Willapa Bay Fall Chinook Run Reconstruction

Year	NOR						HOR						Total					
	Commercial Catch + Impacts	Recreational Catch Marine	Recreational Catch Freshwater	Spawner Escapement	Hatchery Rack	Terminal Runsize	Commercial Catch + Impacts	Recreational Catch Marine	Recreational Catch Freshwater	Spawner Escapement	Hatchery Rack	Terminal Runsize	Commercial Catch + Impacts	Recreational Catch Marine	Recreational Catch Freshwater	Spawner Escapement	Hatchery Rack	Terminal Runsize
2010	940	30	21	4,802	81	5,874	8,099	1,643	1,666	15,141	7,493	34,042	9,039	1,673	1,687	19,943	7,574	39,916
2011	1,092	45	40	3,641	474	5,292	19,753	3,732	4,617	14,877	7,894	50,873	20,845	3,777	4,657	18,518	8,368	56,165
2012	1,656	43	40	2,081	620	4,440	10,512	2,605	3,369	9,623	5,143	31,252	12,168	2,648	3,409	11,704	5,763	35,692
2013	500	13	30	1,673	235	2,451	14,764	1,382	4,419	5,548	7,997	34,110	15,264	1,395	4,449	7,221	8,232	36,561
Average	***1,047***	***33***	***33***	***3,049***	***353***	***4,514***	***13,282***	***2,341***	***3,518***	***11,297***	***7,132***	***37,569***	***14,329***	***2,373***	***3,551***	***14,347***	***7,484***	***42,084***

Willapa Bay Coho Run Reconstruction

Year	NOR						HOR						Total					
	Commercial Catch + Impacts	Recreational Catch Marine	Recreational Catch Freshwater	Spawner Escapement	Hatchery Rack	Terminal Runsize	Commercial Catch + Impacts	Recreational Catch Marine	Recreational Catch Freshwater	Spawner Escapement	Hatchery Rack	Terminal Runsize	Commercial Catch + Impacts	Recreational Catch Marine	Recreational Catch Freshwater	Spawner Escapement	Hatchery Rack	Terminal Runsize
1996	7,029	302	495	15,711	0	23,537	31,293	938	2,317	25,824	23,071	83,443	38,322	1,240	2,812	41,535	23,071	106,980
1997	504	82	278	4,934	0	5,798	1,022	106	340	2,879	3,750	8,097	1,526	188	618	7,813	3,750	13,895
1998	5,682	258	39	13,804	0	19,783	7,459	127	428	1,971	4,990	14,975	13,141	385	467	15,775	4,990	34,758
1999	3,866	318	13	9,628	0	13,825	1,601	751	1,754	4,404	18,325	26,835	5,467	1,069	1,767	14,032	18,325	40,660
2000	3,676	156	21	23,031	213	27,097	6,650	198	1,405	3,648	25,500	37,401	10,326	354	1,426	26,679	25,713	64,498
2001	6,351	385	1,715	48,404	0	56,855	25,562	433	3,174	7,752	46,607	83,528	31,913	818	4,889	56,156	46,607	140,383
2002	15,293	128	1,350	52,722	113	69,606	44,142	134	4,040	13,702	41,136	103,154	59,435	262	5,390	66,424	41,249	172,760
2003	16,684	243	1,453	46,469	267	65,116	49,786	359	3,853	9,474	59,323	122,795	66,470	602	5,306	55,943	59,590	187,911
2004	9,178	148	820	36,437	307	46,890	7,355	86	1,306	7,996	13,224	29,967	16,533	234	2,126	44,433	13,531	76,857
2005	42,372	220	757	21,904	284	65,537	6,557	453	2,462	10,654	34,511	54,637	48,929	673	3,219	32,558	34,795	120,174
2006	9,852	142	203	12,009	322	22,528	10,096	95	371	2,292	5,796	18,650	19,948	237	574	14,301	6,118	41,178
2007	5,159	162	250	18,022	180	23,773	3,030	82	461	2,502	6,741	12,816	8,189	244	711	20,524	6,921	36,589
2008	11,017	323	217	14,778	120	26,455	5,675	270	417	3,784	8,704	18,850	16,692	593	634	18,562	8,824	45,305
2009	38,298	1,963	1,036	45,354	301	86,952	36,797	984	2,478	5,296	17,517	63,072	75,095	2,947	3,514	50,650	17,818	150,024
2010	9,544	21	1,336	76,433	192	87,526	29,901	168	3,571	16,594	23,666	73,900	39,445	189	4,907	93,027	23,858	161,426
2011	18,231	541	1,509	30,523	205	51,009	29,744	1,810	1,820	5,415	17,406	56,195	47,975	2,351	3,329	35,938	17,611	107,204
2012	13,923	687	2,060	20,023	232	36,925	11,860	774	1,543	937	12,852	27,966	25,783	1,461	3,603	20,960	13,084	64,891
Average	***12,745***	***358***	***797***	***28,834***	***161***	***42,895***	***18,149***	***457***	***1,867***	***7,360***	***21,360***	***49,193***	***30,893***	***815***	***2,664***	***36,195***	***21,521***	***92,088***

Willapa Bay Chum Run Reconstruction

Year	Commercial Harvest	Commercial Impact Mortalities	Recreational Catch Marine	Recreational Catch Freshwater	Spawner Escapement	Hatchery Rack	Terminal Runsize
1996	1,739		137	216	20,011	206	22,309
1997	18			172	33,286	224	33,700
1998	9,723			584	65,092	352	75,751
1999	1,118		20	254	24,512	288	26,192
2000	6,458			215	40,030	154	46,857
2001	23,353			223	29,389	347	53,312
2002	31,765			662	59,243	525	92,195
2003	36,736			245	47,347	370	84,698
2004	29,720			110	84,021	628	114,479
2005	16,101			46	11,924	99	28,170
2006	8,065			168	14,717	455	23,405
2007	276				17,085	235	17,596
2008	3,376			100	9,008	503	12,987
2009	4,701				12,629	114	17,444
2010	1,497				24,546	662	26,705
2011	474	2,443			65,764	1,112	69,793
2012	14,258	1,743			25,519	1,124	42,644
2013	1,385	2,585			23,642	1,359	28,971
Average	***4,404***	***2,257***	***0***	***0***	***34,868***	***1,064***	***42,028***

Willapa Bay Fall Chinook Spawner Escapement by Watershed

	Willapa River Basin			NorthRiver/Smith Creek			Willapa River			Palix River			Nemah River			Naselle River			Bear River		
Management Designation				Contributing			Stabilizing			Stabilizing			Not Applicable			Primary			Stabilizing		
Natural Spawner Estimated Capacity	4,353			991			1,181			104			224			1,547			306		
Year	NOS	HOS	Total	NOS	HOS	Total	NOS	HOS	Total	NOS	HOS	Total	NOS	HOS	Total	NOS	HOS	Total	NOS	HOS	Total
2000	2,302	5,892	8,194	497	0	497	570	1,091	1,661	0	0	0	24	50	74	899	4,751	5,650	312	0	312
2001	2,161	3,308	5,469	848	0	848	862	1,796	2,658	0	0	0	0	193	193	366	1,319	1,685	85	0	85
2002	1,729	4,791	6,520	480	0	480	579	1,739	2,318	6	0	6	10	520	530	546	2,532	3,078	108	0	108
2003	2,731	7,019	9,750	618	0	618	1,071	2,152	3,223	6	0	6	47	378	425	949	4,489	5,438	40	0	40
2004	2,838	13,334	16,172	288	0	288	1,038	4,900	5,938	16	0	16	150	1,825	1,975	1,316	6,609	7,925	30	0	30
2005	1,978	8,107	10,085	245	0	245	1,014	3,805	4,819	36	0	36	28	479	507	627	3,823	4,450	28	0	28
2006	3,739	13,485	17,224	140	0	140	1,707	3,709	5,416	121	0	121	325	1,934	2,259	1,303	7,842	9,145	143	0	143
2007	1,907	6,586	8,493	215	0	215	1,069	3,141	4,210	36	0	36	53	238	291	526	3,207	3,733	8	0	8
2008	1,544	7,248	8,792	183	0	183	535	2,548	3,083	19	0	19	43	466	509	681	4,234	4,915	83	0	83
2009	2,345	11,319	13,664	193	0	193	1,052	3,591	4,643	38	0	38	103	2,222	2,325	939	5,506	6,445	20	0	20
2010	4,802	15,141	19,943	315	0	315	2,257	5,135	7,392	71	0	71	168	1,230	1,398	1,971	8,776	10,747	20	0	20
2011	3,641	14,877	18,518	298	0	298	1,783	4,373	6,156	23	0	23	97	1,264	1,361	1,415	9,240	10,655	25	0	25
2012	2,081	9,623	11,704	168	0	168	1,215	2,907	4,122	11	0	11	91	422	513	581	6,294	6,875	15	0	15
2013	1,673	5,548	7,221	113	0	113	485	639	1,124	23	0	23	225	1519	1,744	767	3390	4,157	60	0	60

NOR and HOR calculated using CWT recovery data 1988-91
NOR and HOR calculated using that years carcass recovery data from Spawning ground survey index data
Includes Forks Creek Hatchery rack returns passed upstream

Willapa Bay Coho Spawner Escapement by Watershed

	Willapa River Basin			NorthRiver/Smith Creek			Willapa River			Palix River			Nemah River			Naselle River			Bear River		
Management Designation				Primary			Primary			Contributing			Contributing			Stabilizing			Contributing		
Natural Spawner Estimated Capacity	13,090			5,286			4,030			251			994			2,091			438		
Year	NOS	HOS	Total	NOS	HOS	Total	NOS	HOS	Total	NOS	HOS	Total	NOS	HOS	Total	NOS	HOS	Total	NOS	HOS	Total
1996	15,711	25,824	41,535	8,831	0	8,831	3,779	4,416	8,195	125	0	125	431	14,003	14,434	2,118	7,405	9,523	427	0	427
1997	4,934	2,879	7,813	1,622	0	1,622	908	1,340	2,248	419	0	419	533	1,539	2,072	1,210	0	1,210	242	0	242
1998	13,804	1,971	15,775	7,658	0	7,658	2,627	873	3,500	570	0	570	1,432	1,066	2,498	1,392	32	1,424	125	0	125
1999	9,628	4,404	14,032	7,183	0	7,183	65	3,747	3,812	351	0	351	642	657	1,299	1,176	0	1,176	211	0	211
2000	23,031	3,648	26,679	12,210	0	12,210	6,278	2,842	9,120	333	0	333	1,184	806	1,990	2,761	0	2,761	265	0	265
2001	48,404	7,752	56,156	23,018	0	23,018	9,372	4,422	13,794	1,308	0	1,308	4,598	3,306	7,904	9,694	24	9,718	414	0	414
2002	52,722	13,702	66,424	24,329	0	24,329	15,714	3,517	19,231	546	0	546	1,322	4,218	5,540	8,951	5,967	14,918	1,860	0	1,860
2003	46,469	9,474	55,943	21,498	0	21,498	13,178	3,089	16,267	418	0	418	1,062	3,468	4,530	9,237	2,917	12,154	1,076	0	1,076
2004	36,437	7,996	44,433	16,072	0	16,072	8,668	1,832	10,500	1,274	0	1,274	2,662	3,959	6,621	6,615	2,205	8,820	1,146	0	1,146
2005	21,904	10,654	32,558	9,582	0	9,582	7,665	2,601	10,266	192	0	192	576	3,464	4,040	2,062	4,589	6,651	1,827	0	1,827
2006	12,009	2,292	14,301	6,342	0	6,342	2,254	880	3,134	374	0	374	810	858	1,668	1,576	554	2,130	653	0	653
2007	18,022	2,502	20,524	7,188	0	7,188	3,461	1,395	4,856	268	0	268	3,087	1,107	4,194	3,456	0	3,456	562	0	562
2008	14,778	3,784	18,562	7,282	0	7,282	4,078	612	4,690	330	0	330	1,344	1,530	2,874	1,642	1,642	3,284	102	0	102
2009	45,354	5,296	50,650	26,664	0	26,664	9,533	923	10,456	364	0	364	1,790	2,394	4,184	5,631	1,979	7,610	1,372	0	1,372
2010	76,433	16,594	93,027	37,970	0	37,970	15,859	2,230	18,089	1,514	0	1,514	11,015	6,233	17,248	8,131	8,131	16,262	1,944	0	1,944
2011	30,523	5,415	35,938	12,641	0	12,641	7,661	2,272	9,933	463	0	463	3,014	524	3,538	5,971	2,619	8,590	773	0	773
2012	20,023	937	20,960	8,694	0	8,694	4,740	894	5,634	322	0	322	2,463	0	2,463	3,266	43	3,309	538	0	538

Wilapa Bay Fall Chinook Hatchery Rack Returns

* Does not include fish passed upstream

Return Year	FORKS CREEK HATCHERY		NASELLE HATCHERY		NEMAH HATCHERY		System Total	
	Marked	Unmarked	Marked	Unmarked	Marked	Unmarked	Marked	Unmarked
1996	4,548	0	1,961	0	1,266	0	7,775	0
1997	1,652	0	2,713	0	1,717	0	6,082	0
1998	2,063	0	1,342	0	1,100	0	4,505	0
1999	1,974	0	1,914	0	938	0	4,826	0
2000	2,306	0	1,325	0	932	0	4,563	0
2001	3,126	0	1,981	0	1,660	0	6,767	0
2002	4,195	0	2,844	0	1,542	0	8,581	0
2003	3,975	0	1,001	0	2,370	0	7,346	0
2004	4,909	0	1,567	0	1,169	0	7,645	0
2005	5,054	0	3,121	0	2,012	0	10,187	0
2006	5,523	0	3,612	0	1,400	0	10,535	0
2007	2,270	0	1,862	0	1,481	0	5,613	0
2008	2,959	0	1,949	0	2,212	0	7,120	0
2009	3,849	0	1,719	0	2,344	0	7,912	0
2010	4,472	81	691	0	2,330	0	7,493	81
2011	4,266	162	1,498	300	2,130	12	7,894	474
2012	1,843	126	2,175	473	1,125	21	5,143	620
2013	2,405	85	832	150	4,760	0	7,997	235

Wilapa Bay Coho Hatchery Rack Returns

* Does not include fish passed upstream

Return Year	FORKS CREEK HATCHERY		NASELLE HATCHERY		NEMAH HATCHERY		System Total	
	Marked	Unmarked	Marked	Unmarked	Marked	Unmarked	Marked	Unmarked
1996	4,355	0	10,406	0	8,310	0	23,071	0
1997	1,611	0	1,225	0	914	0	3,750	0
1998	1,544	0	1,143	0	2,303	0	4,990	0
1999	8,995	0	4,772	0	4,558	0	18,325	0
2000	14,159	0	3,285	0	8,056	213	25,500	213
2001	15,053	0	9,822	0	21,732	0	46,607	0
2002	14,513	0	16,427	0	10,196	113	41,136	113
2003	17,321	28	26,194	0	15,808	239	59,323	267
2004	5,824	41	1,569	0	5,831	266	13,224	307
2005	18,314	14	2,819	0	13,378	270	34,511	284
2006	3,105	54	171	0	2,520	268	5,796	322
2007	3,415	92	169	0	3,157	88	6,741	180
2008	2,991	120	294	0	5,419	0	8,704	120
2009	7,788	186	1,131	0	8,598	115	17,517	301
2010	10,201	103	2,509	0	10,956	89	23,666	192
2011	7,063	185	10,343	15	0	5	17,406	205
2012	2,667	173	10,185	59	0	0	12,852	232
2013	2,233	215	7,450	139	0	85	9,683	439

Wilapa Bay Chum Hatchery Rack Returns

* Does not include fish passed upstream

Return Year	FORKS CREEK HATCHERY	NASELLE HATCHERY	NEMAH HATCHERY	System Total
1996	0	9	197	206
1997	0	1	223	224
1998	0	11	341	352
1999	0	2	286	288
2000	0	9	145	154
2001	0	19	328	347
2002	253	42	230	525
2003	218	0	152	370
2004	278	0	350	628
2005	3	8	88	99
2006	201	33	221	455
2007	4	2	229	235
2008	42	0	461	503
2009	84	0	30	114
2010	499	0	163	662
2011	534	207	371	1,112
2012	508	277	339	1,124
2013	645	374	340	1,359

Willapa Bay Chum Hatchery Production by Facility

Brood Year	FORKS CREEK HATCHERY	NASELLE HATCHERY	NEMAH HATCHERY	off-station	Total
1985		5,611,800	3,135,000	2,890,000	11,636,800
1986		3,807,000	2,430,000	3,062,000	9,299,000
1987			3,228,000		3,228,000
1988		1,475,000	2,749,600	200,000	4,424,600
1990			875,600	500,000	1,375,600
1991				907,000	907,000
1992				492,000	492,000
1993			144,500	176,256	320,756
1994				99,703	99,703
1995				345,800	345,800
1996			37,700		37,700
1997				147,000	147,000
1998				284,000	284,000
1999			152,500		152,500
2002	45,500			228,300	273,800
2003				280,000	280,000
2004	48,000			567,000	615,000
2005				18,700	18,700
2006	62,400		107,750	365,000	535,150
2007	4,600		182,680		187,280
2008	39,200		487,700		526,900
2009	55,700		22,350	10,775	88,825
2010	256,100		129,772	148,000	533,872
2011	219,300	83,350	291,164	199,000	792,814
2012	282,000	120,000	198,200	48,000	648,200