Ocean Abundance Projections and Prospective Harvest Levels for Klamath River Fall Chinook, 2011 Season

Klamath River Technical Team
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Summary

Predictor performance for 2010 and forecasts for 2011 are:

		2010			
	Age	*Preseason*	*Postseason*	*Pre/Post*	*2011 Forecast*
Ocean Abundance	3	223,400	217,100	1.03	304,600
	4	106,300	66,500	1.60	61,600
	5	1,800	500	3.60	5,000
Proportion Natural	3	0.63	0.64	0.99	0.61
	4	0.71	0.71	0.98	0.67
	5	0.75	0.97	0.77	0.76
Ocean Harvest Rate	4	0.123	0.039	3.12	---
Ocean Fall Harvest	3	---	0	---	---
	4	---	0	---	---
	5	---	0	---	---

The implications of the 2011 forecast ocean abundances, proportions natural, and the 2010 ocean fall harvest for fisheries management in 2011 were explored with the Klamath Ocean Harvest Model (KOHM) under three hypothetical management scenarios: (A) no additional ocean fisheries (commercial and recreational) from Jan–Aug 2011 between Cape Falcon and Point Sur (zero Klamath River fall Chinook were estimated to be harvested in the ocean during the Sept–Nov 2010 period) and no Klamath River fisheries (tribal and recreational) in 2011, (B) the 2010 ocean fishery seasons and quotas, the 2010 river recreational quota of 12,000 adults, and a tribal allocation of 50% (of total harvest), and (C) the 2007 ocean fishery seasons and quotas, the 2007 river recreational allocation of 26% (of nontribal harvest), and a tribal allocation of 50% (of total harvest). The results are:

	KOHM Forecasts		
Sector	*(A) No-fishing in 2011*	*(B) 2010 Regulations*	*(C) 2007 Regulations*
Adult Spawners			
Natural Areas	75,800	39,700	38,800
Hatcheries	42,700	23,000	22,700
Adult Harvest			
Ocean Commercial	0	12,600	17,500
Ocean Recreational	0	5,000	5,500
River Recreational	0	12,000	8,100
Tribal	0	29,600	31,100
Age-4 Ocean Harvest Rate	0.00	0.10	0.14
Spawner Reduction Rate	0.00	0.48	0.49

With no further fishing in 2011 on the current stock, the expected number of natural area adult spawners would be 75,800, with an expected age-4 ocean harvest rate of 0% (zero KRFC were harvested in the Sept–Nov

2010 period). Applying 2010 fishery regulations resulted in 39,700 natural area adult spawners and an age-4 ocean harvest rate of 10%. Applying 2007 fishery regulations resulted in 38,800 natural area adult spawners and an age-4 ocean harvest rate of 14%. These forecasts are provided for informational purposes only; the Pacific Fishery Management Council (PFMC) will adopt 2011 ocean salmon fishery management regulations in April 2011.

Introduction

The PFMC's fishery management plan for Klamath River fall Chinook (PFMC 1988; Amendment 9) permits a natural spawner reduction rate via fisheries of no more than 2/3, with a minimum escapement of 35,000 natural area adult spawners (Prager and Mohr 2001). Natural area adult spawners are defined as age-three or older fall Chinook that spawn outside of the hatchery environment, regardless of their origin. The KOHM is used by the PFMC to forecast the impacts of ocean and river fisheries on Klamath River fall Chinook, and to evaluate whether a given management option is expected to meet the fishery management plan's biological goals for Klamath River fall Chinook. The KOHM requires forecasts of Klamath River fall Chinook ocean abundance and proportion of natural spawners by age, along with the estimated harvest of these fish in the previous calendar year's September through December (fall) ocean fisheries. This report presents these forecasts and estimates for the 2011 management year. For informational purposes, KOHM forecasts of harvest and spawner escapement are also presented under three hypothetical management scenarios: (A) no ocean or river fisheries in 2011, (B) the 2010 ocean fishery seasons and quotas, the 2010 river recreational quota of 12,000 adults, and a tribal allocation of 50% (of total harvest), and (B) the 2007 ocean fishery seasons and quotas, the 2007 river recreational allocation of 26% (of nontribal harvest), and a tribal allocation of 50% (of total harvest). Historical records of ocean abundance, harvest, harvest rates, river escapement, and predictor performance are also compiled. These records differ from those presented in KRTAT reports issued prior to 2002 for reasons described in KRTAT (2002) and Goldwasser et al. (2001).

Data and Analytical Methods

The age-composition of the 2010 river run of Klamath River fall Chinook salmon used in this report is from the KRTT (2011).

Ocean Abundance Forecast

The age-specific ocean abundance predictors are based on the use of a sibling regression. The age *a* September 1 ocean abundance estimates for brood years 1979-2006 were regressed against the age *a-1* river run-size estimates of their respective cohorts (Table 1, Figure 1). By convention, September 1 is the date that immature Klamath River fall Chinook remaining in the ocean are incremented one year in age. The regressions were fit using least-squares with the y-intercept constrained to zero, which gives the biologically reasonable expectation that an age *a-1* river run-size of zero predicts an age *a* ocean abundance of zero. This procedure is consistent with recommendations of the PFMC's Salmon Technical Team, and Scientific and Statistical Committee.

Ocean abundance has been forecast preseason since 1985 using methods similar to those described above (Tables 2 and 3). Postseason ocean abundance estimates were calculated using cohort reconstruction methods that accommodate spatial and/or temporal variations in maturity, straying, and fishery impact rates applied separately to the hatchery and natural components of the stock. The postseason estimates for 2009 (age-three) and 2010 (age-three, age-four) are preliminary, as their respective cohorts are incomplete (Table 1).

The 2010 age-three ocean abundance forecast was 1.03 times its postseason estimate (Table 2); the age-three predictor has overestimated abundance in 12 of the 26 previous years. The 2010 age-four ocean abundance forecast was 1.60 times its postseason estimate (Table 2); the age-four predictor has overestimated abundance in 17 of the 26 previous years. The 2010 age-five ocean abundance forecast was 3.51 times its postseason estimate (Table 2); the age-five predictor has underestimated abundance in 15 of the 24 previous years.

Proportion of Natural Spawners Forecast

The age-specific proportion of natural area spawners is also forecast using sibling regression. In this case, the age *a* observed proportion natural for calendar years 1997-2010 were regressed against the age *a-1* observed proportion natural of their respective cohorts (Table 4, Figure 2). Data for calendar years prior to 1996 were not used because: (1) at this time the hatcheries did not always have an open-door policy (some fish were denied entry into the hatcheries and presumably spawned in natural areas); and (2) the proportion natural time-series (Figure 2a) indicates a shift-point near 1995-1996. The regressions were fit using ordinary least-squares for age-three and age-four. For age-five, the slope of the relationship was insignificant, and the arithmetic mean was used as the predictor.

The 2010 proportion natural forecast for age-three, -four, and -five fish was 0.63, 0.71, and 0.75, respectively, and the corresponding post-season estimates are 0.64, 0.71, 0.97, respectively (Table 4).

Historical Harvest Levels and Rates

Historical (1986-2010) ocean and river harvest levels and rates of age-three and age-four Klamath River fall Chinook are listed in Table 5. The 2010 age-four ocean harvest rate (preliminary) postseason estimate of 3.9 percent is less than the preseason forecast of 12.3 percent (PFMC 2010).

2010 Ocean Fishery Fall Harvest

Klamath River fall Chinook ocean harvests during the 2010 fall period are estimated postseason through expansion of the coded-wire tags (all release types) recovered in those fisheries. Each coded-wire tag recovery is expanded for sampling and mark-rate, and then to account for the harvest of natural-origin fish, further expanded by the estimated basin-wide escapement (hatchery- plus natural-origin) per hatchery-origin fish observed in the river run just prior to these fall fisheries (same brood and calendar year). In 2010, few fall fisheries were conducted, and zero Klamath River fall Chinook were estimated to have been harvested.

2011 Forecasts

The 2011 forecasts of ocean stock abundance and proportion natural area spawners are (Figures 1 and 2):

Age	*Abundance*	*Proportion Natural*
3	304,600	0.61
4	61,600	0.67
5	5,000	0.76

For the 2010 ocean fall fisheries, the natural production multipliers for the coded-wire tag recoveries are:

Age (a)	*Total Escapement (a-1)*	*Hatchery-origin Escapement (a-1)*	*Natural-production Multiplier (a)*
3	16,652	3734	4.46
4	46,182	17,873	2.58
5	44,411	14,254	3.12

The fishery-area-month-age-specific estimated harvests are presented in Table 6. Estimated fall landings are accounted for in ocean fisheries harvest allocation in the following calendar year, and the associated harvest impacts are deducted from the September 1 ocean abundance forecasts.

KOHM principal forecast results under three management scenarios: (A) no additional ocean fisheries (commercial and recreational) from Jan–Aug 2010 between Cape Falcon and Point Sur (77 Klamath River fall Chinook were estimated to be harvested in the ocean during the Sept–Nov 2009 period) and no Klamath River fisheries (tribal and recreational) in 2010, (B) the 2009 ocean fishery seasons and quotas, the 2009 river

recreational quota of 30,800 adults, and a tribal allocation of 50% (of total harvest), and (C) the 2007 ocean fishery seasons and quotas, the 2007 river recreational allocation of 26% (of nontribal harvest), and a tribal allocation of 50% (of total harvest); are provided in Appendices A, B and C, respectively.

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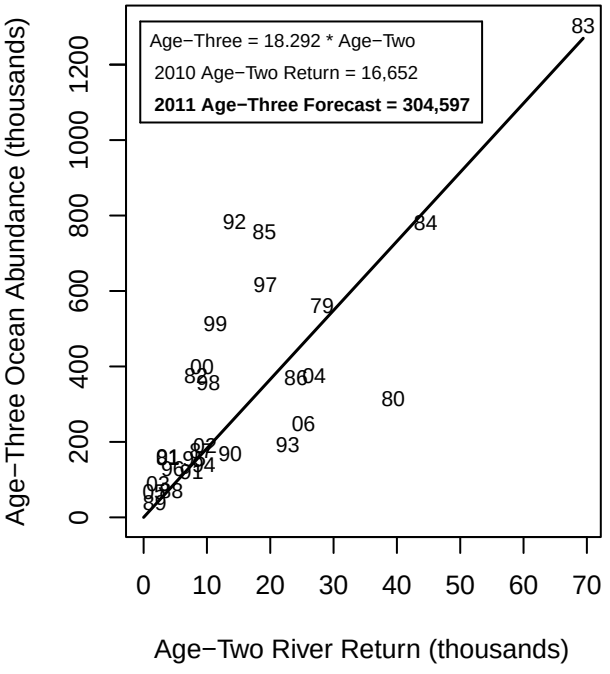

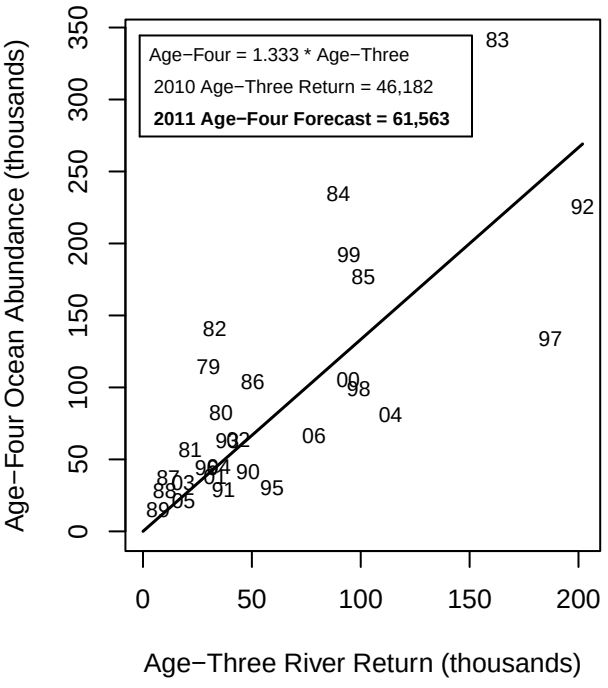

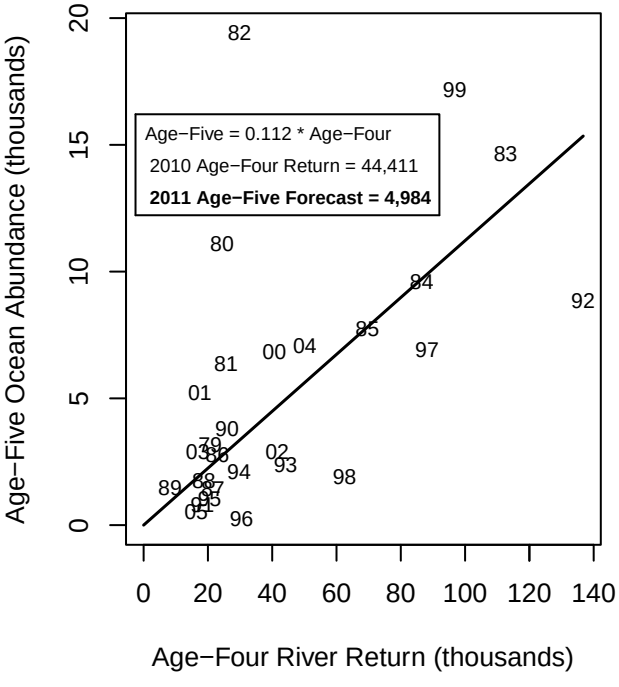

Figure 1. Regression estimators for Klamath River fall Chinook ocean abundance (Sept. 1) based on that year's river return of same cohort. Numbers in plots denote brood years.

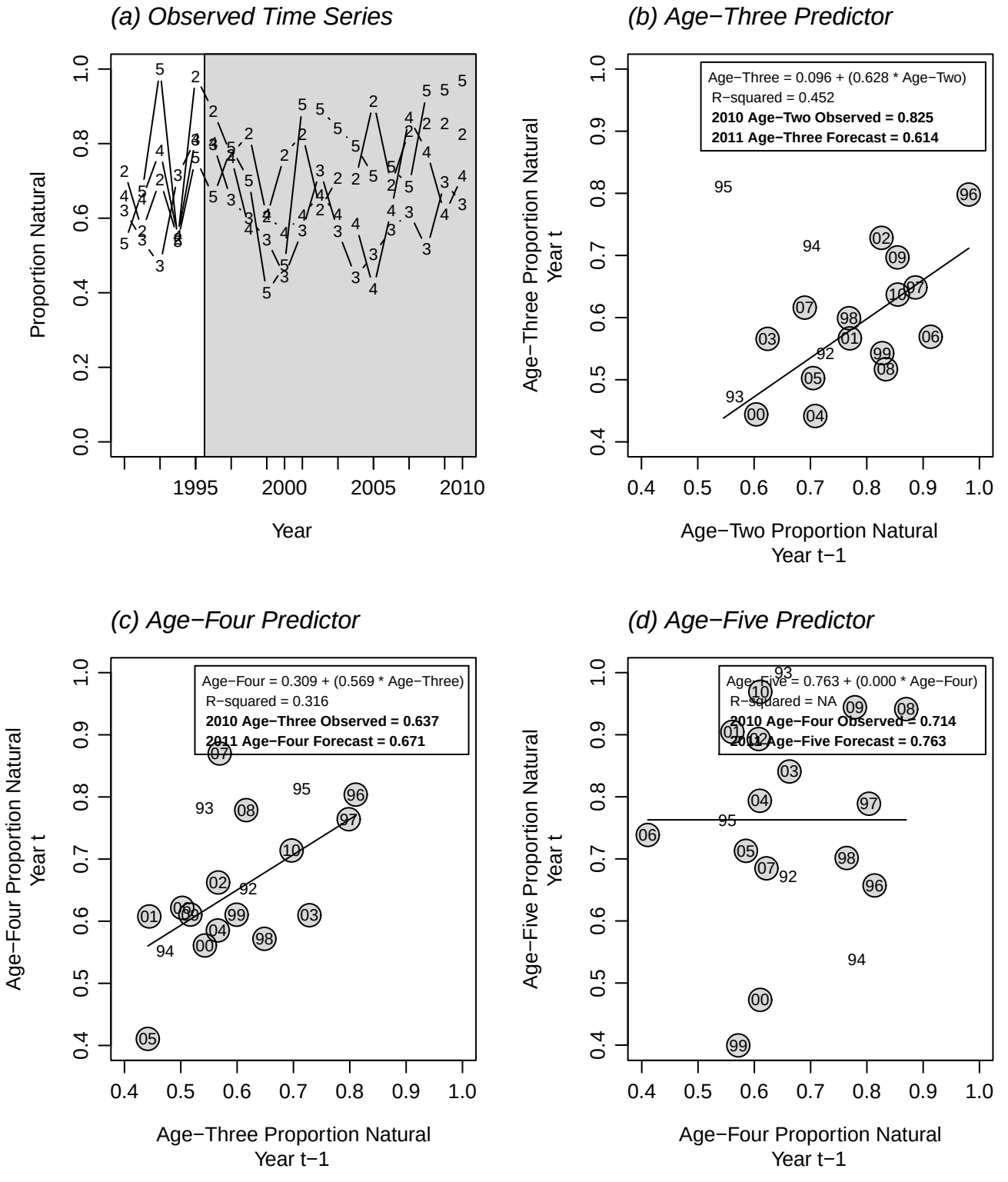

Figure 2. Age−specific proportion of natural area spawners. Panel (a): observed time−series; numbers in plot denote age; shaded area depicts data used for predictor. Panels (b)−(d): age−specific predictor based on previous−year observed proportion for same cohort; numbers in plots denote years 1992−2010; shaded circles indicate years used for predictor; age−three and age−four are regression predictors; age−5 predictor is arithmetic mean.

Table 1. Klamath River fall chinook ocean abundance (thousands), ocean harvest rate, and river-run size estimates (thousands) by age.

Calendar Year(t)	Ocean Abundance Sept1(t-1) Age 3	Ocean Abundance Sept1(t-1) Age 4	Ocean Abundance Sept1(t-1) Total	Annual Ocean Harvest Rate Sept1(t-1) thru Aug31(t) Age 3	Annual Ocean Harvest Rate Sept1(t-1) thru Aug31(t) Age 4	Klamath Basin River Run (t) Age 2	Klamath Basin River Run (t) Age 3	Klamath Basin River Run (t) Age 4	Klamath Basin River Run (t) Age 5	Total Adults
1981	493.2	57.0	550.2	0.21	0.53	28.2	64.1	14.4	1.8	80.3
1982	561.1	133.4	694.5	0.30	0.52	39.4	30.1	33.9	2.6	66.6
1983	313.3	114.2	427.5	0.19	0.60	3.8	35.9	20.7	0.9	57.5
1984	157.3	82.8	240.1	0.08	0.38	8.3	21.7	24.4	1.1	47.2
1985	374.8	56.9	431.7	0.11	0.24	69.4	32.9	25.7	5.8	64.4
1986	1,304.4	140.8	1,445.2	0.18	0.46	44.6	162.9	29.8	2.3	195.0
1987	781.2	341.9	1,123.1	0.16	0.43	19.1	89.7	112.6	6.8	209.1
1988	756.3	234.8	991.0	0.20	0.39	24.1	101.2	86.5	3.9	191.6
1989	369.8	177.2	547.1	0.15	0.36	9.1	50.4	69.6	4.3	124.3
1990	176.1	104.0	280.1	0.30	0.55	4.4	11.6	22.9	1.3	35.9
1991	69.4	37.2	106.6	0.03	0.18	1.8	10.0	21.6	1.1	32.7
1992	39.5	28.2	67.7	0.02	0.07	13.7	6.9	18.8	1.0	26.7
1993	168.5	15.0	183.5	0.05	0.16	7.6	48.3	8.2	0.7	57.2
1994	119.9	41.7	161.6	0.03	0.09	14.4	37.0	26.0	1.0	64.0
1995	784.3	28.7	813.0	0.04	0.14	22.8	201.9	18.3	2.6	222.8
1996	192.3	225.5	417.8	0.05	0.16	9.5	38.8	136.7	0.3	175.8
1997	140.2	62.8	203.0	0.01	0.06	8.0	35.0	44.2	4.6	83.7
1998	154.8	44.7	199.5	0.00	0.09	4.6	59.2	29.7	1.7	90.6
1999	129.1	30.5	159.5	0.02	0.09	19.2	29.2	20.5	1.3	51.0
2000	617.1	44.2	661.3	0.06	0.10	10.2	187.1	30.5	0.5	218.1
2001	356.1	133.8	489.9	0.03	0.09	11.3	99.1	88.2	0.2	187.4
2002	513.6	98.9	612.5	0.02	0.15	9.2	94.6	62.5	3.7	160.8
2003	400.2	192.2	592.4	0.08	0.21	3.8	94.3	96.8	0.9	191.9
2004	159.6	105.1	264.6	0.12	0.34	9.7	33.2	40.7	5.3	79.2
2005	190.0	38.1	228.1	0.02	0.20	2.3	43.8	17.5	3.9	65.2
2006	90.6	63.4	154.0	0.01	0.10	26.9	18.5	41.6	1.3	61.4
2007	376.8	33.6	410.5	0.06	0.21	1.7	113.7	16.8	1.6	132.1
2008	68.0	81.4	149.4	0.00	0.10	25.2	18.6	50.2	1.7	70.6
2009	248.2 a/	21.1	269.3	0.00 a/	0.00	11.9	78.6	16.4	5.6	100.6
2010	217.1 b/	66.5 a/	283.5	---- c/	0.04 a/	16.7	46.2	44.4	0.4	91.0

a/ Preliminary: incomplete cohort data (age-5 data unavailable).

b/ Preliminary: incomplete cohort data (age-4 and age-5 data unavailable).

c/ Not estimated: incomplete cohort data (age-4 and age-5 data unavailable).

Table 2. Comparisons of preseason forecast and postseason estimates for ocean abundance of adult Klamath River fall chinook (Page 1 of 2).

Year (t)	Preseason Forecast [a/] Sept 1 (t-1)	Postseason Estimate Sept 1 (t-1)	Pre/Postseason
	Age-Three		
1985	113,000	276,000	0.41
1986	426,000 [b/]	1,304,409	0.33
1987	511,800	781,198	0.66
1988	370,800	756,261	0.49
1989	450,600	369,828	1.22
1990	479,000	176,133	2.72
1991	176,200	69,424	2.54
1992	50,000	39,502	1.27
1993	294,400	168,473	1.75
1994	138,000	119,913	1.15
1995	269,000	784,260	0.34
1996	479,800	192,272	2.50
1997	224,600	140,153	1.60
1998	176,000	154,799	1.14
1999	84,800	129,066	0.66
2000	349,600	617,098	0.57
2001	187,200	356,128	0.53
2002	209,000	513,561	0.41
2003	171,300	400,242	0.43
2004	72,100	159,560	0.45
2005	185,700	189,976	0.98
2006	44,100	90,606	0.49
2007	515,400	376,841	1.37
2008	31,600	67,993	0.46
2009	474,900	248,170	1.91
2010 [c/]	223,400	217,062	1.03
	Age-Four		
1985	56,875	57,500	0.99
1986	66,250	140,823	0.47
1987	206,125	341,875	0.60
1988	186,375	234,772	0.79
1989	215,500	177,245	1.22
1990	50,125	103,951	0.48
1991	44,625	37,172	1.20
1992	44,750	28,169	1.59
1993	39,125	15,037	2.60
1994	86,125	41,736	2.06
1995	47,000	28,725	1.64
1996	268,500	225,521	1.19
1997	53,875	62,820	0.86
1998	46,000	44,733	1.03
1999	78,750	30,456	2.59
2000	38,875	44,176	0.88
2001	247,000	133,801	1.85
2002	143,800	98,928	1.45
2003	132,400	192,156	0.69
2004	134,500	105,051	1.28
2005	48,900	38,079	1.28
2006	63,700	63,383	1.00
2007	26,100	33,615	0.78
2008	157,200	81,366	1.93
2009	25,200	21,118	1.19
2010 [c/]	106,300	66,452	1.60

Table 2. Comparisons of preseason forecast and postseason estimates for ocean abundance of adult Klamath River fall chinook (Page 2 of 2).

Year (t)	Preseason Forecast [a/] Sept 1 (t-1)	Postseason Estimate Sept 1 (t-1)	Pre/Postseason
	Age-Five		
1985 [d/]	--	11,113	--
1986 [d/]	--	6,376	--
1987	5,250	19,414	0.27
1988	13,250	14,632	0.91
1989	10,125	9,612	1.05
1990	7,625	7,767	0.98
1991	1,500	2,774	0.54
1992	1,250	1,444	0.87
1993	1,125	1,759	0.64
1994	500	1,468	0.34
1995	2,000	3,805	0.53
1996	1,125	787	1.43
1997	7,875	8,859	0.89
1998	3,250	2,382	1.36
1999	2,000	2,106	0.95
2000	1,375	1,051	1.31
2001	1,250	258	4.84
2002	9,700	6,933	1.40
2003	6,500	1,915	3.39
2004	9,700	17,170	0.56
2005	5,200	6,857	0.76
2006	2,200	5,236	0.42
2007	4,700	2,911	1.61
2008	1,900	2,900	0.66
2009	5,600	7,059	0.79
2010	1,800	513	3.51
	Total Adults		
1985 [d/]	169,875	344,613	0.49
1986 [d/]	492,250	1,451,608	0.34
1987	723,175	1,142,487	0.63
1988	570,425	1,005,665	0.57
1989	676,225	556,685	1.21
1990	536,750	287,851	1.86
1991	222,325	109,370	2.03
1992	96,000	69,115	1.39
1993	334,650	185,269	1.81
1994	224,625	163,117	1.38
1995	318,000	816,790	0.39
1996	749,425	418,580	1.79
1997	286,350	211,832	1.35
1998	225,250	201,914	1.12
1999	165,550	161,628	1.02
2000	389,850	662,325	0.59
2001	435,450	490,187	0.89
2002	362,500	619,422	0.59
2003	310,200	594,313	0.52
2004	216,300	281,781	0.77
2005	239,800	234,912	1.02
2006	110,000	159,225	0.69
2007	546,200	413,367	1.32
2008	190,700	152,259	1.25
2009	505,700	276,347	1.83
2010 [c/]	331,500	284,027	1.17

a/ Original preseason forecasts for years 1985-2001 were for May 1(t); converted to Sept 1(t-1) forecasts by dividing the May 1(t) number by the Sept 1(t-1) through May 1(t) survival rate presumed by modelers in those years: 0.5 age-three, 0.8 age-four, 0.8 age-5.

b/ A scalar of 0.75 was applied to the jack count because 1) most jacks returned to the Trinity River and 2) the jack count was outside the database range.

c/ Preliminary.

d/ Age-5 preseason ocean abundance forecast unavailable.

Table 3. Summary of management objectives and predictor performance for Klamath River fall chinook.

	Preseason Ocean Abundance Forecast [a/] Sept 1 (t-1)		Postseason Ocean Abundance Estimate Sept 1 (t-1)		Preseason Age-4 Harvest Rate Forecast [b/]		Postseason Age-4 Harvest Rate Estimate [c/]		Preseason Adult Harvest Forecast		Postseason Adult Harvest Estimate	
Year (t)	Age-3	Age-4	Age-3	Age-4	Ocean	River	Ocean	River	Ocean	River	Ocean	River
1986	426,000	66,250	1,304,409	140,823	0.28	0.50	0.46	0.67	72,000	37,700	301,999	46,154
1987	511,800	206,125	781,198	341,875	0.28	0.53	0.43	0.44	121,200	78,200	277,224	73,265
1988	370,800	186,375	756,261	234,772	0.31	0.53	0.39	0.52	114,100	65,400	253,905	73,854
1989	450,600	215,500	369,828	177,245	0.30	0.49	0.36	0.70	128,100	67,600	125,117	54,340
1990	479,000	50,125	176,133	103,951	0.30	0.49	0.55	0.36	85,100	31,200	114,786	11,459
1991	176,200	44,625	69,424	37,172	0.13	0.28	0.18	0.45	16,700	12,800	9,872	13,581
1992	50,000	44,750	39,502	28,169	0.06	0.15	0.07	0.27	4,200	4,200	3,142	6,787
1993	294,400	39,125	168,473	15,037	0.12	0.43	0.16	0.49	20,100	22,500	11,355	12,808
1994	138,000	86,125	119,913	41,736	0.07	0.20	0.09	0.29	10,400	14,300	7,961	13,524
1995	269,000	47,000	784,260	28,725	0.07	0.32	0.14	0.19	13,500	18,500	32,233	21,637
1996	479,800	268,500	192,272	225,521	0.17	0.66	0.16	0.39	88,400	129,100	45,155	69,241
1997	224,600	53,875	140,153	62,820	0.10	0.43	0.06	0.26	17,600	26,500	8,656	17,764
1998	176,000	46,000	154,799	44,733	0.07	0.29	0.09	0.30	10,200	14,800	4,891	17,897
1999	84,800	78,750	129,066	30,456	0.10	0.28	0.09	0.45	12,300	18,100	5,116	16,942
2000	349,600	38,875	617,098	44,176	0.11	0.53	0.10	0.25	24,000	32,400	42,050	35,066
2001	187,200	247,000	356,128	133,801	0.14	0.61	0.09	0.29	45,600	105,300	21,747	50,780
2002	209,000	143,800	513,561	98,928	0.13	0.57	0.15	0.26	30,000	70,900	28,895	35,069
2003	171,300	132,400	400,242	192,156	0.16	0.50	0.21	0.28	30,600	52,200	70,684	39,715
2004	72,100	134,500	159,560	105,051	0.15	0.38	0.34	0.48	26,500	35,800	63,885	29,807
2005	185,700	48,900	189,976	38,079	0.08	0.16	0.20	0.19	7,100	9,600	12,826	10,001
2006	44,100	63,700	90,606	63,383	0.11	0.23	0.10	0.18	10,000	10,000	10,401	10,345
2007	515,400	26,100	376,841	33,615	0.16	0.63	0.21	0.56	30,200	51,400	30,244	33,884
2008	31,600	157,200	67,993	81,366	0.02	0.43	0.10	0.38	4,500	49,500	8,679	24,180
2009	474,900	25,200	248,170	21,118	0.00	0.57	0.00	0.40	100	61,700	52	34,040
2010 [d/]	223,400	106,300	217,062	66,452	0.12	0.49	0.04	0.40	22,600	46,600	4,235	33,031

a/ Original preseason forecast for years 1986-2001 were for May 1(t); converted to Sept 1 (t-1) forecasts by dividing the May 1(t) number by the Sept 1(t-1) through May 1(t) survival rate presumed by modelers in those years: 0.5 age-three, 0.8 age-four, 0.8 age-five.

b/ Ocean harvest rate forecast is the fraction of the predicted ocean abundance expected to be harvested Sept 1 (t-1) through Aug 31 (t). River harvest rate forecast is the fraction of the predicted river run expected to be harvested in river fisheries. Original ocean harvest rate forecasts for year(t), 1986-2001, were based on a May 1(t) ocean abundance denominator; converted to Sept 1(t-1) abundance denominator by multiplying former values by 0.8 (the age-four survival rate between Sept 1 (t-1) and May (t) presumed by modelers in those years.

c/ Ocean harvest rate is the fraction of the postseason ocean abundance harvested Sept 1(t-1) through Aug 31(t). River harvest rate is the fraction of the river run harvested by river fisheries.

d/ Preliminary.

Table 4. Numbers of hatchery and natural adult fall chinook spawners in the Klamath Basin by age.[a/]

	Hatchery Spawners					Natural Area Spawners					Proportion Natural				
Year	Age 2	Age 3	Age 4	Age 5	Adults	Age 2	Age 3	Age 4	Age 5	Adults	Age 2	Age 3	Age 4	Age 5	Adults
1985					22,500					25,700					0.53
1986					32,900					113,400					0.78
1987					29,100					101,700					0.78
1988					33,500					79,400					0.70
1989					22,000					43,900					0.67
1990					8,100					15,600					0.66
1991	270	2,426	3,827	232	6,485	718	3,956	7,430	263	11,649	0.73	0.62	0.66	0.53	0.64
1992	3,948	2,576	4,627	157	7,360	5,143	3,051	8,657	321	12,029	0.57	0.54	0.65	0.67	0.62
1993	1,619	20,797	846	0	21,643	3,825	18,629	3,039	190	21,858	0.70	0.47	0.78	1.00	0.50
1994	5,200	8,864	8,016	192	17,072	6,245	22,230	9,879	224	32,333	0.55	0.71	0.55	0.54	0.65
1995	335	34,737	2,716	406	37,859	17,324	148,639	11,856	1,298	161,793	0.98	0.81	0.81	0.76	0.81
1996	792	4,360	15,649	24	20,033	6,174	17,232	64,048	46	81,326	0.89	0.80	0.80	0.66	0.80
1997	1,272	10,484	7,560	618	18,662	4,225	19,343	24,493	2,308	46,144	0.77	0.65	0.76	0.79	0.71
1998	595	20,411	8,588	220	29,219	2,855	30,509	11,462	517	42,488	0.83	0.60	0.57	0.70	0.59
1999	6,857	10,046	4,081	200	14,327	10,447	11,927	6,396	133	18,456	0.60	0.54	0.61	0.40	0.56
2000	1,909	87,643	9,833	136	97,612	6,394	70,042	12,565	122	82,729	0.77	0.44	0.56	0.47	0.46
2001	1,631	31,306	23,802	4	55,112	7,747	40,908	36,889	38	77,835	0.83	0.57	0.61	0.90	0.59
2002	2,331	15,867	11,177	137	27,181	3,867	42,557	21,932	1,146	65,635	0.62	0.73	0.66	0.89	0.71
2003	864	35,403	26,295	84	61,782	2,102	46,116	41,084	444	87,644	0.71	0.57	0.61	0.84	0.59
2004	1,981	14,505	8,205	271	22,981	4,730	11,469	11,567	1,043	24,079	0.70	0.44	0.59	0.79	0.51
2005	101	18,583	8,187	929	27,699	1,068	18,778	5,705	2,307	26,790	0.91	0.50	0.41	0.71	0.49
2006	6,462	6,791	12,495	235	19,521	14,382	8,969	20,528	664	30,161	0.69	0.57	0.62	0.74	0.61
2007	213	34,073	854	122	35,049	1,071	54,693	5,712	265	60,670	0.83	0.62	0.87	0.68	0.63
2008	2,931	7,015	6,512	26	13,553	17,223	7,504	22,928	417	30,849	0.85	0.52	0.78	0.94	0.69
2009	1,372	15,849	3,628	136	19,613	8,090	36,417	5,691	2,303	44,411	0.85	0.70	0.61	0.94	0.69
2010	2,503	10,857	7,186	7	18,050	11,806	19,066	17,935	221	37,222	0.83	0.64	0.71	0.97	0.67

a/ Age structure of hatchery and natural area spawners not available prior to 1991.

Table 5. Harvest levels and rates of age-three and age-four Klamath River fall Chinook. (Page 1 of 2)

	Ocean Fisheries (Sept 1(t-1) through Aug 31(t))							River Fisheries (t)		
	KMZ			North of	South of		Ocean			
Year(t)	Troll	Sport	Subtotal	KMZ	KMZ	Subtotal	Total	Net	Sport	Total
					HARVEST (numbers of fish)					
Age-Three										
1986	35,632	4,876	40,508	73,777	122,913	196,690	237,198	8,100	18,100	26,200
1987	17,240	5,083	22,323	43,439	56,378	99,817	122,140	11,400	11,400	22,800
1988	15,999	5,165	21,164	24,317	107,971	132,288	153,452	12,500	15,600	28,100
1989	6,456	11,783	18,239	15,315	23,729	39,044	57,283	2,700	900	3,600
1990	81	4,357	4,438	36,579	11,006	47,585	52,023	1,300	1,400	2,700
1991	0	1,022	1,022	344	810	1,154	2,176	2,123	1,277	3,400
1992	0	0	0	972	0	972	972	970	251	1,221
1993	0	822	822	833	6,424	7,257	8,079	5,426	2,917	8,343
1994	42	604	646	0	3,387	3,387	4,033	4,543	965	5,508
1995	0	999	999	12,213	14,810	27,023	28,022	11,840	5,536	17,376
1996	0	0	0	0	9,314	9,314	9,314	12,363	3,661	16,024
1997	0	232	232	620	1,215	1,835	2,067	2,166	2,736	4,902
1998	0	6	6	298	466	764	770	2,231	5,781	8,012
1999	63	180	243	1,262	433	1,695	1,938	4,981	1,748	6,729
2000	404	3,282	3,686	8,604	25,203	33,807	37,493	22,458	4,893	27,351
2001	113	105	218	2,749	6,082	8,831	9,049	17,885	7,294	25,179
2002	220	784	1,004	1,501	9,915	11,416	12,420	11,734	6,258	17,992
2003	173	679	852	1,885	27,309	29,194	30,046	6,996	5,061	12,057
2004	402	971	1,373	9,719	7,331	17,050	18,423	4,679	2,051	6,730
2005	0	568	568	619	2,381	3,000	3,568	4,394	1,641	6,035
2006	0	477	477	32	341	373	850	2,388	13	2,401
2007	770	8,099	8,869	4,193	9,365	13,558	22,427	17,543	5,734	23,277
2008	0	0	0	0	0	0	0	3,225	608	3,833
2009 [a/]	0	52	52	0	0	0	52	19,820	4,715	24,535
2010 [a/]	84	23	107	0	1,335	1,335	1,442	13,190	1,884	15,074
Age-Four										
1986	7,745	1,113	8,858	23,486	31,913	55,399	64,257	17,000	2,900	19,900
1987	21,736	4,427	26,163	70,645	48,832	119,477	145,640	41,000	8,500	49,500
1988	11,870	3,596	15,466	26,381	50,296	76,677	92,143	38,600	6,200	44,800
1989	6,064	9,735	15,799	32,116	16,608	48,724	64,523	41,000	7,700	48,700
1990	3,997	2,919	6,916	39,627	10,624	50,251	57,167	6,000	2,200	8,200
1991	0	1,001	1,001	1,513	4,135	5,648	6,649	7,593	2,016	9,609
1992	171	55	226	1,783	12	1,795	2,021	4,360	723	5,083
1993	0	0	0	849	1,616	2,465	2,465	3,786	243	4,029
1994	0	1,124	1,124	1,168	1,499	2,667	3,791	6,666	818	7,484
1995	0	242	242	1,879	1,771	3,650	3,892	2,957	480	3,437
1996	773	3,464	4,237	10,337	20,741	31,078	35,315	43,959	9,080	53,039
1997	3	172	175	463	2,994	3,457	3,632	8,734	2,586	11,320
1998	0	105	105	3,942	0	3,942	4,047	7,164	1,822	8,986
1999	15	381	396	1,657	696	2,353	2,749	8,789	494	9,283
2000	117	895	1,012	2,327	1,076	3,403	4,415	6,733	756	7,489
2001	1,312	1,604	2,916	5,819	3,926	9,745	12,661	20,759	4,819	25,578
2002	1,938	827	2,765	2,811	9,416	12,227	14,992	11,929	4,063	15,992
2003	834	918	1,752	7,855	30,007	37,862	39,614	22,754	4,592	27,346
2004	1,421	1,215	2,636	11,504	21,949	33,453	36,089	17,623	1,751	19,374
2005	247	317	564	5,243	1,909	7,152	7,716	3,048	304	3,352
2006	196	725	921	4,192	985	5,177	6,098	7,569	42	7,611
2007	270	2,336	2,606	1,991	2,472	4,463	7,069	8,987	502	9,489
2008	6,376	1,105	7,481	546	113	659	8,140	17,891	1,260	19,151
2009 [a/]	0	0	0	0	0	0	0	5,831	706	6,537
2010 [a/]	37	114	151	924	1,547	2,471	2,622	16,682	1,134	17,816

Table 5. Harvest levels and rates of age-three and age-four Klamath River fall Chinook. (Page 2 of 2)

	Ocean Fisheries (Sept 1(t-1) through Aug 31(t))							River Fisheries (t)		
	KMZ			North of	South of		Ocean			
Year(t)	Troll	Sport	Subtotal	KMZ	KMZ	Subtotal	Total	Net	Sport	Total
					HARVEST RATE [b/]					
Age-Three										
1986	0.03	0.00	0.03	0.06	0.09	0.15	0.18	0.05	0.11	0.16
1987	0.02	0.01	0.03	0.06	0.07	0.13	0.16	0.13	0.13	0.25
1988	0.02	0.01	0.03	0.03	0.14	0.17	0.20	0.12	0.15	0.28
1989	0.02	0.03	0.05	0.04	0.06	0.11	0.15	0.05	0.02	0.07
1990	0.00	0.02	0.03	0.21	0.06	0.27	0.30	0.11	0.12	0.23
1991	0.00	0.01	0.01	0.00	0.01	0.02	0.03	0.21	0.13	0.34
1992	0.00	0.00	0.00	0.02	0.00	0.02	0.02	0.14	0.04	0.18
1993	0.00	0.00	0.00	0.00	0.04	0.04	0.05	0.11	0.06	0.17
1994	0.00	0.01	0.01	0.00	0.03	0.03	0.03	0.12	0.03	0.15
1995	0.00	0.00	0.00	0.02	0.02	0.03	0.04	0.06	0.03	0.09
1996	0.00	0.00	0.00	0.00	0.05	0.05	0.05	0.32	0.09	0.41
1997	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.06	0.08	0.14
1998	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.10	0.14
1999	0.00	0.00	0.00	0.01	0.00	0.01	0.02	0.17	0.06	0.23
2000	0.00	0.01	0.01	0.01	0.04	0.05	0.06	0.12	0.03	0.15
2001	0.00	0.00	0.00	0.01	0.02	0.02	0.03	0.18	0.07	0.25
2002	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.12	0.07	0.19
2003	0.00	0.00	0.00	0.00	0.07	0.07	0.08	0.07	0.05	0.13
2004	0.00	0.01	0.01	0.06	0.05	0.11	0.12	0.14	0.06	0.20
2005	0.00	0.00	0.00	0.00	0.01	0.02	0.02	0.10	0.04	0.14
2006	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.13	0.00	0.13
2007	0.00	0.02	0.02	0.01	0.02	0.04	0.06	0.15	0.05	0.20
2008	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.03	0.21
2009 [a/]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.06	0.31
2010 [a/]	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.29	0.04	0.33
Age-Four										
1986	0.05	0.01	0.06	0.17	0.23	0.39	0.46	0.57	0.10	0.67
1987	0.06	0.01	0.08	0.21	0.14	0.35	0.43	0.36	0.08	0.44
1988	0.05	0.02	0.07	0.11	0.21	0.33	0.39	0.45	0.07	0.52
1989	0.03	0.05	0.09	0.18	0.09	0.27	0.36	0.59	0.11	0.70
1990	0.04	0.03	0.07	0.38	0.10	0.48	0.55	0.26	0.10	0.36
1991	0.00	0.03	0.03	0.04	0.11	0.15	0.18	0.35	0.09	0.45
1992	0.01	0.00	0.01	0.06	0.00	0.06	0.07	0.23	0.04	0.27
1993	0.00	0.00	0.00	0.06	0.11	0.16	0.16	0.46	0.03	0.49
1994	0.00	0.03	0.03	0.03	0.04	0.06	0.09	0.26	0.03	0.29
1995	0.00	0.01	0.01	0.07	0.06	0.13	0.14	0.16	0.03	0.19
1996	0.00	0.02	0.02	0.05	0.09	0.14	0.16	0.32	0.07	0.39
1997	0.00	0.00	0.00	0.01	0.05	0.06	0.06	0.20	0.06	0.26
1998	0.00	0.00	0.00	0.09	0.00	0.09	0.09	0.24	0.06	0.30
1999	0.00	0.01	0.01	0.05	0.02	0.08	0.09	0.43	0.02	0.45
2000	0.00	0.02	0.02	0.05	0.02	0.08	0.10	0.22	0.02	0.25
2001	0.01	0.01	0.02	0.04	0.03	0.07	0.09	0.24	0.05	0.29
2002	0.02	0.01	0.03	0.03	0.10	0.12	0.15	0.19	0.06	0.26
2003	0.00	0.00	0.01	0.04	0.16	0.20	0.21	0.24	0.05	0.28
2004	0.01	0.01	0.03	0.11	0.21	0.32	0.34	0.43	0.04	0.48
2005	0.01	0.01	0.01	0.14	0.05	0.19	0.20	0.17	0.02	0.19
2006	0.00	0.01	0.01	0.07	0.02	0.08	0.10	0.18	0.00	0.18
2007	0.01	0.07	0.08	0.06	0.07	0.13	0.21	0.53	0.03	0.56
2008	0.08	0.01	0.09	0.01	0.00	0.01	0.10	0.36	0.03	0.38
2009 [a/]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.04	0.40
2010 [a/]	0.00	0.00	0.00	0.01	0.02	0.04	0.04	0.38	0.03	0.40

a/ Preliminary data (incomplete cohort).

b/ Ocean harvest rates are the fraction of Sept 1(t-1) ocean abundance harvested in these fisheries. River harvest rates are the fraction of the river run (t) harvested in these fisheries.

Table 6. Fall 2010 (September - November) ocean landings of Klamath River fall Chinook by fishery, age, and KOHM area.[a']

COMMERCIAL FISHERY

KOHM area	Age 3			Age 4			Age 5			Total
	Sept	Oct	Nov	Sept	Oct	Nov	Sept	Oct	Nov	
NO	--	--	--	--	--	--	--	--	--	0
CO	--	--	--	--	--	--	--	--	--	0
KO	--	--	--	--	--	--	--	--	--	0
KC	--	--	--	--	--	--	--	--	--	0
FB	--	--	--	--	--	--	--	--	--	0
SF	--	--	--	--	--	--	--	--	--	0
MO	--	--	--	--	--	--	--	--	--	0
Total	0	0	0	0	0	0	0	0	0	0

SPORT FISHERY

KOHM area	Age 3			Age 4			Age 5			Total
	Sept	Oct	Nov	Sept	Oct	Nov	Sept	Oct	Nov	
NO	--	--	--	--	--	--	--	--	--	0
CO	--	--	--	--	--	--	--	--	--	0
KO	--	--	--	--	--	--	--	--	--	0
KC	--	--	--	--	--	--	--	--	--	0
FB	--	--	--	--	--	--	--	--	--	0
SF	--	--	--	--	--	--	--	--	--	0
MO	--	--	--	--	--	--	--	--	--	0
Total	0	0	0	0	0	0	0	0	0	0

[a'] KOHM areas are as follows: NO=Newport & Tillamook: CO=Coos Bay; KO=Klamath Management Zone in Oregon; KC=Klamath Management Zone in California; FB=Fort Bragg; SF=San Francisco; and MO=Monterey.

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Appendix A.  KOHM: Summary Output.  Thu Feb 24 16:12:20 2011
2011 Stock Projections; no 2011 fishing.
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Klamath Escapement

   Absent fishing:          118489
      Hatcheries:            42676
      Natural areas:         75813

   With fishing
      Mature adults:        119017
         Strays:               528
         Klamath Basin:     118489
      Spawners:             118489
         Hatcheries:         42676
         Natural areas:      75813
            Reduction rate:  0.000

Klamath Harvest

   Total:                        0
      River:                     0
      Ocean:                     0

   Tribal:                       0     NaN   (objective: 0.000)

   Non-tribal:                   0
      River:                     0     NaN   (objective:       0)
      Ocean troll:               0
         CA / OR:              NaN /   NaN
      Ocean sport:               0
         KMZ:                    0     NaN
      Age-four o.harv.rate:  0.000           (objective: <= 0.16)

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Klamath Harvest: ocean troll
      Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Total %CA
NO      0   0   0   0   0   0   0   0   0   0   0   0     0  NA
CO      0   0   0   0   0   0   0   0   0   0   0   0     0  NA
KO      0   0   0   0   0   0   0   0   0   0   0   0     0  NA
KC      0   0   0   0   0   0   0   0   0   0   0   0     0 NaN
FB      0   0   0   0   0   0   0   0   0   0   0   0     0 NaN
SF      0   0   0   0   0   0   0   0   0   0   0   0     0 NaN
MO      0   0   0   0   0   0   0   0   0   0   0   0     0 NaN
Total   0   0   0   0   0   0   0   0   0   0   0   0     0  NA

Klamath Harvest: ocean sport
      Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Total %CA %CA.rec
NO      0   0   0   0   0   0   0   0   0   0   0   0     0  NA      NA
CO      0   0   0   0   0   0   0   0   0   0   0   0     0  NA      NA
KO      0   0   0   0   0   0   0   0   0   0   0   0     0  NA      NA
KC      0   0   0   0   0   0   0   0   0   0   0   0     0 NaN     NaN
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FB	0	0	0	0	0	0	0	0	0	0	0	0	0	NaN	NaN
SF	0	0	0	0	0	0	0	0	0	0	0	0	0	NaN	NaN
MO	0	0	0	0	0	0	0	0	0	0	0	0	0	NaN	NaN
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA

Chinook Harvest (All Stocks): Troll

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	50	20	NA	NA	NA	NA	0	0	0	0	0	0	70
CO	NA	1300	NA	NA	NA	NA	0	0	0	0	0	0	1300
KO	NA	500	NA	NA	NA	NA	NaN	NaN	0	0	0	0	500
KC	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	0
FB	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	0	0
SF	NA	NA	NA	NA	NA	NA	NA	NaN	0	0	0	0	0
MO	NA	NA	NA	NA	NA	NA	NA	NaN	0	0	0	0	0
Total	50	1820	NA	NA	NA	NA	0	0	0	0	0	0	1870

Chinook Harvest (All Stocks): Sport

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	400	100	NA	NA	NA	NA	NA	NaN	0	0	0	0	500
CO	30	0	0	NA	NA	NA	NA	NaN	0	0	0	0	30
KO	200	500	NA	NA	NA	NA	NA	NA	0	0	0	0	700
KC	30	NA	NA	NA	NA	NA	NA	NaN	0	0	0	0	30
FB	100	NA	NA	NA	NA	NaN	NaN	0	0	0	0	0	100
SF	300	NA	NA	NA	NA	0	0	0	0	0	0	0	300
MO	0	NA	NA	NA	NA	NaN	0	0	0	0	0	0	0
Total	1060	600	0	NA	NA	0	0	0	0	0	0	0	1660

Klamath Contribution Rates: Troll

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	0	0	NA	NA	NA	NA	0.083	0.012	0.021	0.014	0.034	0.086
CO	NA	0	NA	NA	NA	NA	0.048	0.042	0.033	0.048	0.123	0.208
KO	NA	0	NA	NA	NA	NA	0.000	0.000	0.082	0.170	0.259	0.283
KC	NA	NA	NA	NA	NA	NA	NA	NA	0.420	0.377	0.246	0.398
FB	NA	NA	NA	NA	NA	NA	NA	0.035	0.125	0.192	0.157	0.070
SF	NA	NA	NA	NA	NA	NA	NA	0.000	0.047	0.059	0.055	0.027
MO	NA	NA	NA	NA	NA	NA	NA	0.000	0.010	0.012	0.030	0.001

Klamath Contribution Rates: Sport

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	0	0	NA	NA	NA	NA	NA	0.000	0.002	0.004	0.037	0.024
CO	0	NaN	NaN	NA	NA	NA	NA	0.000	0.035	0.061	0.057	0.034
KO	0	0	NA	NA	NA	NA	NA	NA	0.015	0.050	0.131	0.219
KC	0	NA	NA	NA	NA	NA	NA	0.000	0.132	0.128	0.106	0.154
FB	0	NA	NA	NA	NA	0.000	0.000	0.007	0.023	0.039	0.064	0.028
SF	0	NA	NA	NA	NA	0.001	0.003	0.015	0.007	0.027	0.012	0.002
MO	NaN	NA	NA	NA	NA	0.000	0.003	0.003	0.002	0.002	0.002	0.002

Total Effort: Troll

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
CO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
SF	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
MO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
Total	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0

Total Effort: Sport

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
CO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
SF	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
MO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
Total	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0

Season Effort: Troll

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
CO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
SF	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
MO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
Total	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0

Season Effort: Sport

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
CO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
SF	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
MO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
Total	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0

Quota Effort: Troll

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
CO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
SF	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
MO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
Total	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0

Quota Effort: Sport

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
CO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
SF	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
MO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
Total	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0

Retention Effort: Troll

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
CO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
SF	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
MO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
Total	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0

Retention Effort: Sport

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
CO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
SF	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
MO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
Total	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0

Non-retention Effort: Troll

```
      Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Total
NO     NA  NA  NA  NA   0   0   0   0   0   0   0   0     0
CO     NA  NA  NA  NA   0   0   0   0   0   0   0   0     0
KO     NA  NA  NA  NA   0   0   0   0   0   0   0   0     0
KC     NA  NA  NA  NA   0   0   0   0   0   0   0   0     0
FB     NA  NA  NA  NA   0   0   0   0   0   0   0   0     0
SF     NA  NA  NA  NA   0   0   0   0   0   0   0   0     0
MO     NA  NA  NA  NA   0   0   0   0   0   0   0   0     0
Total  NA  NA  NA  NA   0   0   0   0   0   0   0   0     0

Non-retention Effort: Sport

      Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Total
NO     NA  NA  NA  NA   0   0   0   0   0   0   0   0     0
CO     NA  NA  NA  NA   0   0   0   0   0   0   0   0     0
KO     NA  NA  NA  NA   0   0   0   0   0   0   0   0     0
KC     NA  NA  NA  NA   0   0   0   0   0   0   0   0     0
FB     NA  NA  NA  NA   0   0   0   0   0   0   0   0     0
SF     NA  NA  NA  NA   0   0   0   0   0   0   0   0     0
MO     NA  NA  NA  NA   0   0   0   0   0   0   0   0     0
Total  NA  NA  NA  NA   0   0   0   0   0   0   0   0     0

------------------------------------------------------------------------

Mgt.Input.Files/ocean.dat
[1] fishery    area       start.date end.date   Q          ret        sl
[8] coho
<0 rows> (or 0-length row.names)

------------------------------------------------------------------------

Days open: commercial, retention
   Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug
NO  NA  NA  NA  NA   0   0   0   0   0   0   0   0
CO  NA  NA  NA  NA   0   0   0   0   0   0   0   0
KO  NA  NA  NA  NA   0   0   0   0   0   0   0   0
KC  NA  NA  NA  NA   0   0   0   0   0   0   0   0
FB  NA  NA  NA  NA   0   0   0   0   0   0   0   0
SF  NA  NA  NA  NA   0   0   0   0   0   0   0   0
MO  NA  NA  NA  NA   0   0   0   0   0   0   0   0

Quotas: commercial, retention
   Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug
NO  NA  NA  NA  NA  NA  NA  NA  NA  NA  NA  NA  NA
CO  NA  NA  NA  NA  NA  NA  NA  NA  NA  NA  NA  NA
KO  NA  NA  NA  NA  NA  NA  NA  NA  NA  NA  NA  NA
KC  NA  NA  NA  NA  NA  NA  NA  NA  NA  NA  NA  NA
FB  NA  NA  NA  NA  NA  NA  NA  NA  NA  NA  NA  NA
SF  NA  NA  NA  NA  NA  NA  NA  NA  NA  NA  NA  NA
MO  NA  NA  NA  NA  NA  NA  NA  NA  NA  NA  NA  NA

Size-limits: commercial, retention
   Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug
NO  28  28  NA  NA  NA  NA  NA  NA  NA  NA  NA  NA
```

CO	NA	28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KO	NA	28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FB	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SF	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Days open: commercial, non-retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	NA	NA	NA	NA	0	0	0	0	0	0	0	0
CO	NA	NA	NA	NA	0	0	0	0	0	0	0	0
KO	NA	NA	NA	NA	0	0	0	0	0	0	0	0
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	0	0	0	0	0
SF	NA	NA	NA	NA	0	0	0	0	0	0	0	0
MO	NA	NA	NA	NA	0	0	0	0	0	0	0	0

Quotas: commercial, non-retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FB	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SF	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Days open: recreational, retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	NA	NA	NA	NA	0	0	0	0	0	0	0	0
CO	NA	NA	NA	NA	0	0	0	0	0	0	0	0
KO	NA	NA	NA	NA	0	0	0	0	0	0	0	0
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	0	0	0	0	0
SF	NA	NA	NA	NA	0	0	0	0	0	0	0	0
MO	NA	NA	NA	NA	0	0	0	0	0	0	0	0

Quotas: recreational, retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FB	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SF	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Size-limits: recreational, retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	24	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CO	24	24	24	NA	NA	NA	NA	NA	NA	NA	NA	NA

KO	24	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KC	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FB	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SF	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MO	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Days open: recreational, non-retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	NA	NA	NA	NA	0	0	0	0	0	0	0	0
CO	NA	NA	NA	NA	0	0	0	0	0	0	0	0
KO	NA	NA	NA	NA	0	0	0	0	0	0	0	0
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	0	0	0	0	0
SF	NA	NA	NA	NA	0	0	0	0	0	0	0	0
MO	NA	NA	NA	NA	0	0	0	0	0	0	0	0

Quotas: recreational, non-retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FB	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SF	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Mgt.Input.Files/river.dat

	parameter	value
1	pi.t	0.00
2	pi.r	NA
3	H.r.tot	0.00
4	CR.r	0.00
5	c.r	0.07
6	s.r	0.10
7	E.nat.tot	NA

Appendix B. KOHM: Summary Output. Thu Feb 24 16:32:11 2011
2011 Stock Projections; 2010 regulations.

Klamath Escapement

Absent fishing:	118489		
Hatcheries:	42676		
Natural areas:	75813		
With fishing			
Mature adults:	107540		
Strays:	481		
Klamath Basin:	107058		
Spawners:	62661		
Hatcheries:	23002		
Natural areas:	39660		
Reduction rate:	0.477		

Klamath Harvest

Total:	59203		
River:	41579		
Ocean:	17625		
Tribal:	29602	0.500	(objective: 0.500)
Non-tribal:	29602		
River:	11977	0.405	(objective: 11977)
Ocean troll:	12625		
CA / OR:	0.522 / 0.478		
Ocean sport:	4999		
KMZ:	3272	0.186	
Age-four o.harv.rate:	0.103		(objective: <= 0.16)

Klamath Harvest: ocean troll

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total	%CA
NO	0	0	0	0	0	0	0	0	255	122	220	749	1346	NA
CO	0	0	0	0	0	0	0	0	302	338	997	2198	3835	NA
KO	0	0	0	0	0	0	0	0	44	0	389	424	857	NA
KC	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
FB	0	0	0	0	0	0	0	0	0	0	5011	653	5664	55.5
SF	0	0	0	0	0	0	0	0	0	0	776	0	776	7.6
MO	0	0	0	0	0	0	0	0	0	0	147	0	147	1.4
Total	0	0	0	0	0	0	0	0	601	460	7540	4024	12625	NA

Klamath Harvest: ocean sport

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total	%CA	%CA.rec
NO	0	0	0	0	0	0	0	0	0	0	39	40	79	NA	NA
CO	0	0	0	0	0	0	0	0	1	29	110	70	209	NA	NA
KO	0	0	0	0	0	0	0	0	2	157	431	493	1083	NA	NA
KC	0	0	0	0	0	0	0	0	46	730	858	554	2188	21.4	60.3
FB	0	0	0	0	0	0	0	11	92	270	343	79	796	7.8	21.9
SF	0	0	0	0	0	0	0	114	39	141	177	7	478	4.7	13.2
MO	0	0	0	0	0	0	0	75	12	21	52	6	166	1.6	4.6
Total	0	0	0	0	0	0	0	200	191	1347	2011	1250	4999	NA	NA

Chinook Harvest (All Stocks): Troll

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	50	20	NA	NA	NA	NA	0	0	12320	9021	6435	8697	36542
CO	NA	1300	NA	NA	NA	NA	0	0	9252	6969	8083	10549	36153
KO	NA	500	NA	NA	NA	NA	NaN	NaN	534	0	1500	1500	4034
KC	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	0
FB	NA	NA	NA	NA	NA	NA	NA	0	0	0	31955	9375	41330
SF	NA	NA	NA	NA	NA	NA	NA	NaN	0	0	14187	0	14187
MO	NA	NA	NA	NA	NA	NA	NA	NaN	0	0	4890	0	4890
Total	50	1820	NA	NA	NA	NA	0	0	22105	15990	67050	30120	137136

Chinook Harvest (All Stocks): Sport

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	400	100	NA	NA	NA	NA	NA	NaN	15	37	1067	1694	3312
CO	30	0	0	NA	NA	NA	NA	NaN	16	473	1930	2064	4513
KO	200	500	NA	NA	NA	NA	NA	NA	128	3138	3298	2250	9514
KC	30	NA	NA	NA	NA	NA	NA	NaN	349	5709	8112	3591	17791
FB	100	NA	NA	NA	NA	NaN	NaN	1520	4035	6993	5369	2864	20881
SF	300	NA	NA	NA	NA	0	0	7774	5760	5133	14491	3193	36652
MO	0	NA	NA	NA	NA	NaN	0	22947	7114	11307	25891	4088	71347
Total	1060	600	0	NA	NA	0	0	32242	17418	32790	60158	19743	164011

Klamath Contribution Rates: Troll

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	0	0	NA	NA	NA	NA	0.083	0.012	0.021	0.014	0.034	0.086
CO	NA	0	NA	NA	NA	NA	0.048	0.042	0.033	0.048	0.123	0.208
KO	NA	0	NA	NA	NA	NA	0.000	0.000	0.082	0.170	0.259	0.283
KC	NA	NA	NA	NA	NA	NA	NA	NA	0.420	0.377	0.246	0.398
FB	NA	NA	NA	NA	NA	NA	NA	0.035	0.125	0.192	0.157	0.070
SF	NA	NA	NA	NA	NA	NA	NA	0.000	0.047	0.059	0.055	0.027
MO	NA	NA	NA	NA	NA	NA	NA	0.000	0.010	0.012	0.030	0.001

Klamath Contribution Rates: Sport

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	0	0	NA	NA	NA	NA	NA	0.000	0.002	0.004	0.037	0.024
CO	0	NaN	NaN	NA	NA	NA	NA	0.000	0.035	0.061	0.057	0.034
KO	0	0	NA	NA	NA	NA	NA	NA	0.015	0.050	0.131	0.219
KC	0	NA	NA	NA	NA	NA	NA	0.000	0.132	0.128	0.106	0.154
FB	0	NA	NA	NA	NA	0.000	0.000	0.007	0.023	0.039	0.064	0.028
SF	0	NA	NA	NA	NA	0.001	0.003	0.015	0.007	0.027	0.012	0.002
MO	NaN	NA	NA	NA	NA	0.000	0.003	0.003	0.002	0.002	0.002	0.002

Total Effort: Troll

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	0	0	1076	1047	937	962	4022
CO	NA	NA	NA	NA	0	0	0	0	595	679	580	657	2511
KO	NA	NA	NA	NA	0	0	0	0	50	43	109	107	309
KC	NA	NA	NA	NA	0	0	0	0	91	65	97	90	343
FB	NA	NA	NA	NA	0	0	0	0	72	34	1284	298	1687

SF	NA	NA	NA	NA	0	0	0	0	81	38	430	82	631
MO	NA	NA	NA	NA	0	0	0	0	50	11	255	31	347
Total	NA	NA	NA	NA	0	0	0	0	2014	1917	3691	2228	9851

Total Effort: Sport

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	0	0	67	2437	17320	17742	37565
CO	NA	NA	NA	NA	0	0	0	0	41	2467	12897	9494	24899
KO	NA	NA	NA	NA	0	0	0	0	353	4184	8359	7275	20171
KC	NA	NA	NA	NA	0	0	0	0	620	7851	13272	8243	29986
FB	NA	NA	NA	NA	0	0	0	903	2361	6316	9291	4971	23842
SF	NA	NA	NA	NA	0	0	0	7322	6645	8095	18753	10844	51658
MO	NA	NA	NA	NA	0	0	0	15482	7159	5958	7975	2022	38596
Total	NA	NA	NA	NA	0	0	0	23707	17245	37309	87866	60590	226717

Season Effort: Troll

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	0	0	1076	1047	937	962	4022
CO	NA	NA	NA	NA	0	0	0	0	595	679	580	657	2511
KO	NA	NA	NA	NA	0	0	0	0	50	0	0	0	50
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	0	0	0	561	0	561
SF	NA	NA	NA	NA	0	0	0	0	0	0	409	0	409
MO	NA	NA	NA	NA	0	0	0	0	0	0	237	0	237
Total	NA	NA	NA	NA	0	0	0	0	1721	1726	2723	1620	7790

Season Effort: Sport

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	0	0	67	2437	17320	17742	37565
CO	NA	NA	NA	NA	0	0	0	0	41	2467	12897	9494	24899
KO	NA	NA	NA	NA	0	0	0	0	353	4184	8359	7275	20171
KC	NA	NA	NA	NA	0	0	0	0	620	7851	13272	8243	29986
FB	NA	NA	NA	NA	0	0	0	903	2361	6316	9291	4971	23842
SF	NA	NA	NA	NA	0	0	0	7322	6645	8095	18753	10844	51658
MO	NA	NA	NA	NA	0	0	0	15482	7159	5958	7975	2022	38596
Total	NA	NA	NA	NA	0	0	0	23707	17245	37309	87866	60590	226717

Quota Effort: Troll

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
CO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KO	NA	NA	NA	NA	0	0	0	0	0	43	109	107	259
KC	NA	NA	NA	NA	0	0	0	0	91	65	97	90	343
FB	NA	NA	NA	NA	0	0	0	0	72	34	723	298	1127
SF	NA	NA	NA	NA	0	0	0	0	81	38	21	82	221
MO	NA	NA	NA	NA	0	0	0	0	50	11	18	31	110
Total	NA	NA	NA	NA	0	0	0	0	293	191	968	608	2061

Quota Effort: Sport

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0

CO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
SF	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
MO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
Total	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0

Retention Effort: Troll

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	0	0	1076	1047	937	962	4022
CO	NA	NA	NA	NA	0	0	0	0	595	679	580	657	2511
KO	NA	NA	NA	NA	0	0	0	0	50	0	109	107	267
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	0	0	0	1284	298	1581
SF	NA	NA	NA	NA	0	0	0	0	0	0	409	0	409
MO	NA	NA	NA	NA	0	0	0	0	0	0	237	0	237
Total	NA	NA	NA	NA	0	0	0	0	1721	1726	3555	2025	9027

Retention Effort: Sport

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	0	0	67	2437	17320	17742	37565
CO	NA	NA	NA	NA	0	0	0	0	41	2467	12897	9494	24899
KO	NA	NA	NA	NA	0	0	0	0	353	4184	8359	7275	20171
KC	NA	NA	NA	NA	0	0	0	0	620	7851	13272	8243	29986
FB	NA	NA	NA	NA	0	0	0	903	2361	6316	9291	4971	23842
SF	NA	NA	NA	NA	0	0	0	7322	6645	8095	18753	10844	51658
MO	NA	NA	NA	NA	0	0	0	15482	7159	5958	7975	2022	38596
Total	NA	NA	NA	NA	0	0	0	23707	17245	37309	87866	60590	226717

Non-retention Effort: Troll

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
CO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KO	NA	NA	NA	NA	0	0	0	0	0	43	0	0	43
KC	NA	NA	NA	NA	0	0	0	0	91	65	97	90	343
FB	NA	NA	NA	NA	0	0	0	0	72	34	0	0	106
SF	NA	NA	NA	NA	0	0	0	0	81	38	21	82	221
MO	NA	NA	NA	NA	0	0	0	0	50	11	18	31	110
Total	NA	NA	NA	NA	0	0	0	0	293	191	136	204	823

Non-retention Effort: Sport

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
CO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
SF	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
MO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
Total	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0

Mgt.Input.Files/ocean.dat

	fishery	area	start.date	end.date	Q	ret	sl	coho
1	10	NO	may-01-2011	jul-06-2011	NA	1	28	0
2	10	NO	jul-09-2011	jul-13-2011	NA	1	28	0
3	10	NO	jul-16-2011	jul-20-2011	NA	1	28	0
4	10	NO	jul-23-2011	jul-27-2011	NA	1	28	0
5	10	NO	aug-01-2011	aug-25-2011	NA	1	28	0
6	10	CO	may-01-2011	jul-06-2011	NA	1	28	0
7	10	CO	jul-09-2011	jul-13-2011	NA	1	28	0
8	10	CO	jul-16-2011	jul-20-2011	NA	1	28	0
9	10	CO	jul-23-2011	jul-27-2011	NA	1	28	0
10	10	CO	aug-01-2011	aug-25-2011	NA	1	28	0
11	10	KO	may-01-2011	may-31-2011	NA	1	28	0
12	10	KO	jun-01-2011	jun-30-2011	960	0	NA	0
13	10	KO	jul-01-2011	jul-31-2011	1500	1	28	0
14	10	KO	aug-01-2011	aug-31-2011	1500	1	28	0
15	10	KC	may-01-2011	may-31-2011	880	0	NA	0
16	10	KC	jun-01-2011	jun-30-2011	880	0	NA	0
17	10	KC	jul-01-2011	jul-31-2011	880	0	NA	0
18	10	KC	aug-01-2011	aug-31-2011	880	0	NA	0
19	10	FB	may-01-2011	may-31-2011	880	0	NA	0
20	10	FB	jun-01-2011	jun-30-2011	880	0	NA	0
21	10	FB	jul-01-2011	jul-04-2011	NA	1	27	0
22	10	FB	jul-08-2011	jul-11-2011	NA	1	27	0
23	10	FB	jul-15-2011	jul-29-2011	18000	1	27	0
24	10	FB	aug-01-2011	aug-31-2011	9375	1	27	0
25	10	SF	may-01-2011	may-31-2011	1760	0	NA	0
26	10	SF	jun-01-2011	jun-30-2011	1760	0	NA	0
27	10	SF	jul-01-2011	jul-04-2011	NA	1	27	0
28	10	SF	jul-08-2011	jul-11-2011	NA	1	27	0
29	10	SF	jul-12-2011	jul-31-2011	880	0	NA	0
30	10	SF	aug-01-2011	aug-31-2011	1760	0	NA	0
31	10	MO	may-01-2011	may-31-2011	880	0	NA	0
32	10	MO	jun-01-2011	jun-30-2011	880	0	NA	0
33	10	MO	jul-01-2011	jul-04-2011	NA	1	27	0
34	10	MO	jul-08-2011	jul-11-2011	NA	1	27	0
35	10	MO	jul-12-2011	jul-31-2011	440	0	NA	0
36	10	MO	aug-01-2011	aug-31-2011	880	0	NA	0
37	40	NO	may-29-2011	jun-25-2011	NA	1	24	0
38	40	NO	jun-26-2011	aug-31-2011	NA	1	24	1
39	40	CO	may-29-2011	jun-25-2011	NA	1	24	0
40	40	CO	jun-26-2011	aug-31-2011	NA	1	24	1
41	40	KO	may-29-2011	jun-25-2011	NA	1	24	0
42	40	KO	jun-26-2011	aug-31-2011	NA	1	24	1
43	40	KC	may-29-2011	aug-31-2011	NA	1	24	0
44	40	FB	apr-03-2011	apr-30-2011	NA	1	20	0
45	40	FB	may-01-2011	aug-31-2011	NA	1	24	0
46	40	SF	apr-03-2011	apr-30-2011	NA	1	20	0
47	40	SF	may-01-2011	may-03-2011	NA	1	24	0
48	40	SF	may-06-2011	may-10-2011	NA	1	24	0
49	40	SF	may-13-2011	may-17-2011	NA	1	24	0
50	40	SF	may-20-2011	may-24-2011	NA	1	24	0
51	40	SF	may-27-2011	may-31-2011	NA	1	24	0
52	40	SF	jun-03-2011	jun-07-2011	NA	1	24	0
53	40	SF	jun-10-2011	jun-14-2011	NA	1	24	0
54	40	SF	jun-17-2011	jun-21-2011	NA	1	24	0
55	40	SF	jun-24-2011	jun-28-2011	NA	1	24	0
56	40	SF	jul-01-2011	jul-05-2011	NA	1	24	0

57	40	SF	jul-08-2011	jul-12-2011	NA	1	24	0
58	40	SF	jul-15-2011	jul-19-2011	NA	1	24	0
59	40	SF	jul-22-2011	jul-26-2011	NA	1	24	0
60	40	SF	jul-29-2011	aug-02-2011	NA	1	24	0
61	40	SF	aug-05-2011	aug-09-2011	NA	1	24	0
62	40	SF	aug-12-2011	aug-16-2011	NA	1	24	0
63	40	SF	aug-19-2011	aug-23-2011	NA	1	24	0
64	40	SF	aug-26-2011	aug-30-2011	NA	1	24	0
65	40	MO	apr-03-2011	apr-30-2011	NA	1	20	0
66	40	MO	may-01-2011	may-03-2011	NA	1	24	0
67	40	MO	may-06-2011	may-10-2011	NA	1	24	0
68	40	MO	may-13-2011	may-17-2011	NA	1	24	0
69	40	MO	may-20-2011	may-24-2011	NA	1	24	0
70	40	MO	may-27-2011	may-31-2011	NA	1	24	0
71	40	MO	jun-03-2011	jun-07-2011	NA	1	24	0
72	40	MO	jun-10-2011	jun-14-2011	NA	1	24	0
73	40	MO	jun-17-2011	jun-21-2011	NA	1	24	0
74	40	MO	jun-24-2011	jun-28-2011	NA	1	24	0
75	40	MO	jul-01-2011	jul-05-2011	NA	1	24	0
76	40	MO	jul-08-2011	jul-12-2011	NA	1	24	0
77	40	MO	jul-15-2011	jul-19-2011	NA	1	24	0
78	40	MO	jul-22-2011	jul-26-2011	NA	1	24	0
79	40	MO	jul-29-2011	aug-02-2011	NA	1	24	0
80	40	MO	aug-05-2011	aug-09-2011	NA	1	24	0
81	40	MO	aug-12-2011	aug-16-2011	NA	1	24	0
82	40	MO	aug-19-2011	aug-23-2011	NA	1	24	0
83	40	MO	aug-26-2011	aug-30-2011	NA	1	24	0

Days open: commercial, retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	NA	NA	NA	NA	0	0	0	0	31	30	21	25
CO	NA	NA	NA	NA	0	0	0	0	31	30	21	25
KO	NA	NA	NA	NA	0	0	0	0	31	0	0	0
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	0	0	0	8	0
SF	NA	NA	NA	NA	0	0	0	0	0	0	8	0
MO	NA	NA	NA	NA	0	0	0	0	0	0	8	0

Quotas: commercial, retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1500	1500
KC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FB	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	18000	9375
SF	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Size-limits: commercial, retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	28	28	NA	NA	NA	NA	NA	NA	28	28	28	28
CO	NA	28	NA	NA	NA	NA	NA	NA	28	28	28	28
KO	NA	28	NA	NA	NA	NA	NA	NA	28	NA	28	28
KC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FB	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	27	27
SF	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	27	NA
MO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	27	NA

Days open: commercial, non-retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	NA	NA	NA	NA	0	0	0	0	0	0	0	0
CO	NA	NA	NA	NA	0	0	0	0	0	0	0	0
KO	NA	NA	NA	NA	0	0	0	0	0	0	0	0
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	0	0	0	0	0
SF	NA	NA	NA	NA	0	0	0	0	0	0	0	0
MO	NA	NA	NA	NA	0	0	0	0	0	0	0	0

Quotas: commercial, non-retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KO	NA	NA	NA	NA	NA	NA	NA	NA	NA	960	NA	NA
KC	NA	NA	NA	NA	NA	NA	NA	NA	880	880	880	880
FB	NA	NA	NA	NA	NA	NA	NA	NA	880	880	NA	NA
SF	NA	NA	NA	NA	NA	NA	NA	NA	1760	1760	880	1760
MO	NA	NA	NA	NA	NA	NA	NA	NA	880	880	440	880

Days open: recreational, retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	NA	NA	NA	NA	0	0	0	0	3	30	31	31
CO	NA	NA	NA	NA	0	0	0	0	3	30	31	31
KO	NA	NA	NA	NA	0	0	0	0	3	30	31	31
KC	NA	NA	NA	NA	0	0	0	0	3	30	31	31
FB	NA	NA	NA	NA	0	0	0	28	31	30	31	31
SF	NA	NA	NA	NA	0	0	0	28	23	20	23	22
MO	NA	NA	NA	NA	0	0	0	28	23	20	23	22

Quotas: recreational, retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FB	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SF	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Size-limits: recreational, retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	24	24	NA	NA	NA	NA	NA	NA	24	24	24	24
CO	24	24	24	NA	NA	NA	NA	NA	24	24	24	24
KO	24	24	NA	NA	NA	NA	NA	NA	24	24	24	24
KC	24	NA	NA	NA	NA	NA	NA	NA	24	24	24	24
FB	24	NA	NA	NA	NA	NA	NA	20	24	24	24	24
SF	24	NA	NA	NA	NA	NA	NA	20	24	24	24	24
MO	24	NA	NA	NA	NA	NA	NA	20	24	24	24	24

Days open: recreational, non-retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	NA	NA	NA	NA	0	0	0	0	0	0	0	0
CO	NA	NA	NA	NA	0	0	0	0	0	0	0	0

KO	NA	NA	NA	NA	0	0	0	0	0	0	0	0
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	0	0	0	0	0
SF	NA	NA	NA	NA	0	0	0	0	0	0	0	0
MO	NA	NA	NA	NA	0	0	0	0	0	0	0	0

Quotas: recreational, non-retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FB	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SF	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Mgt.Input.Files/river.dat

	parameter	value
1	pi.t	0.50
2	pi.r	NA
3	H.r.tot	11977.00
4	CR.r	0.00
5	c.r	0.07
6	s.r	0.10
7	E.nat.tot	NA

Appendix C. KOHM: Summary Output. Fri Feb 25 07:12:17 2011
2011 Stock Projections; 2007 regulations.

Klamath Escapement

Absent fishing:	118489		
Hatcheries:	42676		
Natural areas:	75813		
With fishing			
Mature adults:	104027		
Strays:	468		
Klamath Basin:	103560		
Spawners:	61494		
Hatcheries:	22651		
Natural areas:	38843		
Reduction rate:	0.488		

Klamath Harvest

Total:	62215		
River:	39195		
Ocean:	23020		
Tribal:	31107	0.500	(objective: 0.500)
Non-tribal:	31107		
River:	8088	0.260	(objective: 0.260)
Ocean troll:	17487		
CA / OR:	0.626 / 0.374		
Ocean sport:	5532		
KMZ:	3610	0.157	
Age-four o.harv.rate:	0.142		(objective: <= 0.16)

Klamath Harvest: ocean troll

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total	%CA
NO	0	0	0	0	0	0	0	89	254	119	205	735	1402	NA
CO	0	0	0	0	0	0	0	166	301	330	933	2166	3896	NA
KO	0	0	0	0	0	0	0	0	43	272	415	509	1239	NA
KC	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
FB	0	0	0	0	0	0	0	71	0	0	0	2915	2986	19.8
SF	0	0	0	0	0	0	0	0	1321	0	4625	447	6393	42.3
MO	0	0	0	0	0	0	0	0	544	0	1019	9	1572	10.4
Total	0	0	0	0	0	0	0	325	2463	721	7197	6781	17487	NA

Klamath Harvest: ocean sport

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total	%CA	%CA.rec
NO	0	0	0	0	0	0	0	0	0	0	39	39	79	NA	NA
CO	0	0	0	0	0	0	0	0	6	38	109	69	221	NA	NA
KO	0	0	0	0	0	0	0	0	17	155	426	485	1083	NA	NA
KC	0	0	0	0	0	0	0	0	414	722	848	543	2528	16.7	60.9
FB	0	0	0	0	0	0	0	12	98	273	347	80	811	5.4	19.5
SF	0	0	0	0	0	0	0	98	55	213	242	10	618	4.1	14.9
MO	0	0	0	0	0	0	0	64	17	32	71	9	192	1.3	4.6
Total	0	0	0	0	0	0	0	174	608	1434	2081	1236	5532	NA	NA

Chinook Harvest (All Stocks): Troll

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	50	20	NA	NA	NA	NA	0	7714	12253	8793	6012	8530	43371
CO	NA	1300	NA	NA	NA	NA	0	3988	9206	6812	7563	10396	39265
KO	NA	500	NA	NA	NA	NA	NaN	NaN	531	1600	1600	1800	6031
KC	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	0
FB	NA	NA	NA	NA	NA	NA	NA	2000	0	0	0	41847	43847
SF	NA	NA	NA	NA	NA	NA	NA	NaN	28076	0	84542	16302	128920
MO	NA	NA	NA	NA	NA	NA	NA	NaN	54325	0	33855	7702	95882
Total	50	1820	NA	NA	NA	NA	0	13701	104391	17206	133572	86577	357317

Chinook Harvest (All Stocks): Sport

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	400	100	NA	NA	NA	NA	NA	NaN	153	53	1054	1673	3433
CO	30	0	0	NA	NA	NA	NA	NaN	165	622	1907	2038	4762
KO	200	500	NA	NA	NA	NA	NA	NA	1150	3103	3259	2210	10422
KC	30	NA	NA	NA	NA	NA	NA	NaN	3136	5645	8015	3523	20350
FB	100	NA	NA	NA	NA	NaN	NaN	1629	4294	7080	5431	2897	21431
SF	300	NA	NA	NA	NA	0	0	6664	8262	7795	19759	4550	47331
MO	0	NA	NA	NA	NA	NaN	0	19669	10204	17170	35302	5826	88171
Total	1060	600	0	NA	NA	0	0	27962	27365	41467	74727	22717	195899

Klamath Contribution Rates: Troll

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	0	0	NA	NA	NA	NA	0.083	0.012	0.021	0.014	0.034	0.086
CO	NA	0	NA	NA	NA	NA	0.048	0.042	0.033	0.048	0.123	0.208
KO	NA	0	NA	NA	NA	NA	0.000	0.000	0.082	0.170	0.259	0.283
KC	NA	NA	NA	NA	NA	NA	NA	NA	0.420	0.377	0.246	0.398
FB	NA	NA	NA	NA	NA	NA	NA	0.035	0.125	0.192	0.157	0.070
SF	NA	NA	NA	NA	NA	NA	NA	0.000	0.047	0.059	0.055	0.027
MO	NA	NA	NA	NA	NA	NA	NA	0.000	0.010	0.012	0.030	0.001

Klamath Contribution Rates: Sport

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	0	0	NA	NA	NA	NA	NA	0.000	0.002	0.004	0.037	0.024
CO	0	NaN	NaN	NA	NA	NA	NA	0.000	0.035	0.061	0.057	0.034
KO	0	0	NA	NA	NA	NA	NA	NA	0.015	0.050	0.131	0.219
KC	0	NA	NA	NA	NA	NA	NA	0.000	0.132	0.128	0.106	0.154
FB	0	NA	NA	NA	NA	0.000	0.000	0.007	0.023	0.039	0.064	0.028
SF	0	NA	NA	NA	NA	0.001	0.003	0.015	0.007	0.027	0.012	0.002
MO	NaN	NA	NA	NA	NA	0.000	0.003	0.003	0.002	0.002	0.002	0.002

Total Effort: Troll

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	0	318	1076	1047	892	962	4295
CO	NA	NA	NA	NA	0	0	0	326	595	679	552	657	2810
KO	NA	NA	NA	NA	0	0	0	10	50	107	119	130	417
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	177	0	0	0	1598	1775

SF	NA	NA	NA	NA	0	0	0	0	1841	0	2903	1145	5889
MO	NA	NA	NA	NA	0	0	0	0	3400	0	1924	291	5615
Total	NA	NA	NA	NA	0	0	0	831	6962	1833	6389	4784	20801

Total Effort: Sport

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	40	82	688	3534	17320	17742	39407
CO	NA	NA	NA	NA	0	0	22	57	422	3276	12897	9494	26168
KO	NA	NA	NA	NA	0	0	0	0	3176	4184	8359	7275	22994
KC	NA	NA	NA	NA	0	0	0	0	5578	7851	13272	8243	34944
FB	NA	NA	NA	NA	0	150	475	967	2361	6316	9291	4971	24531
SF	NA	NA	NA	NA	0	0	0	6276	8956	12142	25275	15280	67929
MO	NA	NA	NA	NA	0	0	0	13270	9649	8938	10749	2849	45455
Total	NA	NA	NA	NA	0	150	537	20653	30831	46241	97162	65853	261428

Season Effort: Troll

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	0	318	1076	1047	892	962	4295
CO	NA	NA	NA	NA	0	0	0	326	595	679	552	657	2810
KO	NA	NA	NA	NA	0	0	0	10	50	0	0	0	60
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	0	0	0	0	1598	1598
SF	NA	NA	NA	NA	0	0	0	0	1841	0	2903	1145	5889
MO	NA	NA	NA	NA	0	0	0	0	3400	0	1924	291	5615
Total	NA	NA	NA	NA	0	0	0	654	6962	1726	6271	4654	20267

Season Effort: Sport

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	40	82	688	3534	17320	17742	39407
CO	NA	NA	NA	NA	0	0	22	57	422	3276	12897	9494	26168
KO	NA	NA	NA	NA	0	0	0	0	3176	4184	8359	7275	22994
KC	NA	NA	NA	NA	0	0	0	0	5578	7851	13272	8243	34944
FB	NA	NA	NA	NA	0	150	475	967	2361	6316	9291	4971	24531
SF	NA	NA	NA	NA	0	0	0	6276	8956	12142	25275	15280	67929
MO	NA	NA	NA	NA	0	0	0	13270	9649	8938	10749	2849	45455
Total	NA	NA	NA	NA	0	150	537	20653	30831	46241	97162	65853	261428

Quota Effort: Troll

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
CO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KO	NA	NA	NA	NA	0	0	0	0	0	107	119	130	356
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	177	0	0	0	0	177
SF	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
MO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
Total	NA	NA	NA	NA	0	0	0	177	0	107	119	130	534

Quota Effort: Sport

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0

CO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
SF	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
MO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
Total	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0

Retention Effort: Troll

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	0	318	1076	1047	892	962	4295
CO	NA	NA	NA	NA	0	0	0	326	595	679	552	657	2810
KO	NA	NA	NA	NA	0	0	0	10	50	107	119	130	417
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	177	0	0	0	1598	1775
SF	NA	NA	NA	NA	0	0	0	0	1841	0	2903	1145	5889
MO	NA	NA	NA	NA	0	0	0	0	3400	0	1924	291	5615
Total	NA	NA	NA	NA	0	0	0	831	6962	1833	6389	4784	20801

Retention Effort: Sport

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	40	82	688	3534	17320	17742	39407
CO	NA	NA	NA	NA	0	0	22	57	422	3276	12897	9494	26168
KO	NA	NA	NA	NA	0	0	0	0	3176	4184	8359	7275	22994
KC	NA	NA	NA	NA	0	0	0	0	5578	7851	13272	8243	34944
FB	NA	NA	NA	NA	0	150	475	967	2361	6316	9291	4971	24531
SF	NA	NA	NA	NA	0	0	0	6276	8956	12142	25275	15280	67929
MO	NA	NA	NA	NA	0	0	0	13270	9649	8938	10749	2849	45455
Total	NA	NA	NA	NA	0	150	537	20653	30831	46241	97162	65853	261428

Non-retention Effort: Troll

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
CO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
SF	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
MO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
Total	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0

Non-retention Effort: Sport

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
CO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
SF	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
MO	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0
Total	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0

Mgt.Input.Files/ocean.dat

	fishery	area	start.date	end.date	Q	ret	sl	coho
1	10	NO	apr-10-2011	apr-29-2011	NA	1	28	0
2	10	NO	may-01-2011	jun-30-2011	NA	1	28	0
3	10	NO	jul-11-2011	jul-30-2011	NA	1	28	0
4	10	NO	aug-04-2011	aug-14-2011	NA	1	28	0
5	10	NO	aug-15-2011	aug-20-2011	NA	1	28	1
6	10	NO	aug-21-2011	aug-24-2011	NA	1	28	0
7	10	NO	aug-25-2011	aug-28-2011	NA	1	28	1
8	10	CO	apr-10-2011	apr-29-2011	NA	1	28	0
9	10	CO	may-01-2011	jun-30-2011	NA	1	28	0
10	10	CO	jul-11-2011	jul-30-2011	NA	1	28	0
11	10	CO	aug-04-2011	aug-14-2011	NA	1	28	0
12	10	CO	aug-15-2011	aug-20-2011	NA	1	28	1
13	10	CO	aug-21-2011	aug-24-2011	NA	1	28	0
14	10	CO	aug-25-2011	aug-28-2011	NA	1	28	1
15	10	KO	apr-10-2011	apr-29-2011	NA	1	28	0
16	10	KO	may-01-2011	may-31-2011	NA	1	28	0
17	10	KO	jun-01-2011	jun-30-2011	1600	1	28	0
18	10	KO	jul-11-2011	jul-31-2011	1600	1	28	0
19	10	KO	aug-01-2011	aug-14-2011	1800	1	28	0
20	10	FB	apr-09-2011	apr-27-2011	2000	1	27	0
21	10	FB	aug-01-2011	aug-29-2011	NA	1	28	0
22	10	SF	may-09-2011	may-31-2011	NA	1	27	0
23	10	SF	jul-01-2011	aug-29-2011	NA	1	28	0
24	10	MO	may-01-2011	may-31-2011	NA	1	27	0
25	10	MO	jul-01-2011	aug-29-2011	NA	1	28	0
26	40	NO	mar-15-2011	jun-22-2011	NA	1	24	0
27	40	NO	jun-23-2011	aug-31-2011	NA	1	24	1
28	40	CO	mar-15-2011	jun-22-2011	NA	1	24	0
29	40	CO	jun-23-2011	aug-31-2011	NA	1	24	1
30	40	KO	may-05-2011	jun-22-2011	NA	1	24	0
31	40	KO	jun-23-2011	aug-31-2011	NA	1	24	1
32	40	KC	may-05-2011	aug-31-2011	NA	1	24	0
33	40	FB	feb-17-2011	aug-31-2011	NA	1	20	0
34	40	SF	apr-07-2011	aug-31-2011	NA	1	20	0
35	40	MO	apr-07-2011	aug-31-2011	NA	1	20	0

Days open: commercial, retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	NA	NA	NA	NA	0	0	0	20	31	30	20	25
CO	NA	NA	NA	NA	0	0	0	20	31	30	20	25
KO	NA	NA	NA	NA	0	0	0	20	31	0	0	0
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	0	0	0	0	29
SF	NA	NA	NA	NA	0	0	0	0	23	0	31	29
MO	NA	NA	NA	NA	0	0	0	0	31	0	31	29

Quotas: commercial, retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KO	NA	NA	NA	NA	NA	NA	NA	NA	NA	1600	1600	1800
KC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FB	NA	NA	NA	NA	NA	NA	NA	2000	NA	NA	NA	NA
SF	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

MO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Size-limits: commercial, retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	28	28	NA	NA	NA	NA	NA	28	28	28	28	28
CO	NA	28	NA	NA	NA	NA	NA	28	28	28	28	28
KO	NA	28	NA	NA	NA	NA	NA	28	28	28	28	28
KC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FB	NA	NA	NA	NA	NA	NA	NA	27	NA	NA	NA	28
SF	NA	NA	NA	NA	NA	NA	NA	NA	27	NA	28	28
MO	NA	NA	NA	NA	NA	NA	NA	NA	27	NA	28	28

Days open: commercial, non-retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	NA	NA	NA	NA	0	0	0	0	0	0	0	0
CO	NA	NA	NA	NA	0	0	0	0	0	0	0	0
KO	NA	NA	NA	NA	0	0	0	0	0	0	0	0
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	0	0	0	0	0
SF	NA	NA	NA	NA	0	0	0	0	0	0	0	0
MO	NA	NA	NA	NA	0	0	0	0	0	0	0	0

Quotas: commercial, non-retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FB	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SF	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Days open: recreational, retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	NA	NA	NA	NA	0	0	17	30	31	30	31	31
CO	NA	NA	NA	NA	0	0	17	30	31	30	31	31
KO	NA	NA	NA	NA	0	0	0	0	27	30	31	31
KC	NA	NA	NA	NA	0	0	0	0	27	30	31	31
FB	NA	NA	NA	NA	0	12	31	30	31	30	31	31
SF	NA	NA	NA	NA	0	0	0	24	31	30	31	31
MO	NA	NA	NA	NA	0	0	0	24	31	30	31	31

Quotas: recreational, retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FB	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SF	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Size-limits: recreational, retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	24	24	NA	NA	NA	NA	24	24	24	24	24	24
CO	24	24	24	NA	NA	NA	24	24	24	24	24	24

KO	24	24	NA	NA	NA	NA	NA	NA	24	24	24	24
KC	24	NA	NA	NA	NA	NA	NA	NA	24	24	24	24
FB	24	NA	NA	NA	NA	20	20	20	20	20	20	20
SF	24	NA	NA	NA	NA	NA	NA	20	20	20	20	20
MO	24	NA	NA	NA	NA	NA	NA	20	20	20	20	20

Days open: recreational, non-retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	NA	NA	NA	NA	0	0	0	0	0	0	0	0
CO	NA	NA	NA	NA	0	0	0	0	0	0	0	0
KO	NA	NA	NA	NA	0	0	0	0	0	0	0	0
KC	NA	NA	NA	NA	0	0	0	0	0	0	0	0
FB	NA	NA	NA	NA	0	0	0	0	0	0	0	0
SF	NA	NA	NA	NA	0	0	0	0	0	0	0	0
MO	NA	NA	NA	NA	0	0	0	0	0	0	0	0

Quotas: recreational, non-retention

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FB	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SF	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Mgt.Input.Files/river.dat

	parameter	value
1	pi.t	0.50
2	pi.r	0.26
3	H.r.tot	NA
4	CR.r	0.00
5	c.r	0.07
6	s.r	0.10
7	E.nat.tot	NA
