Table
contin

Table C-1. Raw spawner counts for all stocks and ESUs.

Counts of spawners in all stocks used in the extinction risk analysis. Due to data quality issues, some stocks were not included in the Total ESU counts. (* indicates stocks used for esu level analysis)

ESU	Stream	Raw Spawner Counts										
		1980	*1981*	*1982*	*1983*	*1984*	*1985*	*1986*	*1987*	*1988*	*1989*	*1990*
LCR Chinook												
	Bear Creek				746	1100	962	352	389	661	452	138
	Big Creek*	439	743	3366	1838	2159	4055	2474	2327	2404	1953	1496
	Clatskanie*	46	29	92	29	2	15	29	68	39	56	15
	Cowlitz Tule*	2418	3991	3024	3654	2577	4300	3388	5930	7700	7220	2698
	Elochoman*	64	138	317	1016	292	407	558	2392	1356	120	136
	Germany*		80	257	548	93	347	15	351	1113	357	106
	Gnat*	85	43	170	32	31	36	70	513	296	168	129
	Grays Tule*	185	246	422	927	242	812	901	1093	1003	805	287
	Kalama Spring*	298	721	2712	1009	133	0	165	471	475	572	34
	Kalama R*	5675	1840	4570	2681	2955	1055	2227	9632	24279	20413	2054
	Klaskanine*	99	37	5	51	32	3	3	11	19	51	7
	Lewis R, Bright*	13839	19297	8370	13540	7132	7491	11983	12935	12052	21199	17506
	Lewis Spring*	992	324	986	732	1565	512	1875	6850	5267	3483	1345
	Lewis, EF Tule*	311	397	240	305	192	540	389	135	427	591	342
	Lewis and Clark*	101	182	168	293	236	189	274	1088	670	253	133
	Mill Fall					3	2	7	1867	808	1490	150
	Plympton*	99	403	3749	1477	604	1768	357	4758	3155	1618	549
	Sandy Late					800	503	685	2205	1675	2060	500
	Skamokawa*	183	376	1035	1611	1744	5512	506	349	1055	973	451
	Youngs*	46	19	11	2	20	5	22	153	284	87	17
UCR Spr Chinook												
	Entiat*	334	296	334	334	265	359	327	200	209	115	259
	Methow*	438	467	558	861	929	1232	909	1496	1641	1144	1104
	Wenatchee*	1519	1595	1819	3286	2341	4529	2674	1878	1692	1349	927
SR Sp/Su Chinook												
	Bear Creek*	42	151	83	171	137	295	224	456	1109	91	185
	Imnaha River*	183	453	590	435	557	699	479	448	606	203	173
	Johnson Creek*	55	102	93	152	36	178	129	175	332	103	141
	Marsh Creek*	16	115	71	60	100	196	171	268	395	80	101
	Minam River*	43	50	104	103	101	625	357	569	493	197	331
	Poverty Creek*	163	187	192	337	220	341	233	554	844	261	572
	Sulphur Creek*	12	43	17	49	0	62	385	67	607	43	170
SR Fall Chinook	Snake R. LGD	515	878	1209	909	717	1080	1403	1064	702	815	273
UWill Chinook	Willamette Falls	15913	17864	27268	17519	22995	19315	22151	30722	36894	29058	27536
	Leaburg Dam	1980	1078	2241	1561	1000	825	2061	3455	6753	3976	7115
CR Chum												
	Grays R. WF*	7	3	6	3	12	3	79	42	27	16	0
	Grays R.*	52	359	663	89	325	449	245	711	342	176	166
	Crazy Johnson Ck.*	52	11	87	34	35	0	193	2	289	120	100
	Hardy Ck.*	131	7	210	112	76	67	58	193	436	9	116
	Hamilton Ck.*	44	35	161	37	47	78	160	65	109	15	45
	Hamilton Springs*	18	18	84	13	7	46	74	27	31	10	16
LCR Steelhead												
	Clackamas (S)*	5803	4714	4138	1948	11062	5549	7422	4444	7739	3951	4284
	Clackamas (W)*	1693	1798	1153	1031	987	1027	1194	1139	1773	963	953
	Green River (W)						775	589	402	310	128	86
	Kalama (S)*	2647	11524	13686	5274	1155	1567	2897	5132	3047	3184	1655
	Kalama (W)*	1347	2770	1108	874	2007	1067	2532	1794	2134	709	754
	Sandy (W)*	3015	4078	2689	2449	2232	2841	2752	3675	3440	2993	3065
	Toutle (W)					838	1807	1595	1650	2222	1371	752
MC Steelhead												
	Deschutes (S)*	10100	11900	11340	23671	19491	21730	24565	22990	9882	10782	8529
	Eightmile Ck (W)						64	111	102	18	41	0
	Fifteen Mile Ck (W)					24	29	64	76	28	33	38
	Mill Ck (S)			13	2	9	16	30	5	6	11	18
	Ramsey Ck (W)						3	31	47	23	12	3
	Shitike Ck (S)	40	47	64	15	39	53	42	54	52	12	17
	Umatilla River (S)*				2314	3197	2885	3444	2482	2475	1668	1112
	Warm Springs NFH (S)*	240	397	569	255	431	577	373	822	522	385	339
	Yakima River (S)*	79	263	288	358	688	1380	1840	2198	856	613	756
UC Steelhead	Upper Columbia	1538	1610	2218	6620	6342	9173	7105	5994	3649	1912	2089
SR Steelhead	LGD	36461	40457	70204	83704	103529	114068	126906	67021	84085	128607	54426
	SR A-Run	27024	30121	51202	63053	73608	80588	89717	53980	61612	82481	28496
	SR B-Run	10972	12299	21182	26245	30788	35746	40266	17300	25525	48939	28369
UWill Steelhead	Willamette Falls	16064	9025	6921	4702	10732	16042	12782	8201	15007	5360	9232
	Calapooia	360	167	348	216	344	596	440	372	744	108	321
	Mollala	4115	2301	1746	906	2199	3364	3108	1684	4676	1202	2298
	N. Santiam	7670	4440	3008	2456	4524	7792	5730	3993	4988	2991	4266
	S. Santiam	3919	2117	1819	1124	3665	4290	3504	2152	4599	1059	2347

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1991	1992	1993	1994	1995	1996	1997	1998	1999	Reference
247	2	5	8	0	343	161			*15: 500008*
911	845	1746	2202	1897	1190	809			*15: 50000*
2	0	0	12	17	19	14			*15: 50001*
2567	2489	2218	2512	2231	1602	2710			*15: 105030*
178	190	274	688	144	508	1875			*15: 103050*
109	33	266	706	230	59	103			*15: 104300*
63	71	17	26	65	73	58			*15: 50007*
188	4	40	47	29	351	12			*15: 100020*
32	168	98	407	376	254	39			*15: 111100*
5085	3593	1941	2020	3044	10630	3539			*15: 110050*
22	0	0	1	0	0	53			*15: 50002*
9066	6307	7025	9939	9718	14166	8670			*15: 113030*
1607	1254	1412	475	270	493	410			*15: 114030*
230	202	156	395	200	167	307			*15: 113040*
34	0	0	0	0	1				*15:50004*
22	27	274	218	402	67	8			*15: 104250*
383	1312	457	2922	1924	682	1001			*15: 50005*
708	1008	1380	950	1055	510	2032			*15: 50198*
267	202	134	316	172	39	262			*15: 102150*
19	0	0	19	0	0	25			*15: 50006*
100	131	312	75	18	25	62	47		*5*
550	1630	1357	293	33	0	298	0		*5*
552	1080	1179	275	51	179	307	155		*5*
181	173	709	33	16	56	225	372	72	*1*
251	363	1178	115	97	219	474	159	282	*1*
151	180	357	50	20	49	236	119	49	*1*
72	114	216	9	0	18	110	164	0	*1*
189	102	267	22	45	233	140	122	96	*1*
538	578	866	209	81	135	363	396	153	*1*
213	21	263	0	4	23	43	140	0	*1*
767	674	883	448	226	964				*13*
19025	15433	7210	11333	7329	4935	10609	16357		*9*
4359	3816	3617	1526	1622	1445	1176	1874		*9*
13	289	39	18	0	160	55	214		*18*
93	1269	704	41	66	415	79	154		*18*
204	320	78	90	413	396	485	145		*18*
125	635	324	137	130	140	105	443	157	*18*
15	125	16	18	4	5	31	43		*18*
11	8	4	22	16	81	114	237	165	*18*
2222	5956	2186	3215	1012	293	1073			*15: 50316*
482	1430	1155	1169	913	208	278			*3*
108	44	84	128	174	251				*15: 180120*
1738	2663	7188	3838	3043	1764	2993			*3*
1288	2846	1153	916	1315	1606				*3*
1995	2918	1636	1567	1680	536	1398			*15: 50188*
904	1290	1242	632	396	150				*15: 180179*
16721	6992	6963	6608	14490	31874				*15: 50176, 50173*
1	1	0	1	26	50	24			*15: 50071*
16	19	7	23	27	31	14			*15: 50073*
19	36	25	14	1	2	13			*15: 54592*
0	0	11	23	25	27	20			*15: 50072*
19	36	11	32	18	8	17			*15: 54590*
2769	1913	1290	1531	2081	2477				*15: 50515, 57508*
165	280	83	92						*15: 61224*
2075	1021	507	1107						*15: 180071, 180005*
1811	3956	1171	2258	2018	2064				*5*
97671	125803	56618	44932	77836	81545	86863	72908		*4*
85661	96572	42043	37144	70417	68818	74150			*4*
13391	31693	17725	10158	8710	14446	12296			*4*
2722	3679	2725	4275	2703	1323	3924			
101	55	21	88	56	34	236			*15: 66658*
478	902	327	1301	479	264	574			*15: 50076*
1291	1490	1549	1664	1061	590	2214			*15: 66840*
852	1232	828	1222	1107	435	900			*15: 66898*

Table C-2. Age structure of ESUs and individual stocks.

ESU	Stream	Age structure							Reference
		1	*2*	*3*	*4*	*5*	*6*	*7*	
LCR Chinook									
	Bear Creek	0.000	0.090	0.600	0.240	0.070	0.000	0.000	*8*
	Big Creek	0.000	0.000	0.140	0.760	0.100	0.000	0.000	*8*
	Clatskanie	0.000	0.075	0.250	0.600	0.075	0.000	0.000	*8*
	Cowlitz Tule	0.000	0.140	0.280	0.460	0.120	0.000	0.000	*8*
	Elochoman	0.000	0.020	0.470	0.500	0.010	0.000	0.000	*8*
	Germany	0.000	0.075	0.250	0.600	0.075	0.000	0.000	*8*
	Gnat	0.000	0.090	0.200	0.590	0.120	0.000	0.000	*8*
	Grays Tule	0.000	0.050	0.390	0.540	0.020	0.000	0.000	*8*
	Kalama Spring	0.000	0.000	0.340	0.550	0.110	0.000	0.000	*8*
	Kalama R	0.000	0.000	0.340	0.550	0.110	0.000	0.000	*8*
	Klaskanine	0.000	0.075	0.250	0.600	0.075	0.000	0.000	*8*
	Lewis R, Bright	0.000	0.140	0.160	0.420	0.280	0.000	0.000	*8*
	Lewis Spring	0.000	0.140	0.160	0.420	0.280	0.000	0.000	*8*
	Lewis, EF Tule	0.000	0.140	0.160	0.420	0.280	0.000	0.000	*8*
	Lewis and Clark								
	Mill Fall	0.000	0.075	0.250	0.600	0.075	0.000	0.000	*8*
	Plympton	0.000	0.000	0.190	0.790	0.020	0.000	0.000	*8*
	Sandy Late	0.000	0.075	0.250	0.600	0.075	0.000	0.000	*8*
	Skamokawa	0.000	0.075	0.250	0.600	0.075	0.000	0.000	*8*
	Youngs	0.000	0.075	0.250	0.600	0.075	0.000	0.000	*8*
UCR Spr Chinook									
	Entiat	0.000	0.000	0.090	0.610	0.300	0.000	0.000	*5*
	Methow	0.000	0.000	0.110	0.530	0.360	0.000	0.000	*5*
	Wenatchee	0.000	0.000	0.089	0.487	0.423	0.001	0.000	*5*
SR Sp/Su Chinook									
	Bear Creek	0.000	0.000	0.028	0.215	0.757	0.000	0.000	*1*
	Imnaha River	0.000	0.000	0.048	0.419	0.533	0.000	0.000	*1*
	Johnson Creek	0.000	0.000	0.143	0.364	0.493	0.000	0.000	*1*
	Marsh Creek	0.000	0.000	0.030	0.254	0.716	0.000	0.000	*1*
	Minam River	0.000	0.000	0.087	0.648	0.265	0.000	0.000	*1*
	Poverty Creek	0.000	0.000	0.211	0.357	0.432	0.000	0.000	*1*
	Sulphur Creek	0.000	0.000	0.069	0.251	0.680	0.000	0.000	*1*
SR Fall Chinook	Snake R. LGD	0.000	0.000	0.464	0.415	0.112	0.009	0.000	*13*
UWill Chinook	Total ESU	0.000	0.000	0.030	0.470	0.480	0.010	0.000	*9*
	Leaburg Dam	0.000	0.000	0.030	0.470	0.480	0.010	0.000	*9*
CR Chum									
	Grays R. WF	0.000	0.000	0.410	0.570	0.020	0.000	0.000	*14*
	Grays R.	0.000	0.000	0.410	0.570	0.020	0.000	0.000	*14*
	Crazy Johnson Ck.	0.000	0.000	0.410	0.570	0.020	0.000	0.000	*14*
	Hardy Ck.	0.000	0.000	0.410	0.570	0.020	0.000	0.000	*14*
	Hamilton Ck.	0.000	0.000	0.410	0.570	0.020	0.000	0.000	*14*
	Hamilton Springs	0.000	0.000	0.410	0.570	0.020	0.000	0.000	*14*
LCR Steelhead									
	Clackamas (S)	0.000	0.000	0.000	0.092	0.665	0.225	0.018	*2, 3, 6*
	Clackamas (W)	0.000	0.000	0.026	0.527	0.399	0.048	0.000	*2, 3, 6*
	Green River (W)	0.000	0.000	0.026	0.527	0.399	0.048	0.000	*2, 3, 6*
	Kalama (S)	0.000	0.000	0.000	0.092	0.665	0.225	0.018	*2, 3, 6*
	Kalama (W)	0.000	0.000	0.026	0.527	0.399	0.048	0.000	*2, 3, 6*
	Sandy (W)	0.000	0.000	0.026	0.527	0.399	0.048	0.000	*2, 3, 6*
	Toutle (W)	0.000	0.000	0.026	0.527	0.399	0.048	0.000	*2, 3, 6*
MC Steelhead									
	Deschutes (S)	0.000	0.000	0.000	0.092	0.665	0.225	0.018	*no direct data, assumed from: 2, 3, 6*
	Eightmile Ck (W)	0.000	0.000	0.026	0.527	0.399	0.048	0.000	*ibid*
	Fifteen Mile Ck (W)	0.000	0.000	0.026	0.527	0.399	0.048	0.000	*ibid*
	Mill Ck (S)	0.000	0.000	0.000	0.092	0.665	0.225	0.018	*ibid*
	Ramsey Ck (W)	0.000	0.000	0.026	0.527	0.399	0.048	0.000	*ibid*
	Shitike Ck (S)	0.000	0.000	0.000	0.092	0.665	0.225	0.018	*ibid*
	Umatilla River (S)	0.000	0.000	0.000	0.092	0.665	0.225	0.018	*ibid*
	Warm Springs NFH (S)	0.000	0.000	0.000	0.092	0.665	0.225	0.018	*ibid*
	Yakima River (S)	0.000	0.000	0.000	0.092	0.665	0.225	0.018	*ibid*
UC Steelhead	Upper Columbia	0.000	0.010	0.370	0.457	0.152	0.011	0.000	*5*
SR Steelhead	LGD	0.000	0.000	0.012	0.202	0.446	0.286	0.054	*2*
	SR A-Run	0.000	0.000	0.000	0.050	0.860	0.090	0.000	*2*
	SR B-Run	0.000	0.000	0.000	0.000	0.062	0.386	0.552	*2*
UWill Steelhead	Willamette Falls	0.000	0.000	0.000	0.920	0.080	0.000	0.000	
	Calapooia	0.000	0.000	0.000	0.920	0.080	0.000	0.000	*2*
	Mollala	0.000	0.000	0.000	0.920	0.080	0.000	0.000	*2*
	N. Santiam	0.000	0.000	0.000	0.920	0.080	0.000	0.000	*2*
	S. Santiam	0.000	0.000	0.000	0.920	0.080	0.000	0.000	*2*

Table C-3. Fraction of Spawners in ESU or stock that are of wild origin.

Table
conti

ESU	Stream	Fraction of Spawners that are Wild												
		Pt Est.	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*	*1986*	*1987*	*1988*	*1989*	*1990*	*1991*
LCR Chinook	Total ESU						0.668	0.672	0.652	0.647	0.640	0.641	0.646	0.663
	Bear Creek	0.500												
	Big Creek	0.500												
	Clatskanie	0.500												
	Cowlitz Tule	0.500												
	Elochoman	0.500												
	Germany	0.500												
	Gnat	0.500												
	Grays Tule	0.500												
	Kalama Spring	0.500												
	Kalama R	0.500												
	Klaskanine	0.500												
	Lewis R, Bright	0.920												
	Lewis Spring	0.500												
	Lewis, EF Tule	1.000												
	Lewis and Clark	0.500												
	Mill Fall	0.500												
	Plympton	0.500												
	Sandy Late	0.970												
	Skamokawa	0.500												
	Youngs	0.500												
UCR Spr Chinook	Total ESU					0.941	0.928	0.916	0.911	0.894	0.891	0.900	0.901	0.893
	Entiat		0.909	0.917	0.926	0.799	0.695	0.746	0.704	0.542	0.670	0.420	0.775	0.562
	Methow		0.911	0.786	0.731	0.781	0.863	0.756	0.770	0.901	0.798	0.957	0.973	0.958
	Wenatchee		0.978	0.982	0.982	0.989	0.980	0.981	0.965	0.960	0.961	0.960	0.950	0.926
SR Sp/Su Chinook	Total ESU					0.883	0.873	0.847	0.798	0.744	0.733	0.717	0.703	0.683
	Bear Creek	no data												
	Imnaha River		1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.927	1.000	0.600	0.420
	Johnson Creek	1.000												
	Marsh Creek	1.000												
	Minam River		1.000	1.000	1.000	1.000	1.000	1.000	0.500	0.600	0.620	1.000	0.440	0.620
	Poverty Creek		1.000	1.000	1.000	1.000	1.000	0.907	0.907	0.907	0.907	0.907	0.907	0.907
	Sulphur Creek	1.000												
SR Fall Chinook	Snake R. LGD		1.000	1.000	1.000	0.926	0.769	0.820	0.760	0.434	0.705	0.512	0.232	0.663
UWill Chinook	Total ESU		0.12443	0.06034	0.08218	0.0891	0.04349	0.04271	0.09304	0.11246	0.18304	0.13683	0.25839	0.22912
	Leaburg Dam		0.520	0.520	0.520	0.520	0.520	0.520	0.520	0.520	0.520	0.520	0.520	0.520
CR Chum	Total ESU	1.000												
	Grays R. WF	1.000												
	Grays R.	1.000												
	Crazy Johnson Ck.	1.000												
	Hardy Ck.	1.000												
	Hamilton Ck.	1.000												
	Hamilton Springs	1.000												
LCR Steelhead	Total ESU							0.311	0.327	0.344	0.345	0.349	0.362	0.388
	Clackamas (S)	0.300												
	Clackamas (W)	0.300												
	Green River (W)	1.000												
	Kalama (S)		0.271	0.254	0.101	0.165	0.214	0.294	0.163	0.087	0.278	0.155	0.442	0.405
	Kalama (W)		0.761	0.776	0.784	0.609	0.470	0.592	0.363	0.547	0.505	0.697	0.471	0.745
	Sandy (W)		0.620	0.539	0.595	0.543	0.581	0.581	0.622	0.572	0.556	0.565	0.569	0.544
	Toutle (W)	1.000												
MC Steelhead	Total ESU										0.449	0.389	0.380	0.371
	Deschutes (S)		0.406	0.580	0.579	0.348	0.396	0.443	0.253	0.233	0.359	0.397	0.428	0.291
	Eightmile Ck (W)	no data												
	Fifteen Mile Ck (W)	no data												
	Mill Ck (S)	no data												
	Ramsey Ck (W)	no data												
	Shitike Ck (S)	no data												
	Umatilla River (S)					1.000	1.000	1.000	1.000	0.933	0.850	0.853	0.652	0.811
	Warm Springs NFH (S)	1.000												
	Yakima River (S)		0.797	0.798	0.799	0.799	0.799	0.800	0.800	1.000	1.000	1.000	0.881	0.951
UC Steelhead	Upper Columbia		0.205	0.240	0.264	0.131	0.166	0.199	0.201	0.424	0.351	0.616	0.321	0.522
SR Steelhead	Total ESU		0.540	0.487	0.332	0.300	0.237	0.234	0.173	0.380	0.250	0.194	0.170	0.177
	SR A-Run		0.526	0.472	0.329	0.287	0.240	0.221	0.196	0.405	0.283	0.193	0.103	0.185
	SR B-Run		0.500	0.446	0.305	0.266	0.221	0.248	0.109	0.209	0.141	0.185	0.223	0.113
UWill Steelhead	Total ESU			0.799	0.702	0.744	0.607	0.650	0.648	0.680	0.680	0.759	0.798	0.838
	Calapooia		1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	Mollala		0.540	0.540	0.540	0.540	0.540	0.540	0.540	0.540	0.540	0.540	0.540	0.540
	N. Santiam		0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.831	0.830	0.829
	S. Santiam		1.000	1.000	0.586	0.670	0.337	0.361	0.402	0.458	0.608	0.782	0.965	1.000

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1992	1993	1994	1995	1996	1997	1998	1999	Reference
0.685	0.698	0.718						*weighted average*
								11
								11
								11
								11
								11
								11
								11
								11
								11
								11
								11
								10
								11
								10
								11
								11
								10
								11
								11
0.886	0.878	0.870	0.872	0.870				*weighted average*
0.603	0.766	0.893	0.313	1.000	1.000	1.000		*5*
0.949	0.869	0.963	0.894	1.000	0.659	1.000		*5*
0.890	0.757	0.955	0.894	0.921	0.886	1.000		*5*
0.638	0.622	0.602	0.588	0.618	0.674	0.666		*weighted average*
0.236	0.368	0.465	0.559	0.559	0.559	0.559	0.559	*7*
								7
								7
0.100	0.540	0.700	0.580	0.580	0.580	0.580	0.580	*7*
0.907	0.907	0.907	0.907	1.000	1.000	1.000	1.000	*7*
								7
0.829	0.787	0.675	0.571	0.653				*13*
0.24726	0.50166	0.13465	0.22131	0.29281	0.11085	0.11457		*9*
0.520	0.520	0.520	0.550	0.750	0.830	0.730		
								weighted average
								18
								18
								18
								18
								18
								18
0.396	0.401	0.412	0.402					*weighted average*
								2
								2
								16
0.404	0.318	0.271	0.428	0.348	0.200			*6*
0.693	0.730	0.791	0.783	0.451				*6*
0.539	0.600	0.578	0.552	0.556	0.609			*3*
								16
0.358	0.357	0.369	0.351					*weighted average*
0.129	0.214	0.073	0.115	0.108				*15: 50173, 50176*
0.678	0.733	0.572	0.623	0.409				*15: 50515, 57508*
								15: 61224
0.937	0.980	0.919						*15: 180017, 180005*
0.236	0.425	0.233	0.363	0.200				*5*
0.154	0.130	0.167	0.103	0.080	0.100	0.100		*12*
0.137	0.155	0.127	0.109	0.078	0.114			*12*
0.193	0.046	0.274	0.039	0.077	0.016			*12*
0.872	0.874	0.860	0.891	0.876	0.869			
1.000	1.000	1.000	1.000	1.000	1.000			*3*
0.760	0.760	0.760	0.760	0.760	0.760			*3*
0.830	0.829	0.829	0.830	0.829	0.830			*3*
1.000	1.000	1.000	1.000	1.000	1.000			*3*

Table
contin

Table C-4. Weighted running sum of spawner counts for all stocks and ESUs.

Weighted running sum of spawner counts for all stocks used in the extinction risk analysis. Due to data quality issues, some stocks were not included in the Total ESU counts. (* indicates stocks used for esu level analysis)

ESU	Stream	Weighted Running Sums										
		1982	*1983*	*1984*	*1985*	*1986*	*1987*	*1988*	*1989*	*1990*	*1991*	*1992*
LCR Chinook	ESU			97355.3	95612.5	121522	161852	190323	174754	144441	104026	79072.2
	Bear Creek					2009.64	1745.54	1643.19	1336.48	1028.22	560.89	306.172
	Big Creek*		8045.88	11021.1	10605.3	10896.5	10908.2	9217.14	8101.62	6660.14	5171.98	4983.86
	Clatskanie*		139.125	108.1	72.325	114.4	144.1	178.6	155.15	100.225	56.6	16.175
	Cowlitz Tule*		11436.6	12252.3	12386.4	14949.1	19346.9	22500.8	20386	16651.8	12487.9	9345.86
	Elochoman*		1689.68	1857.73	1772.49	3507.94	4505.33	4108.81	2810.38	1147.08	576.04	709
	Germany*			1126.38	837.2	790.85	1719.07	1830.82	1730.58	1322.83	564.5	498.15
	Gnat*		258.43	221.98	177.33	641.61	901.98	984.85	938.99	616.6	406.19	257.08
	Grays Tule*		1711.36	2175.89	2470.46	2919.46	3411.51	3367.15	2674.95	1823.29	935.51	399.42
	Kalama Spring*		4362.64	3011.23	1262.26	834.77	1125.63	1626.9	1410.01	1003.31	663.77	383.36
	Kalama R*		12044.7	9909.6	8509.16	15159.2	37159.4	55909.9	53348.1	44635.7	26875.3	14220.1
	Klaskanine*		120.025	88.325	70.4	50.2	77.2	77.825	89.225	64.325	28.9	16.375
	Lewis R, Bright*		45253	37529.6	37429.1	40143.9	42533	54860.7	61479.5	56861.3	48642	39318.7
	Lewis Spring*		3649.52	3487.44	4521.38	10465.8	14526.1	16096.9	14677.6	11552.3	7930.56	5964.76
	Lewis, EF Tule*		1068.38	1273.46	1374.82	1208.2	1328.3	1557.6	1503.64	1416.96	1259.38	960.68
	Lewis and Clark*		805.56	810.33	876.29	1697.03	2140.39	2116.72	1721.78	859.55	335.54	123.13
	Mill Fall						2683.05	4029.85	3648.15	2235.68	1254.1	534.35
	Plympton*		6158.41	6893.75	4000.35	7401.78	9714.16	9855.53	9183.12	5200.71	3617.68	2629.05
	Sandy Late						4913.15	6274.73	5649.12	4409.5	3694.62	3534.9
	Skamokawa*		4579.9	9473	8796.25	7251.62	5723.45	3105.77	2673.4	2356.32	1622.08	960.375
	Youngs*			43.125	48.275	324.275	396.225	381.925	309.825	114.75	35.575	33.1
UCR Spr Chinook	ESU		16713.9	18346.6	18000.3	17365.5	15895.3	13279	11578.6	10028.2	9780.02	9176.59
	Entiat*		1301.67	1349.43	1354.42	1226.54	1141.44	929.141	862.709	723.767	657.054	812.488
	Methow*		2920.95	3686.3	4037.22	4773.69	5477.2	5534.05	5548.45	4797.63	4893.59	4932.36
	Wenatchee*			12491.3	13310.9	12608.6	11365.3	9276.7	6815.79	5167.39	4506.85	4229.38
SR Sp/Su Chinook	ESU		4874.9	6516.64	7293.69	8652.75	11703.5	10898	10402.9	9545.84	8189.11	8937.65
	Bear Creek*		569.169	797.291	884.547	1237.36	2179.71	2097.58	1998.73	1880.71	1467.06	1311.47
	Imnaha River*		2110.63	2494.18	2463.79	2388.32	2495.51	2086.1	1663.92	1442.87	1304.02	2065.34
	Johnson Creek*		395.822	496.035	518.63	587.467	805.492	807.389	788.582	764.938	723.375	859.302
	Marsh Creek*		353.462	506.859	576.511	775.839	1096.08	1049.43	958.665	827.46	647.347	558.077
	Minam River*		364.977	936.524	1203.68	1670.02	2016.24	1750.39	1635.32	1317.97	932.375	912.89
	Poverty Creek*		966.145	1129.74	1142.77	1447.01	1995.02	1990.5	2214.52	2275.95	2258.52	2546.22
	Sulphur Creek*		114.689	156.013	503.755	546.745	1115.48	1116.63	1143.18	1035.94	856.41	684.357
SR Fall Chinook	Snake R. LGD		3463.93	3840.31	4051.15	3841.82	3469	2538.24	2370.83	2243.78	2574.42	2455.81
UWill Chinook	Willamette Falls			95177	95069.5	103380	119993	127886	134331	126691	108657	83064.6
	Leaburg Dam				6513.77	8105.37	13578.8	16593.6	22208.1	23702	22508.3	20708.5
CR Chum	ESU		2262.72	2156.16	2148.14	2793.94	3472.41	3110.17	2652.78	1998.86	3778.82	4540.29
	Grays R. WF*		22.91	21.6	95.89	131.14	150.01	131.67	69.36	45.77	311.98	341.32
	Grays R.*		1290.02	1261.36	1084.77	1598.53	1569.41	1382.53	1108.39	651	1638.68	2167.46
	Crazy Johnson Ck.*		163.53	120.55	249.8	216.33	484.7	524.87	514.04	594.55	700.58	663.4
	Hardy Ck.*		404.75	379.04	271.28	365.08	728.05	673.56	676.03	511.1	890.03	1152.62
	Hamilton Ck.*		266.53	257.69	310.05	331.47	380.96	284.96	210.55	140.61	196.03	182.85
	Hamilton Springs*		114.98	115.92	136.35	151.39	159.28	112.58	74.41	55.83	41.52	32.64
LCR Steelhead	ESU				80663.6	75704.1	78750.5	74762.4	71107.5	62773.3	61835.4	59152.8
	Clackamas (S)*				30988.3	31336.2	35746.1	31317.6	28704.7	24134.6	24653.5	20196.1
	Clackamas (W)*			5052.99	4813.89	4837.54	5596.98	5544.4	5381.4	4691.35	4650.17	4510.79
	Green River (W)								1215.81	831.882	520.538	391.86
	Kalama (S)*				26167.9	19072.9	15219.7	16058.4	16050	15016	13305.9	16967.9
	Kalama (W)*			6330.04	7085.51	7791.68	8438.34	7676.45	6527.38	5752.97	6618.58	6440.75
	Sandy (W)*			12108.7	11608.1	12665.7	13749.4	14165.5	14444	13178.4	12607.3	11037.3
	Toutle (W)							7644.48	6751.8	6005.34	5353.79	4887.94
MC Steelhead	ESU							116334	124862	113987	103487	89363.9
	Deschutes (S)*				102827	113239	102821	93112.2	80119.2	73149.4	58025.6	51810.2
	Eightmile Ck (W)								211.037	110.454	54.876	21.191
	Fifteen Mile Ck (W)							213.287	202.86	151.152	121.146	95.0336
	Mill Ck (S)						65.892	68.751	71.29	66.118	91.203	109.412
	Ramsey Ck (W)								97.779	59.899	27.225	20.39
	Shitike Ck (S)				219.253	218.018	241.209	217.871	186.717	160.192	145.094	107.504
	Umatilla River (S)*							13507.1	11622.8	11166.5	10374.4	9244.64
	Warm Springs NFH (S)*				2253.44	2579.95	2757.55	2735.24	2554.65	2258.4	1849.44	1358.22
	Yakima River (S)*				4592.83	6505.78	6990.88	6933.67	6441.44	6767.74	5809.48	5163.18
UC Steelhead	Upper Columbia			23722.9	27039.9	27215.8	23470.5	17465.1	12588.7	9110.63	9681.14	8567.19
SR Steelhead	LGD			498107	502127	504335	534473	477457	465766	500695	467158	414898
	A-Run			299497	358318	362401	361499	370973	319053	317606	356600	336674
	B-Run				171820	177003	185935	211142	210923	191025	186371	173609
UWill Steelhead	Willamette Falls		32665.1	39119	44811.7	48133.2	52890.6	42633.4	38822.6	32977.1	22193.6	18786.8
	Calapooia		1103.8	1517.36	1623.84	1769.28	2179.52	1711.68	1580.2	1303.76	644.52	506.64
	Mollala		7481.2	8399.08	9716.68	10427.5	13007.9	10939.1	10108.6	8788.72	5254.08	4101.16
	N. Santiam		15041.6	18135.2	20742.6	22235.5	22864.9	18325.4	16696.4	13855.4	10437	8835.28
	S. Santiam		9038.52	11067.4	12728.5	13700.9	14838.2	11657.2	10437.3	9029.16	5857.92	5343.72

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1993	1994	1995	1996	1997	1998	1999	2000	Comment
71770.6	77296.8							sum of index counts
101.05	30.46	351.97	506.83					
5726.06	6662.8	6875.06	5964.32					
14.475	29.15	47.1	56.825					
8683.16	8402.14	7578.44	7953.78					
1240.34	1199.2	1467.88	2877.74					
1084.05	1212.5	1124.07	871.25					
167.82	164.44	182.25	210.65					
201.82	120	447.13	417.67					
697.86	995.4	1120.16	948.4					
11136	9935.73	17370.3	18759.7					
2.65	0.925	53.675						
33635.9	32651.9	39115	40117.8					
4466.94	3287.08	2511.02	1863.06					
981.48	934.96	872.46	966.18					
24.76	0.68	1						
543.075	893.325	857.625	614.55					
5012.21	6373.38	5924.41	5982.96					
3777.8	4015	3450.85	4262.62					
850.9	768.325	608.9	683.45					
20.425	17.575	37.825						
7577.08	5922.65	3848.82	2151.54					total esu
685.873	553.214	440.302	266.477	172.504				
4167.28	3331.88	2120.56	1080.38	433.013				
3431.75	2723.92	2037.56	1287.96	804.683				
8060.22	6729.35	5718.34	5084.88	4243.61	4501.75			sum of index counts
1230.54	1062.36	924.686	865.825	693.833	735.807			
1987.73	1870.2	1746.82	1527.78	1005.98	1174.96			
785.842	655.911	514.026	524.312	446.635	456.801			
481.976	387.744	318.462	291.295	297.76	290.723			
652.103	477.947	571.091	509.172	541.487	582.203			
2324.45	1843.93	1357.55	1117.95	1048.75	1054.66			
597.571	431.268	285.714	248.545	209.167	206.599			
2012.9	2198.68							total esu
66308.1	50511.2	38418.3	37566.3	44665.9				total esu
16732.4	12690.5	10024.2	7550.64	6859.4				
4417.85	3690.36	2892.27	2910.64	3679.63				sum of peak counts
353.67	227.77	206.79	226.4	429.36				
2072.19	1561.57	962.74	598.27	687.76				
610.36	773.88	951.42	1348.66	1271.47				
1172.07	968.15	610.86	462.31	767.44	790.2			
168.75	112.05	38.94	50.94	81.72				
40.81	46.94	121.52	224.06	441.88	564.11			
57140.7	54691.2	48582.1						sum of index counts
18568.3	15498.7	12731.1	9065.19					
4695.68	4891.02	4077.32	3122.53					
405.778	481.26	659.668						
17758.3	18769.6	18703.1	18843.1					
6540.58	6767.93	6294.01						
9577.85	8764.02	6776.57	6011.61					
4446.45	3966.64	3007.73						
82111.9	67655.1	61619.1						sum of index counts
47826.2	52502.3	70500.5						
4.942	27.921	76.995	100.522					
83.1461	84.3477	96.9447	98.3087					
113.001	97.6996	79.5046	61.6771					
35.917	59.0196	85.5896	99.1946					
117.288	118.599	106.611	94.078					
8962.57	9629.49	9808.89	.					
1030.76								
5560.81								
8829.71	8205.77	7707.84						total esu
405898	395280	383186	379578					total esu
295914	330119	317875	299161					
161331	135301	110952	100455					
14139.6	13599.8	11320.3	12443					total esu
290.68	228.08	203.4	415.68					
3191.84	3047.24	2443.16	2644.16					
6335.28	5867.28	4983.2	5652.92					
4321.76	4457.16	3690.56	3730.24					

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Table C-6. Habitat analysis variables.

INDEX STOCK*	INDEPENDENT VARIABLES**										
Name	Pct Urban	Pct AgRan	Pct Forest	Pct Graz	Mine dens	EPA dens	MWSI	Dist rec	Eros	Num dams	Total Area
Bear Valley/Elk	0.08	10.20	89.45	0.00	0.07	0.25	56.58	88.85	0.20	8	397.16
Big Sheep/Lick	0.04	1.92	97.90	99.99	0.05	0.27	109.46	58.02	1.11	8	121.28
Catherine	0.46	7.87	91.64	74.64	0.01	0.32	115.59	51.57	1.22	8	294.16
Entiat	0.00	9.10	90.87	0.00	0.05	0.02	100.76	95.94	0.77	8	179.71
Grande Ronde	0.08	3.63	96.27	65.64	0.08	0.28	121.08	47.65	1.02	8	254.58
Imnaha	0.00	0.00	99.03	100.00	0.06	0.39	118.45	56.20	6.57	8	125.89
John Day Mainstem	0.06	35.57	64.37	100.00	0.01	0.39	95.49	53.38	0.41	3	214.46
Johnson	0.00	1.79	97.23	0.00	0.05	0.26	89.60	85.88	0.36	8	97.77
Klickitat	0.00	0.21	99.79	0.00	0.00	0.00	85.18	80.49	1.39	1	396.76
Lookingglass	0.61	0.50	98.66	77.99	0.00	0.45	115.60	55.47	1.85	8	101.91
Lostine	0.36	18.97	73.27	64.99	0.05	0.13	111.72	68.64	1.54	8	277.18
Marsh	0.00	7.57	90.15	0.00	0.04	0.00	90.81	67.11	0.32	8	266.69
Methow	0.12	2.55	94.44	0.00	0.03	0.18	100.23	93.95	0.78	9	579.45
Middle Fork John Day	0.01	2.10	97.89	99.95	0.15	0.38	109.82	57.38	0.00	3	230.72
Minam	0.00	0.88	97.30	99.27	0.03	0.00	123.96	69.27	2.62	8	333.18
North Fork John Day	0.05	2.95	97.00	47.18	0.21	0.23	120.94	55.81	0.88	3	486.31
Poverty Flat	0.00	4.17	95.83	0.00	0.03	0.20	98.64	83.09	0.29	8	177.57
Sulphur	0.00	3.51	96.49	0.00	0.03	0.00	88.82	83.78	0.38	8	72.70
Warm Springs	0.17	21.38	78.34	0.14	0.01	0.00	82.80	49.33	0.49	2	516.68
Wenaha	0.00	0.00	100.00	0.88	0.00	0.00	144.61	52.90	9.47	8	58.40
Wenatchee	0.63	4.19	91.35	0.00	0.09	0.18	95.77	90.60	2.77	7	712.73
Wind	0.16	0.25	99.28	0.00	0.00	0.00	ND	ND	ND	1	299.01

* See "6HUC clusters" worksheet for listing of subwatersheds associated with each index stock
** See "Metadata" worksheet for information about each of these model variables

Table C-6 continued

DEPENDENT VARIABLES**															
Max S	Mean S	Min S	Max R	Mean R	Min R	Max R/S	Mean R/S	Min R/S	Var R/S	Max lnR/S	Mean lnR/S	Min lnR/S	Max2 R/S	MeanTop2 R/S	GMean R/S
1109.34	267.63	41.82	2216.52	584.37	33.53	12.97	3.91	0.18	1.69	2.56	0.68	-1.71	10.79	11.88	1.98
126.37	50.71	0.00	156.01	51.10	0.21	7.82	1.75	0.00	3.17	2.06	-0.57	-3.15	6.82	7.32	.
655.69	323.52	118.40	380.89	181.95	16.27	2.87	0.72	0.03	1.75	1.06	-0.92	-3.57	1.93	2.40	0.40
351.00	264.53	112.21	690.78	371.26	98.94	2.60	1.44	0.39	0.41	0.96	0.20	-0.94	2.47	2.54	1.22
516.25	213.46	3.01	563.30	152.48	5.36	11.38	1.89	0.01	3.60	2.43	-0.65	-4.26	7.29	9.34	0.52
720.55	446.30	169.48	1585.90	722.12	125.33	5.52	1.83	0.46	0.64	1.71	0.31	-0.78	4.52	5.02	1.36
822.96	360.30	50.12	1021.52	620.13	276.02	7.64	2.65	0.34	0.74	2.03	0.68	-1.09	5.26	6.45	1.98
331.54	135.88	35.60	863.95	298.67	26.99	5.83	2.60	0.19	1.18	1.76	0.64	-1.65	5.67	5.75	1.89
1108.02	249.66	63.00	1391.67	599.19	49.17	21.62	5.57	0.22	0.59	3.07	0.98	-1.52	13.64	17.63	2.67
166.27	54.46	0.00	55.83	26.21	14.37	2.66	0.95	0.17	0.94	0.98	-0.51	-1.80	0.93	1.80	0.60
348.24	149.02	26.22	396.18	175.79	26.46	13.59	2.54	0.21	1.95	2.61	0.05	-1.56	6.71	10.15	1.05
394.55	143.05	16.36	879.38	280.25	5.51	18.94	4.35	0.05	1.19	2.94	0.42	-2.91	14.66	16.80	1.52
1587.65	937.29	348.19	5120.23	2923.89	158.67	9.71	3.92	0.15	1.66	2.27	0.98	-1.93	7.75	8.73	2.67
1908.33	582.58	147.20	2937.31	962.64	285.30	11.59	2.80	0.15	2.84	2.45	0.57	-1.90	3.36	7.47	1.77
641.85	277.88	43.38	911.57	380.77	29.73	17.91	4.10	0.09	1.33	2.89	0.32	-2.44	9.39	13.65	1.37
2302.92	1172.48	428.70	3725.29	2161.42	738.01	6.71	2.38	0.47	2.98	1.90	0.61	-0.76	4.50	5.61	1.83
843.89	354.84	162.74	2593.48	857.35	117.46	7.71	2.82	0.21	0.87	2.04	0.74	-1.58	5.67	6.69	2.09
606.58	132.21	0.00	1135.01	322.49	8.83	22.99	6.56	0.05	3.43	3.14	0.86	-2.96	15.84	19.41	2.36
939.75	668.13	188.89	3527.41	2201.22	501.82	7.57	3.89	0.57	0.68	2.02	1.12	-0.57	7.23	7.40	3.08
533.33	267.15	54.21	678.59	248.98	49.21	4.62	1.41	0.18	1.27	1.53	-0.17	-1.74	3.27	3.95	0.84
4471.74	2208.48	1020.91	5279.87	2317.76	42.16	3.24	1.14	0.04	1.37	1.18	-0.32	-3.19	2.71	2.98	0.72
800.92	209.06	79.00	1216.49	274.31	60.99	7.42	1.80	0.25	0.84	2.00	0.20	-1.37	2.12	4.77	1.23

Table C-7. Habitat analysis variables.

Independent Variable	Description	Source sheet	Data provider	Original data source	Date(s)
Pct_Urban	% of index HUC area classified as "urban" or "built-up"	LandUse	StreamNet	USGS Land Use and Land Cover	1981-1992
Pct_AgRan	% of index HUC area classified as agriculture or rangeland	LandUse	StreamNet	USGS Land Use and Land Cover	1981-1992
Pct_Forest	% of index HUC area classified as forested	LandUse	StreamNet	USGS Land Use and Land Cover	1981-1992
Pct_Graz	% of index HUC linked to grazing allotments	Grazing	ICBEMP	Multiple sources	1995
Mine_dens	Density of mines [#mines/(total index area sqkm)]	Mining	ICBEMP	US Bureau of Mines/USGS	1995
EPA_dens	Density of streams [km/(total index km)] listed under 303(d)	303(d)	StreamNet	EPA	
MSWI	Master Watershed Sensitivity Index: rating calculated by USFS	Watershed	ICBEMP	USFS - Region 1	1998
Dist_rec	Disturbance recovery potential: rating calculated by USFS	Watershed	ICBEMP	USFS - Region 1	1998
Eros	Erosion potential: rating calculated by USFS	Watershed	ICBEMP	USFS - Region 1	1998
N_dams	Number of dams separating index area from the Pacific Ocean	-	-	-	-
Tot_area	Total land area (sqkm) within HUC area	-	-	-	-

Dependent Variables	Calculations based on est. returns, 1980-1990
Min_S	Single-year minimum number of spawners (S)
Mean_S	Arithmetic mean number of spawners (S)
Max_S	Single-year maximum number of spawners (S)
Min_R	Single-year minimum number of recruits (R)
Mean_R	Arithmetic mean number of recruits (R)
Max_R	Single-year maximum number of recruits (R)
Min_R/S	Single-year minimum R/S
Mean_R/S	Arithmetic mean R/S
Max_R/S	Single-year maximum recruits per spawner (R/S)
Max2_R/S	Second highest single-year R/S
MnTop2_R/S	Arithmetic mean of top two single-year R/S values
GMean_R/S	Geometric mean R/S
Var_R/S	Annual variance of R/S
Max_lnR/S	Single-year maximum natural log of R/S
Mean_lnR/S	Arithmetic mean natural log of R/S
Min_lnR/S	Single-year minimum natural log of R/S

Table C-8. Habitat analysis watersheds.

Listing of subwatersheds (identified by 6th-field Hydrologic Unit Codes) associated with each of the 22 index stocks. The methodology used to determine these "best-fit subwatershed clusters" can be found at [sitename].

Index Stock	6HUCs
Bear Valley/Elk	170602050802
	170602050803
	170602050805
	170602050807
	170602050808
Big Sheep/Lick	170601021005
	170601021004
Catherine	170601040803
	170601040804
	170601040801
	170601040802
Entiat	170200101201
	170200101202
Grande Ronde	170601041101
	170601041102
	170601041201
Imnaha	170601020703
	170601020801
Johnson	170602080501
Klickitat	170701060401
	170701060402
	170701060501
	170701060601
	170701060603
	170701060801
Lookingglass	170601042401
John Day Mainstem	170702011901
	170702011906
Lostine	170601050601
	170601050602
	170601050603
Marsh	170602050608
	170602050602
	170602050607
Methow	170200081101
	170200081601
	170200081903
	170200080601
	170200080503
	170200081802
	170200081803

Index Stock	6HUCs
Middle Fork John Day	170702030501
	170702030502
	170702030503
Minam	170601051001
	170601051002
	170601051101
	170601051102
North Fork John Day	170702022204
	170702022201
	170702022003
	170702021801
	170702021802
	170702022001
	170702022002
Poverty Flat	170602081004
	170602081002
	170602081202
	170602081201
Sulphur	170602050901
Warm Springs	170703062201
	170703062301
	170703061803
	170703061701
	170703062101
	170703061801
	170703062104
Wenaha	170601062101
Wenatchee	170200111701
	170200111003
	170200111001
	170200111301
	170200111102
	170200110401
	170200110702
	170200110901
Wind	170701050501
	170701050601
	170701050602

Table C-9. Habitat analysis land characteristics.

Index stock characteristics		Land Use areas (sqkm)									
Name	Index Area (sqkm)	Agric	Forest	Range	Rock Mine	Snow Ice	Tundra Bare	Unkwn	Urban Built	Water	Wetlnd
Bear Valley/Elk	397.16	0.00	355.27	40.51	0.95	0.00	0.00	0.00	0.30	0.12	0.00
Big Sheep/Lick	121.28	0.00	118.74	2.33	0.17	0.00	0.00	0.00	0.04	0.00	0.00
Catherine	294.16	4.86	269.58	18.28	0.00	0.00	0.09	0.00	1.35	0.00	0.00
Entiat	179.71	0.84	163.30	15.51	0.00	0.00	0.00	0.00	0.00	0.05	0.00
Grande Ronde	254.58	0.10	245.08	9.15	0.00	0.00	0.00	0.00	0.20	0.05	0.00
Imnaha	125.89	0.00	124.67	0.00	0.00	0.00	0.00	0.00	0.00	0.09	1.13
John Day Mainstem	214.46	14.75	138.05	61.54	0.00	0.00	0.00	0.00	0.12	0.00	0.00
Johnson	97.77	0.00	95.06	1.75	0.96	0.00	0.00	0.00	0.00	0.00	0.00
Klickitat	396.76	0.00	395.92	0.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lookingglass	101.91	0.00	100.55	0.51	0.00	0.00	0.00	0.01	0.62	0.22	0.00
Lostine	277.18	41.19	203.08	11.38	0.00	0.00	16.50	0.00	1.01	0.84	3.17
Marsh	266.69	0.00	240.42	20.19	3.73	0.00	2.06	0.00	0.00	0.00	0.29
Methow	579.45	6.10	547.25	8.65	0.00	0.31	7.02	0.00	0.70	0.41	9.02
Middle Fork John Day	230.72	1.61	225.86	3.23	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Minam	333.18	0.62	324.18	2.32	0.00	0.00	5.41	0.00	0.00	0.64	0.00
North Fork John Day	486.31	0.00	471.72	14.36	0.00	0.00	0.00	0.00	0.22	0.00	0.00
Poverty Flat	177.57	0.00	170.17	7.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sulphur	72.70	0.00	70.15	2.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Warm Springs	516.68	6.24	404.75	104.24	0.17	0.00	0.00	0.18	0.86	0.25	0.00
Wenaha	58.40	0.00	58.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wenatchee	712.73	9.85	651.11	20.03	0.27	4.18	0.18	0.00	4.48	2.86	19.78
Wind	299.01	0.24	296.85	0.51	0.10	0.00	0.00	0.00	0.49	0.07	0.76
TOTALS:	6194.29	86.39	5670.16	345.31	6.35	4.49	31.25	0.19	10.40	5.60	34.14

Index stock characteristics		Land ownership areas (sqkm)									
Name	Index Area (sqkm)	Tot Area	BLM	USFS	NPS	NOT ATT	PRIVATE	STATE	TRIBAL	USFWS	WATER
Bear Valley/Elk	397.16	400.73	0.00	393.70	0.00	3.46	3.52	0.00	0.00	0.00	0.05
Big Sheep/Lick	121.28	121.28	0.00	121.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Catherine	294.16	294.16	3.17	198.04	0.00	0.00	92.29	0.66	0.00	0.00	0.00
Entiat	179.71	179.71	0.00	166.48	0.00	0.00	13.23	0.00	0.00	0.00	0.00
Grande Ronde	254.58	254.58	0.12	227.62	0.00	0.00	26.83	0.00	0.00	0.00	0.00
Imnaha	125.89	125.89	0.00	125.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00
John Day Mainstem	214.46	214.46	0.71	72.09	0.00	0.00	141.66	0.00	0.00	0.00	0.00
Johnson	97.77	101.13	0.00	94.41	0.00	3.36	1.99	1.38	0.00	0.00	0.00
Klickitat	396.76	396.76	0.00	0.05	0.00	0.00	25.34	41.68	329.70	0.00	0.00
Lookingglass	101.91	101.91	0.00	76.43	0.00	0.00	25.48	0.00	0.00	0.00	0.00
Lostine	277.18	277.18	1.76	178.75	0.00	0.00	93.70	2.97	0.00	0.00	0.00
Marsh	266.69	266.69	0.00	265.23	0.00	0.00	1.39	0.00	0.00	0.00	0.07
Methow	579.45	579.45	0.17	533.66	1.28	0.00	39.76	4.58	0.00	0.00	0.00
Middle Fork John Day	230.72	230.72	0.00	222.67	0.00	0.00	8.05	0.00	0.00	0.00	0.00
Minam	333.18	333.18	0.00	330.17	0.00	0.00	3.01	0.00	0.00	0.00	0.00
North Fork John Day	486.31	486.31	0.91	435.86	0.00	0.00	49.53	0.00	0.00	0.00	0.00
Poverty Flat	177.57	178.09	0.00	177.03	0.00	0.54	0.53	0.00	0.00	0.00	0.00
Sulphur	72.70	72.70	0.00	70.42	0.00	0.00	1.03	1.25	0.00	0.00	0.00
Warm Springs	516.68	516.68	0.00	0.68	0.00	0.00	138.36	0.00	377.64	0.00	0.00
Wenaha	58.40	58.40	0.00	58.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wenatchee	712.73	712.73	0.00	548.92	0.00	0.00	158.40	4.47	0.00	0.95	0.00
Wind	299.01	299.01	0.00	267.92	0.00	0.00	19.44	11.03	0.00	0.61	0.00
TOTALS:	6194.29	6201.75	6.85	4565.69	1.28	7.36	843.52	68.01	707.34	1.56	0.12

Table C-9 continued

Land ownership proportions										
Agric	Forest	Range	Rock Mine	Snow Ice	Tundra Bare	Unkwn	Urban Built	Water	Wetlnd	Ag+ Range
0.00	0.89	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
0.00	0.98	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
0.02	0.92	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
0.00	0.91	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
0.00	0.96	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
0.00	0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
0.07	0.64	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36
0.00	0.97	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02
0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.99	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
0.15	0.73	0.04	0.00	0.00	0.06	0.00	0.00	0.00	0.01	0.19
0.00	0.90	0.08	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.08
0.01	0.94	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.03
0.01	0.98	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
0.00	0.97	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.01
0.00	0.97	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
0.00	0.96	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
0.00	0.96	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
0.01	0.78	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21
0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.91	0.03	0.00	0.01	0.00	0.00	0.01	0.00	0.03	0.04
0.00	0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	**0.92**	**0.06**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.01**	**0.07**

Land ownership percentages									
Tot Area	BLM	USFS	NPS	NOT ATT	PRIVATE	STATE	TRIBAL	USFWS	WATER
100.0	0.0	98.2	0.0	0.9	0.9	0.0	0.0	0.0	0.0
100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.0	1.1	67.3	0.0	0.0	31.4	0.2	0.0	0.0	0.0
100.0	0.0	92.6	0.0	0.0	7.4	0.0	0.0	0.0	0.0
100.0	0.0	89.4	0.0	0.0	10.5	0.0	0.0	0.0	0.0
100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.0	0.3	33.6	0.0	0.0	66.1	0.0	0.0	0.0	0.0
100.0	0.0	93.3	0.0	3.3	2.0	1.4	0.0	0.0	0.0
100.0	0.0	0.0	0.0	0.0	6.4	10.5	83.1	0.0	0.0
100.0	0.0	75.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0
100.0	0.6	64.5	0.0	0.0	33.8	1.1	0.0	0.0	0.0
100.0	0.0	99.5	0.0	0.0	0.5	0.0	0.0	0.0	0.0
100.0	0.0	92.1	0.2	0.0	6.9	0.8	0.0	0.0	0.0
100.0	0.0	96.5	0.0	0.0	3.5	0.0	0.0	0.0	0.0
100.0	0.0	99.1	0.0	0.0	0.9	0.0	0.0	0.0	0.0
100.0	0.2	89.6	0.0	0.0	10.2	0.0	0.0	0.0	0.0
100.0	0.0	99.4	0.0	0.3	0.3	0.0	0.0	0.0	0.0
100.0	0.0	96.9	0.0	0.0	1.4	1.7	0.0	0.0	0.0
100.0	0.0	0.1	0.0	0.0	26.8	0.0	73.1	0.0	0.0
100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.0	0.0	77.0	0.0	0.0	22.2	0.6	0.0	0.1	0.0
100.0	0.0	89.6	0.0	0.0	6.5	3.7	0.0	0.2	0.0
100.0	**0.1**	**73.6**	**0.0**	**0.1**	**13.6**	**1.1**	**11.4**	**0.0**	**0.0**

Table C-10. Habitat analysis stock characteristics.

Index stock characteristics				EPA 303(d) data				
Name	Index Area (sqkm)	Str Length (km)	Mn Length (km)	303(d) Length (km)	km/sqkm	km/km	BACT	DO
Bear Valley/Elk	397.16	325.99	68.10	82.04	0.207	0.252	0	0
Big Sheep/Lick	121.28	88.35	24.51	23.65	0.195	0.268	0	0
Catherine	294.16	220.28	48.79	70.15	0.238	0.318	0	2
Entiat	179.71	158.28	19.13	3.83	0.021	0.024	0	0
Grande Ronde	254.58	240.49	43.01	67.03	0.263	0.279	0	0
Imnaha	125.89	77.01	29.78	29.75	0.236	0.386	0	0
John Day Mainstem	214.46	122.49	29.41	47.70	0.222	0.389	6	6
Johnson	97.77	80.91	21.05	20.95	0.214	0.259	0	0
Klickitat	396.76	338.20	76.30	0.00	0.000	0.000	*none*	*none*
Lookingglass	101.91	56.79	25.16	25.47	0.250	0.448	1	1
Lostine	277.18	186.34	55.43	23.47	0.085	0.126	8	0
Marsh	266.69	229.05	39.32	0.00	0.000	0.000	*none*	*none*
Methow	579.45	499.53	100.52	88.75	0.153	0.178	0	0
Middle Fork John Day	230.72	191.57	17.06	73.16	0.317	0.382	0	0
Minam	333.18	221.66	56.55	0.00	0.000	0.000	*none*	*none*
North Fork John Day	486.31	395.27	75.27	90.62	0.186	0.229	0	0
Poverty Flat	177.57	176.52	50.86	35.68	0.201	0.202	23	0
Sulphur	72.70	72.26	16.18	0.00	0.000	0.000	*none*	*none*
Warm Springs	516.68	403.84	93.02	0.00	0.000	0.000	*none*	*none*
Wenaha	58.40	37.19	9.55	0.00	0.000	0.000	*none*	*none*
Wenatchee	712.73	575.50	173.14	104.69	0.147	0.182	1	30
Wind	299.01	163.83	39.83	0.10	0.000	0.001	0	0
TOTALS:	**6194.29**	**4861.36**	**1111.97**	**787.03**	**2.937**	**3.923**	**39**	**39**

Index stock characteristics				Grazing allotment				
Name	Index Area (sqkm)	Str Length (km)	Mn Length (km)	Graze Area (sqkm)	% of Index Area	Spring	Summer	Fall
Bear Valley/Elk	397.16	325.99	68.10	0.00	0.00	*none*	*none*	*none*
Big Sheep/Lick	121.28	88.35	24.51	121.27	99.99	11	11	9
Catherine	294.16	220.28	48.79	219.56	74.64	11	11	0
Entiat	179.71	158.28	19.13	0.00	0.00	*none*	*none*	*none*
Grande Ronde	254.58	240.49	43.01	167.09	65.64	7	7	0
Imnaha	125.89	77.01	29.78	125.89	100.00	11	11	3
John Day Mainstem	214.46	122.49	29.41	214.46	100.00	20	19	19
Johnson	97.77	80.91	21.05	0.00	0.00	*none*	*none*	*none*
Klickitat	396.76	338.20	76.30	0.00	0.00	*none*	*none*	*none*
Lookingglass	101.91	56.79	25.16	79.48	77.99	6	6	0
Lostine	277.18	186.34	55.43	180.12	64.99	0	0	0
Marsh	266.69	229.05	39.32	0.00	0.00	*none*	*none*	*none*
Methow	579.45	499.53	100.52	0.00	0.00	*none*	*none*	*none*
Middle Fork John Day	230.72	191.57	17.06	230.60	99.95	36	36	31
Minam	333.18	221.66	56.55	330.76	99.27	5	5	0
North Fork John Day	486.31	395.27	75.27	229.44	47.18	36	35	0
Poverty Flat	177.57	176.52	50.86	0.00	0.00	*none*	*none*	*none*
Sulphur	72.70	72.26	16.18	0.00	0.00	*none*	*none*	*none*
Warm Springs	516.68	403.84	93.02	0.73	0.14	0	1	0
Wenaha	58.40	37.19	9.55	0.52	0.88	1	1	0
Wenatchee	712.73	575.50	173.14	0.00	0.00	*none*	*none*	*none*
Wind	299.01	163.83	39.83	0.00	0.00	*none*	*none*	*none*
TOTALS:	**6194.29**	**4861.36**	**1111.97**	**1899.91**	**30.67**	**144**	**143**	**62**

Table C-10 continued

									Mining hazard	
FLOWALT	**HABALT**	**NH3**	**NUTR**	**PEST**	**PH**	**SED**	**TEMP**	**UNKN**	**# Mines**	**Mines/sqkm**
0	0	0	0	0	0	51	0	0	28	0.55
0	0	0	0	0	0	0	32	0	6	#DIV/0!
2	2	0	2	0	2	20	22	2	3	0.15
7	0	0	0	0	7	0	7	0	9	#DIV/0!
0	40	0	0	0	22	43	37	0	20	0.47
0	0	0	0	0	0	0	12	0	7	#DIV/0!
6	0	0	0	0	0	0	45	0	2	#DIV/0!
0	0	0	0	0	0	20	0	0	5	0.25
none	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*	1	#VALUE!
1	9	0	1	0	1	8	10	1	0	0.00
19	19	0	0	0	8	19	8	0	14	0.74
none	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*	12	#VALUE!
106	0	0	0	0	0	0	68	0	18	#DIV/0!
27	0	0	0	0	0	0	47	0	35	#DIV/0!
none	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*	9	#VALUE!
0	0	0	0	0	0	0	81	0	102	#DIV/0!
0	0	23	23	0	0	43	0	1	5	0.12
none	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*	2	#VALUE!
none	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*	3	#VALUE!
none	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*	0	#VALUE!
41	0	0	0	0	40	0	90	0	63	#DIV/0!
0	0	0	0	0	0	0	1	0	0	#DIV/0!
209	**70**	**23**	**26**	**0**	**80**	**204**	**460**	**4**	**344**	**1.69**

t data									
Winter	**Cattle**	**Sheep**	**HoMu**	**Contin**	**Rest**	**Def**	**HiSh**	**AMP**	**Goals**
none	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*
3	9	2	0	0	0	11	0	9	11
0	13	5	0	8	4	0	0	4	18
none	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*
0	10	11	0	5	0	2	0	6	22
0	9	2	0	1	0	10	0	9	11
0	20	0	0	6	0	14	0	0	16
none	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*
none	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*
0	0	6	0	0	0	6	0	6	6
0	0	8	0	0	0	0	0	0	8
none	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*
none	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*
0	36	0	0	0	5	31	0	5	36
0	5	10	0	5	0	0	0	3	15
0	34	5	0	1	23	12	0	33	38
none	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*
none	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*
0	1	0	0	0	0	1	1	1	1
0	0	1	0	0	0	1	0	1	1
none	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*
none	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*
3	**137**	**50**	**0**	**26**	**32**	**88**	**1**	**77**	**183**

Table C-11. Habitat analysis stock characteristics.

Index stock characteristics				6HUC-meaned (unweighted) Watershed Characterizat						
Name	Index Area (sqkm)	Str Length (km)	Mn Length (km)	CRP INTEG_B	CROAD HAZ_E	ROAD HAZ	ERO	BASE ERO	STE	SED
Bear Valley/Elk	397.16	325.99	68.10	95.03	74.88	0.87	0.20	12.38	21.18	0.11
Big Sheep/Lick	121.28	88.35	24.51	60.74	23.51	0.48	1.11	30.30	22.44	0.69
Catherine	294.16	220.28	48.79	41.85	43.82	0.52	1.22	29.32	23.26	0.72
Entiat	179.71	158.28	19.13	98.75	100.00	1.00	0.77	58.47	54.34	0.76
Grande Ronde	254.58	240.49	43.01	29.66	69.12	0.63	1.02	28.27	25.49	0.70
Imnaha	125.89	77.01	29.78	54.46	16.73	0.44	6.57	36.26	24.26	4.33
John Day Mainstem	214.46	122.49	29.41	40.73	43.53	0.52	0.41	18.71	17.50	0.18
Johnson	97.77	80.91	21.05	94.47	63.02	0.77	0.36	26.04	40.36	0.32
Klickitat	396.76	338.20	76.30	72.40	32.63	0.48	1.39	26.60	24.84	0.80
Lookingglass	101.91	56.79	25.16	43.13	29.28	0.50	1.85	44.88	16.89	0.83
Lostine	277.18	186.34	55.43	75.75	87.45	0.82	1.54	46.72	29.34	0.94
Marsh	266.69	229.05	39.32	61.91	90.14	0.98	0.32	17.22	28.67	0.24
Methow	579.45	499.53	100.52	97.67	83.30	0.83	0.78	52.33	46.87	0.74
Middle Fork John Day	230.72	191.57	17.06	49.03	10.96	0.41	0.00	27.25	25.34	0.00
Minam	333.18	221.66	56.55	80.49	74.90	0.75	2.62	53.51	37.90	2.13
North Fork John Day	486.31	395.27	75.27	54.25	34.21	0.47	0.88	35.48	27.67	0.58
Poverty Flat	177.57	176.52	50.86	93.44	100.00	1.00	0.29	29.70	53.74	0.28
Sulphur	72.70	72.26	16.18	92.34	88.21	0.97	0.38	22.71	42.87	0.35
Warm Springs	516.68	403.84	93.02	37.94	54.33	0.56	0.49	10.31	12.34	0.14
Wenaha	58.40	37.19	9.55	46.25	30.28	0.50	9.47	90.44	26.54	6.49
Wenatchee	712.73	575.50	173.14	94.20	41.49	0.51	2.77	46.15	38.30	2.05
Wind	299.01	163.83	39.83	No data	ND	ND	ND	ND	ND	ND
TOTALS:	**6194.29**	**4861.36**	**1111.97**	**67**	**56.75**	**0.67**	**1.64**	**35.38**	**30.48**	**1.11**

Index stock characteristics		Bioregion percentages								
Name	Index Area (sqkm)	Tot Area	%FCW	%FCD	%FHW	%FHD	%HCW	%HCD	%HHW	%HHD
Bear Valley/Elk	397.16	398.31	0.0	90.5	0.0	9.5	0.0	0.0	0.0	0.0
Big Sheep/Lick	121.28	121.09	0.8	47.9	0.0	30.6	18.2	0.0	0.0	2.5
Catherine	294.16	297.23	17.8	3.4	0.0	29.6	17.2	5.4	0.0	16.8
Entiat	179.71	180.14	25.6	21.7	3.9	41.1	0.0	0.0	0.0	0.0
Grande Ronde	254.58	254.20	0.0	26.8	0.0	73.2	0.0	0.0	0.0	0.0
Imnaha	125.89	129.10	0.8	79.8	0.0	15.5	2.3	1.6	0.0	0.0
John Day Mainstem	214.46	216.17	12.0	13.4	0.9	26.4	0.0	0.0	0.0	0.0
Johnson	97.77	101.08	0.0	55.4	0.0	40.6	0.0	2.0	0.0	0.0
Klickitat	396.76	395.31	83.5	4.3	0.0	11.9	0.3	0.0	0.0	0.0
Lookingglass	101.91	103.08	27.2	7.8	0.0	48.5	0.0	0.0	0.0	11.7
Lostine	277.18	277.21	14.8	41.5	1.1	2.5	13.4	0.4	12.3	10.5
Marsh	266.69	266.21	0.4	65.8	0.0	6.8	0.0	0.0	0.0	0.0
Methow	579.45	579.45	18.0	31.8	1.7	44.4	0.0	0.0	0.0	0.0
Middle Fork John Day	230.72	234.18	0.0	15.4	0.0	79.5	0.0	0.0	0.0	0.0
Minam	333.18	335.26	15.2	40.3	0.0	10.1	18.2	4.5	0.0	10.7
North Fork John Day	486.31	482.37	0.0	17.0	0.0	79.3	1.7	1.0	0.0	0.0
Poverty Flat	177.57	177.14	0.0	47.5	0.0	36.7	0.0	0.0	0.0	0.0
Sulphur	72.70	72.06	0.0	79.2	0.0	20.8	0.0	0.0	0.0	0.0
Warm Springs	516.68	516.40	20.3	3.3	0.6	40.7	0.4	0.0	0.0	0.4
Wenaha	58.40	59.05	8.5	6.8	0.0	79.7	0.0	0.0	0.0	5.1
Wenatchee	712.73	705.55	27.5	20.3	3.7	47.7	0.0	0.0	0.0	0.0
Wind	299.01	*NO DATA*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
TOTALS:	**6194.29**	**5900.57**	**16.7**	**30.2**	**0.9**	**37.2**	**3.1**	**0.7**	**0.6**	**2.3**

Key: Three characters follow the percent sign: First character is either F (forested), H (herbaceous); Second character is either C (cool - 1 or 2 on scale of 1-4) or H (hot - 3 or 4

Table C-11 continued

tion

BASE SED	MASS	DEBRIS	IS FLOW	IDS FLOW	DS FLOW	BANK	VEG	RECVRY	MWSI	AUG TEMP	CROP PER	RD SENSITIV	RIP DIST	RIP INTEG
7.05	164.00	53.00	48.22	56.58	6.72	42.44	21.39	88.85	56.58	11.87	0.00	27.93	63.83	181.63
18.23	360.00	60.00	61.13	51.75	18.85	59.10	44.87	58.02	109.46	11.31	0.00	18.47	103.98	127.26
18.41	345.00	51.25	73.98	50.95	27.98	70.36	61.76	51.57	115.59	12.64	5.87	46.03	132.12	93.08
57.59	400.00	75.00	19.37	57.06	6.07	19.37	19.37	95.94	100.76	13.13	0.00	72.82	38.74	194.65
18.89	200.00	25.00	81.12	46.91	32.33	76.36	72.60	47.65	121.08	11.55	0.00	79.15	148.96	72.42
22.89	280.00	42.50	65.87	51.56	23.11	63.47	53.29	56.20	118.45	13.57	0.00	46.49	116.76	112.39
9.91	100.00	25.00	79.69	59.17	42.30	79.35	56.10	53.38	95.49	13.74	14.15	40.17	135.45	92.70
23.62	100.00	25.00	53.12	73.68	6.68	45.75	12.35	85.88	89.60	11.19	0.00	39.91	58.10	181.25
17.66	306.67	48.33	62.02	37.04	24.51	59.48	52.58	80.49	85.18	12.87	0.00	27.68	112.06	142.44
20.08	540.00	60.00	78.20	47.52	31.40	72.98	66.27	55.47	115.60	14.11	0.00	68.55	139.24	90.94
36.60	546.67	128.33	50.00	65.85	14.40	48.15	31.89	68.64	111.72	10.68	13.06	72.09	80.04	146.59
12.78	126.67	36.67	63.85	42.69	19.44	61.20	52.93	67.11	90.81	11.47	0.00	61.07	114.13	127.76
49.81	360.00	68.57	22.19	58.14	6.94	21.91	21.14	93.95	100.23	13.02	0.00	55.15	43.04	191.48
18.40	233.33	25.00	71.07	45.43	26.22	66.64	60.89	57.38	109.82	13.18	0.00	2.01	127.53	105.11
46.07	640.00	153.75	48.23	65.32	13.90	47.18	29.88	69.27	123.96	10.95	0.00	61.05	77.07	154.94
25.24	200.00	25.00	66.56	52.47	23.26	63.72	51.92	55.81	120.94	12.38	0.00	31.54	115.64	113.44
29.01	175.00	62.50	58.40	79.89	6.99	49.93	9.34	83.09	98.64	13.07	0.00	64.28	59.27	177.88
21.18	180.00	60.00	54.91	64.58	10.05	48.43	20.50	83.78	88.82	11.77	0.00	63.52	68.93	174.59
3.41	97.14	9.00	80.49	61.66	48.17	81.46	55.21	49.33	82.80	16.02	6.67	47.05	136.67	86.41
62.03	360.00	60.00	70.84	48.53	26.37	69.06	60.60	52.90	144.61	12.93	0.00	65.76	129.66	97.71
40.04	420.00	89.38	29.46	51.75	13.14	29.46	25.68	90.60	95.77	15.62	4.58	31.18	55.14	183.40
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
26.61	**292.12**	**56.35**	**58.99**	**55.64**	**20.42**	**55.99**	**41.93**	**68.82**	**103.61**	**12.72**	**2.11**	**48.66**	**97.92**	**135.62**

%SCW	%SCD	%SHW	%SHD
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
6.4	0.0	3.4	0.0
0.0	5.0	2.8	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
6.0	0.0	0.0	41.2
2.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
4.9	0.0	0.0	0.0
3.6	0.0	0.0	0.0
27.1	0.0	0.0	0.0
2.4	1.7	0.0	0.0
5.1	0.0	0.0	0.0
0.9	0.0	0.0	0.0
0.2	0.0	0.8	0.0
15.8	0.0	0.0	0.0
0.0	0.0	0.0	0.0
12.4	0.0	0.0	21.9
0.0	0.0	0.0	0.0
0.0	0.9	0.0	0.0
ND	*ND*	*ND*	*ND*
4.1	**0.4**	**0.3**	**3.4**