progress and results should be available in March of 2013. Creel technicians have sampled 589 Chinook and collected 136 snouts. Spawning ground surveys are now in full rotation with peak spawner activity expected in January. Swim-in totals at the hatchery thus far include 930 adult males, 335 females and 142 jacks, with nearly 800 snouts collected that tested positive for CWT. The application of CWTs to approximately 300,000 hatchery smolts from the 2012 brood is scheduled for late spring of 2013.

Continued CWTIT Funding Needed: Yes. This program is necessary for the proper estimation of CWT Chinook salmon, by tag code, that return to Elk River between 2010 and 2015 to assess ocean survival, ocean and freshwater harvest and spawner escapement.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: Without consistent representation, the Mid-Oregon Coast (MOC) aggregate of fall Chinook stocks will not be adequately accounted for nor appropriately modeled for their contribution to Pacific Salmon Treaty fisheries. Recent evidence demonstrates that the Elk River stock is a significant contributor to aggregate abundance based management (AABM) fisheries. The past three years of CWTIP support have provided consistent exploitation rate indicator stock representation of the MOC aggregate, an important contributor to Pacific Salmon Treaty fisheries. This project directly relates to the CWTIT RFP 2012 Cycle Themes E and F: Terminal Fishery Escapement Sampling Issues and Tagging Issues, respectively. Completion of the proposed work will augment the existing CWT program by providing consistent estimates of distribution and exploitation rates for MOC stocks.

Success: Yes; and additional data will be available when recently tagged broods recruit to fisheries in the future.

Project Title: Oregon Department of Fish and Wildlife, CWT Database Program Support Systems

Project agency: Oregon Department of Fish and Wildlife, Mark Engelking

Approved funding for this cycle: $110,000

Total CWTIT Funding approved to date: $520,000 on Oregon Department of Fish and Wildlife CWT Reporting System

Continued CWTIT Funding Needed: Probable

Objectives and Relationship to PSC Technical Report 25: Issue 13 (Timeliness of reporting), Issue 14 (Incomplete/no exchange of CWT data), Issue 17 (Updating data is difficult and updates cannot be tracked), Issue 18 (Validation is inadequate)

Project Description, Accomplishments, Results and Deliverables: There are two aspects to the project. First is the conversion of existing CWT historic data and processes for ocean fisheries to newer web-based technology (SQL c#.net) used by the CWT F application. This conversion will improve management of CWT data and report recoveries promptly. Second, paper forms and the manual data entry processes for CWT recovery and release information from hatcheries are to be replaced by data loggers and software programs that will provide electronic data uploads to the CWT F application database.

The Agile Software Development process of adaptive and interactive software development was successfully used in the development of the CWT F application. Developers have successfully programmed a data logger to capture CWT recovery data from Bonneville Hatchery and upload it to the CWT F application. Parallel testing at Bonneville Hatchery of this recovery program is in progress. Development for CWT release programs is ongoing. Data loggers that are both durable in field conditions and compatible with Microsoft Mobile 6 software have been identified and will be purchased. ODFW has defined 85 development stories for transforming those PC computer-based processes to web-based technology. Reports to support the ocean fisheries programs are in development and testing. Migration of historic information from the MRP is in process to the CWT F application. The CWT F application is now modified to accommodate Ocean fisheries data and migration of historic information is underway.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: Timeliness of reporting, access and retrieval of CWT data, updating of CWT data will be easier and can be tracked and validation and accuracy of CWT data from Oregon will all be improved once these improvements are complete and implemented.

Success: Likely Yes, but the project is still in progress.

Project Title: Improving Timeliness of Reporting Washington's Catch and Sample Datasets for CWT Expansions

Project agency: WDFW, Brodie Cox

Approved funding for this cycle: $72,206

Total CWTIT Funding approved to date: $307,725 on WDFW CWT Reporting System

Continued CWTIT Funding Needed: Unknown

Objectives and Relationship to PSC Technical Report 25: Issue 13 (Timeliness of Reporting), Issue 15 (Inter/intra-agency coordination), Issue 17 (Updating data is difficult)

Project Description, Accomplishments, Results and Deliverables: This solution will enhance future WDFW near real-time recovery reporting capabilities. This should improve the timeliness of postseason analyses. Future work in this area will involve developing an interface for use by field personnel, thereby creating a fully integrated system of data entry and retrieval, and provide for statewide standardization of CWT reporting.

CWT Recovery Workflow: (1) CWTs heads collected in the field, (2) CWTs analyzed in the Tag Recovery Lab, (3) data is entered into the recovery database, and (4) as the heads are processed and instantly (*more or less*) reported via data.wa.gov/ Salmon Conservation Reporting Engine (SCoRE). Researchers and fishery scientists have access to raw recovery data in a timely manner.

Old System, Grade: approximately 6 (scale of 1–10 with 10 being best): The database improvements affect the third step in the simplified recovery workflow. The old system was designed quite some time ago, and although it had been migrated to SQL Server in 2009, it was nonstandard structure and was not connected/connectable to other data sets, including the Tagging Application operational database (Tagwire). Reporting of recoveries is via request to the data steward or at twice yearly time of Regional Mark Information Centre reporting.

New system, approximately 8 (scale of 1–10 with 10 being best): This project modernizes, simplifies and standardizes both the Tag Recovery lab database as well as the TagWire database. Additionally It adds an automated and accessible reporting component for displaying inseason recoveries a as they are processed. Changes to the system are as follows.

- Migrated tagging crew operational database to agency standard format.
- Mapped the SQL Server database objects used in the MS Access user interface.
- Separated all the database objects that are required by the MS Access user interface and move them into a new database. This includes scripting the stored procedures, views, functions, and the like, to individual files to be checked into source control (CVS). This also includes modifying the MS Access user interface to use the new database.
- Refined storage procedures. Further investigation revealed a total of 184 stored procedures (many redundant) which our dev. team was able to reduce to 62 stored procedures.
- Lookups successfully migrated to Agency common lookup set.
- Developed 'Live' export web service available via Data.wa.gov

Improvements in timeline:

- *Before:* Recovery data is available every 6 Months (or recovery data on request via steward)
- *After:* Recovery data (nonreconciled) available daily via https://data.wa.gov/

Ongoing Work:

- Availability of recovery data via Data.Wa.gov anticipated by the time end of December 2012
- Availability of recovery data via SCoRE II in Spring of 2013

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: Timeliness of reporting, access and retrieval of CWT data from Washington will all be improved.

Success: Yes.

Project Title: SEAK Spring Troll Reporting Restratification

Project agency: ADF&G, Ron Josephson and Tim Frawley

Approved funding for this cycle: $29,685

Total CWTIT Funding approved to date: $29,685

Continued CWTIT Funding Needed: No

Objectives and Relationship to PSC Technical Report 25: Issue 8 (Uncertainty in estimates of catch in highly mixed stock fisheries), Issue 9 (Nonrepresentative sampling)

Project Description, Accomplishments, Results and Deliverables: This project's objective was to reduce the number of time and area strata in the spring troll fishery in SEAK to reduce errors in expansions of CWTs from this fishery. This fishery is primarily managed to maximize the harvest of returning Alaska hatchery Chinook and over 200 time/area strata are employed in the management plan for this fishery. The number of strata was reduced by 80% by lumping weekly strata into 2 periods, May and June. This eliminates most of the strata with no fish sampled and eliminates expansions with less than 1 fish. Data exploration is complete and programming is underway to complete the transition, which will be complete by spring of 2013. Historical estimates will be updated as well; overall estimates change very little, but the precision of estimates increases substantially.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: Precision of CWT estimates from the spring troll fishery in SEAK will be improved and more in line with the summer and winter troll fishery estimates.

Success: Yes, but the project is incomplete for the programming stage.

Project Title: Purchase of Microscope and Related Equipment for CWT Lab

Project agency: The Makah Tribe, Hap Leon

Approved funding for this cycle: $5,312

Total CWTIT Funding approved to date: $5.312

Continued CWTIT Funding Needed: No

Objectives and Relationship to PSC Technical Report 25: Issue 13 (Timeliness of reporting)

Project Description, Accomplishments, Results and Deliverables: The objective of this project is to improve the efficiency of reading CWTs in the Makah Fisheries tag lab, by providing an electronic microscope with an LCD display. This equipment should allow for faster, clearer tag reading, as well as providing ergonomic benefits to the tag reader. The equipment was purchased after some difficulties in obtaining funds and it has worked well in the speed and ease of reading CWTs collected from the Makah

Tribe salmon fisheries. This data is shared with the tribal staff and managers and then sent to the WDFW for transfer to the Regional Mark Processing Center.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: The timeliness of reading tags from the Makah fisheries has been improved and this will likely translate into a faster upload to the Regional Mark Processing Center as well.

Success: Yes.

Project Title: CWT Field Equipment Replacement—Handheld Wands

Project agency: WDFW, John Kerwin

Approved funding for this cycle: $230,726

Total CWTIT Funding approved to date: $230,726

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 12 (Sampling methods to facilitate sampling of mark-selective fisheries and CWT processing), Issue 13 (Timeliness of reporting)

Project Description, Accomplishments, Results and Deliverables: WDFW has approximately 500 CWT detection wands in current inventory. The WDFW sampling database lists approximately 240 sampling locations where Chinook and coho are sampled for CWTs. Additionally, streams and rivers in every major river basin, as well as all WDFW hatchery facilities are surveyed annually for Chinook and coho that contain CWTs. All of these locations require the necessary equipment to allow for adequate sampling of both marked and unmarked CWTd fish. The purchase of 85 CWT detection wands represents the first influx of the new technology and significantly more sensitive wands for WDFW samplers to utilize.

Because funding for the purchase of the CWT detection wands was not received in time to purchase the wands for the 2012 Chinook fishing season, WDFW has not placed the wands into service. However, it has allowed us to plan the most efficient method to deploy the new CWT detection wands. These wands will be utilized at port sampling locales that have high numbers of Chinook sampled. This will involve replacing CWT detection wands first at the Washington coastal and Puget Sound sampling locations that have the highest levels of Chinook sampling.

Because there are CWT detection wands that are at other locations which are unreliable, WDFW will make an assessment of the CWT detection wands turned in by port samplers and use the most useful to replace the unreliable CWT detection wands. For example, some wands have been retrofitted with shields while others have not. WDFW will replace nonretrofitted wands with reliable retrofitted wands.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: Increased accuracy of detecting CWTs in sampling using handheld wands. Some increase in speed and efficiency of sampling should be realized as well.

Success: Yes, the wands were purchased and will be used for the 2013 season for Washington fisheries.

Project Title: CWT Field Equipment Replacement—Handheld Wand

Project agency: Oregon Department of Fish and Wildlife, Ken Johnson

Approved funding for this cycle: $80,710

Total CWTIT Funding approved to date: $80,710

Continued CWTIT Funding Needed: Yes

Objectives and Relationship to PSC Technical Report 25: Issue 12 (Sampling methods to facilitate sampling of mark-selective fisheries and CWT processing), Issue 13 (Timeliness of Reporting)

Project Description, Accomplishments, Results and Deliverables: Oregon Department of Fish and Wildlife (ODFW) was able to purchase 30 new handheld wands at a significant discount by partnering with WDFW's order of 85 handheld wands. The lower cost per wand was a result of WDFW's waiver of indirect charges for this purchase.

Oregon's Fish Identification Section received 30 new wands in mid-September, 2012. Twenty wands were then delivered to Oregon's Ocean Sampling Program, headquartered in Newport. Ten wands were delivered to Oregon's Columbia River Management program which samples lower Columbia River commercial and sport landings for CWT marked Chinook and coho.

The new wands arrived at the end of the fisheries in the Columbia River and the ocean. As such, the new wands were not been rigorously tested in field sampling. However, preliminary results indicate that samplers appreciate the ergonomic balance of the redesigned wands. In addition, it is very clear that the new wands are much more sensitive and eliminate the need for mouth wanding in large Chinook. Full scale use of the wands will start with Oregon's spring 2013 fisheries.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: Increased accuracy of detecting CWTs in sampling using handheld wands. Some increase in speed and efficiency of sampling should be realized as well.

Success: Yes, the wands were purchased and will be used for the 2013 season for both Washington and Oregon fisheries.

Project Title: SEAK Port Sampling Tag Detection Wands and Sampling/Training

Project agency: Alaska Department of Fish and Game, Anne Reynolds

Approved funding for this cycle: $131,309

Total CWTIT Funding approved to date: $131,309

Continued CWTIT Funding Needed: Yes, for additional sampling time but not for additional equipment

Objectives and Relationship to PSC Technical Report 25: Issue 12 (Sampling methods to facilitate sampling of mark-selective fisheries and CWT processing), Issue 13 (Timeliness of reporting)

Project Description, Accomplishments, Results and Deliverables: The primary objective of this project was to purchase 26 new handheld wands from Northwest Marine Technology, Inc. and add sampling effort and training to increase CWT sample rates and decrease shipping costs in SEAK commercial fisheries. Additional fish and wildlife technicians and one biologist in the ports of Sitka and Craig were supported. Staff were trained and the new wands were tested during the spring troll fishery, whereby all adipose-clipped fish were shipped to the ADF&G Mark, Tag, and Age Laboratory regardless of tag detection status. In May of the spring fishery, some minor errors in false negatives occurred due to

protocol lapses, but accounted for 0.1% of adipose-clipped fish. In June, these errors were eliminated and heads tested without CWTs were not shipped. Port samplers in all ports except for Hoonah and Excursion Inlet used electronic tag detection wands to examine adipose-clipped Chinook salmon harvested in the summer Southeast Alaska troll fisheries to determine if valid CWTs are present before CWT processing protocols are invoked. The heads of any positively identified tagged fish were collected and the tags decoded by ADF&G staff. During the first summer troll Chinook retention period in July of 2012 port samplers observed 3,138 Chinook salmon missing their adipose fin. Using Northwest Marine Technology, Inc. electronic tag detection wands, 2,105 of those Chinook salmon missing their adipose fin did not signal positively indicating the presence of a CWT. During the second troll Chinook retention period in August of 2012 port samplers observed 3,657 Chinook salmon missing their adipose fin. Of those, 1,948 (53%) Chinook salmon did not signal positively indicating the presence of a CWT. In total 4,053 Chinook salmon heads were not shipped to the ADF&G Mark, Tag and Age Laboratory saving the department shipping costs on approximately 8,000 lb of salmon heads. Sampling rates of the summer troll fishery remained above the coastwide standard, and overall were above 30% for Chinook salmon harvested in the troll fisheries. The additional port sampling staff funded by this project contributed to this sampling effort.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: Costs were reduced for shipping heads without CWTs (no tags) in SEAK commercial fisheries, primarily troll-caught Chinook salmon. This also maintained sampling rates above 20% and contributed to increased sampling efficiency.

Success: Yes, the wands were purchased and will be used for the 2013 season for Alaska fisheries.

Project Title: CWT Sampling and Harvest Estimation in Puget Sound Freshwater Chinook Sport Fisheries, Sampling Methods and Development of New Analytical Techniques

Project agency: WDFW, Kris Ryding

Approved funding for this cycle: $185,122

Total CWTIT Funding approved to date: $550,401

Continued CWTIT Funding Needed: No, last of 3-year program

Objectives and Relationship to PSC Technical Report 25: Issue 4 (Sampling rates in terminal fisheries), Issue 6 (Uncertainty in estimates of escapement or terminal fishery catch)

Project Description, Accomplishments, Results and Deliverables: This project involves conducting intensive creel surveys on four freshwater Chinook fisheries in Puget Sound for the purposes of developing indirect estimates of tagged fish by age. This project examines differences between harvest estimates obtained from creel surveys and catch record cards. This information is used to compare the number of expanded CWTs from a sampled sport fishery with expected CWT numbers for the same fishery obtained using indirect estimation. The objectives for this year's funding are listed below.

1. Continue to make refinements to creel sampling methodology, focusing on efficient use of resources, ensuring that data are representative of fishing activity, and that sampling rates are adequate to meet data quality criteria.
2. Collect enough CWTs in the sampled fishery so that comparison to indirect methods can be made.
3. Compare harvest estimates obtained from creel sampling with those calculated from catch record cards.

4. Compare direct and indirect methods of estimating the numbers of CWTs in the sampled fisheries.
5. Examine the consistency of catch numbers and CWT recoveries across years in order to evaluate using average recovery and catch values in CTC models when harvest estimates are not yet available.

The objectives of this proposal are to add one more year of data to the analysis making it possible to do across year comparisons of harvest estimates and CWT recoveries within the same fishery.

Deliverables will be a set of fishery specific recommendations on the use of indirect and direct analytical techniques, and on the use of average recovery and catch values in CTC models when harvest estimates are not yet available. Thus far, objectives 1 and 2 have been accomplished. Objectives 3 through 5 will depend on the outcome of analyses that depend on 2012 catch record card estimates not available until late 2013. This project should be successful in meeting its objectives.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: Benefits to the CWT program include an objective assessment on the information coming from freshwater fisheries data in Puget Sound, and guidance on which data sources will be most useful in evaluating impacts from these fisheries. Efficiencies are in savings from not sampling the fisheries directly each year and estimation of CWTs using indirect methods.

Project Title: Sampling Washington Ocean Fisheries

Project agency: WDFW, Doug Milward

Approved funding for this cycle: $339,400

Total CWTIT Funding approved to date: $692,500

Continued CWTIT Funding Needed: Yes, and other funding preferred

Objectives and Relationship to PSC Technical Report 25: Issue 7 (Low sampling rates in highly mixed-stock fisheries)

Project Description, Accomplishments, Results and Deliverables: This project addressed the priority activity identified by the CWTIT for improving sampling rates in highly mixed-stock fisheries (fisheries with multiple stocks). The activities of this project include catch sampling and collection of Chinook and coho salmon biological data including CWTs from commercial and recreational fisheries conducted along the coast of Washington State. During the 2012 ocean recreational salmon fisheries, the objectives of this project were accomplished. All ocean salmon fisheries were fully sampled temporally and spatially, and the minimum sampling goal of 20% of landed Chinook and coho was exceeded in all fisheries. Sampling rates for most species/fishery combinations increased relative to 2011. Over 3,600 Chinook CWTs and 1,500 coho CWTs were collected and will be added to the Regional Mark Processing Center database.

WDFW Chinook sampling rates are approximately 45% in the recreational ocean salmon fishery and 42% in the non-Treaty commercial troll ocean salmon fishery. Chinook sport fisheries were sampled at about 45%, gleaning a sample size of 15,081 from an estimated catch of 38,581. Chinook troll fisheries were sampled at a rate approximate to 42%, providing a sample of 15,401 from an estimated catch of 36,855 landed Chinook. Coho sampling rates were similarly high, at 52% in the recreational ocean salmon fishery and 28% in the non-Treaty commercial troll ocean salmon fishery.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: No new

benefits, but this is a program with past success that was repeated for base sampling in 2012.

Success: Yes, sampling rates for sport was 45% and that for commercial troll was 42% in 2012.

Project Title: Improvements to Oregon Ocean CWT Sampling of Commercial Troll and Recreational Fisheries in the Columbia River Ocean Salmon Management Area

Project agency: Oregon Department of Fish and Wildlife, Eric Schindler

Approved funding for this cycle: $101,101

Total CWTIT Funding approved to date: $201,237

Continued CWTIT Funding Needed: Yes, and other funding preferred

Objectives and Relationship to PSC Technical Report 25: Issue 7 (Low sampling rates in highly mixed-stock fisheries), Issue 13 (Timeliness of reporting)

Project Description, Accomplishments, Results and Deliverables: The primary objectives of this project (initially begun with the 2011 ocean salmon fishing seasons) have been to implement full electronic sampling for CWTs and maintain the minimum required CWT sampling rate of 20% with emphasis on Chinook salmon in Oregon's ocean salmon fishery in the Columbia River Ocean Salmon Management Area. Implementation of this required a uniform approach for the entire Oregon ocean salmon fishery.

The objectives have been met and the project has been a success to date, although overall catches during the period have remained relatively light and some challenges to maintaining sampling rates in the commercial salmon fishery are yet to be faced. In the 2012 ocean commercial troll salmon fishery through August, we had recovered readable tags from 330 unmarked Chinook (76 from the Columbia River Area), and these tags would not have been recovered without the support from CWTIT. An unexpected benefit has been the recovery of tags from unmarked Chinook that were supposed to have been marked (missed clips or regenerated adipose fins may be the cause). Based on the tag recoveries from California stocks these unclipped recoveries of Chinook made up approximately 1% of the total recoveries.

Tag recoveries from PSC stocks accounted for approximately 73% of the CWTs recovered in the Columbia River Area and approximately 29% of the CWTs recovered South of Cape Falcon. Unmarked CWT Chinook make up a decreasing percent of the CWTs recovered to the South, but are still made up $\geq$50% of the CWT recoveries as far South as the Coos Bay Area.

Qualitative and Quantitative Benefits to CWT Program and PSC Salmon Management: The proponents indicate that about 50% of this project is enhanced CWT program benefits because of full electronic sampling that is being employed.

Success: Yes, the sampling rates were high, about 45% for sport and troll.