

YAQUINA BAY SALMON CREEL CENSUS, 1986  
PRELIMINARY REPORT

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Introduction

An important recreational fishery has developed in the last five years in Yaquina Bay, targeting primarily on fish returning to a private hatchery facility. We have no specific creel information from this fishery and this census begins to fill that gap.

Our primary objective was to document total angler hours and estimate angler effort and catch of salmonids in Yaquina Bay between the tips of the jetties and Buoy 25, just past Riverbend Moorage. We also collected all coded-wire tags and scales from a representative sampling of fish. The survey began September 6 and the creel census ended October 31. We continued effort counts through November 15 when the fishery ended.

Methods

Two samplers worked through most of the survey. Both samplers worked weekends and one weekday in overlapping shifts and sampled alone on other days. Their starting shift and sampling location was predetermined to provide coverage of all areas and time periods. Permanent staff made effort counts when needed throughout the sampling period.

Counts of shore salmon anglers and boats fishing for salmon were made every 3 hours during an 8 hour shift. Creel checks were made between counts. Both completed and incomplete trips were sampled, with an emphasis on completed trips. Any repeat interviews were updated when possible or not used.

Catch rate and effort estimates were analyzed by week and stratified by day type, angler type and whether catch was an adult salmon or "jack" (less than 24 inches long). Total angler hours were estimated by the "area under the curve" method by summing for all periods:

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$$1/2 \times (\text{length of period in hours}) \times \left[ \left( \begin{array}{l} \text{count at start} \\ \text{of period} \end{array} + \begin{array}{l} \text{count at end} \\ \text{of period} \end{array} \right) \right] +$$

Total angler trips, separated by shore and boat anglers, were calculated by dividing the weekly angler hour estimate by the average hours per completed trip for that particular week.

Results and Discussion

Effort. The survey at its maximum extended from the south jetty of Yaquina Bay to Buoy Marker 25, just beyond Riverbend Moorage. The great majority of the effort took place (1) around the South Beach Marina, (2) near the LNG storage tank, and (3) around the salt-water outfall from the Marine Science Center complex.

We calculated a total of 59,500 shore angler hours and 46,600 boat angler hours during the survey period. Shore angler effort rose to a peak of 10,400 angler hours during the third week in September and remained high through October 12 after which it dropped to a lower, but still substantial, level (Table 1). Boat angler effort peaked the first week in October at 11,800 angler hours and dropped at an accelerated pace through October (Table 2).

Catch. Angling regulations define a salmon less than 24 inches in length as a jack. The majority of the coho catch was somewhat less than 24 inches in length, reflecting the 10 fish jack bag limit and the presence of private hatchery fish that had been released as 0 age smolts.

Shore anglers landed 6,100 coho of which 4,000 were less than 24 inches in length. Boat anglers harvested 1,500 coho and 1,000 were classified as jacks by size. The chinook take was substantially less; shore anglers caught 964 chinook of which 281 were jacks. Boat anglers landed 148 chinook, including 49 jacks (Tables 1 and 2).

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The coho catch peaked during the first week in October among both angler types but shore anglers had high catches of coho over 5 weeks compared to only 2 weeks for boat anglers (Tables 1 and 2).

The chinook harvest had a small peak in mid September and again began to rise the last two weeks in October as the coho run decreased. A few chum salmon also started to be caught in early November but were not sampled.

### Scale Sampling

Samplers were instructed to collect scales from a random sample of both coho and chinook throughout the sampling period. Scales were taken from 249 coho throughout the 9 week creel period. We obtained readable scales from 219 coho but 17 of those were of coded-wire tagged fish. The marked coho were all classified as Ore-Aqua Age 2 fish and subsequent tag readout confirmed this. The remaining 202 coho were classified as follows:

Age 2 <sub>1</sub> (OreAqua adults )	:	193 fish (95.5%)
Age 2 <sub>2</sub> (Public hatchery jacks)	:	1 fish ( 0.49%)
Age 3 <sub>2</sub> (Public hatchery adults)	:	7 fish ( 3.46%)
Age 3 <sub>2</sub> (Wild adults)	:	1 fish ( 0.49%)

We collected scales from 60 chinook and 47 of these were readable and classified as follows:

Age 2 <sub>1</sub>	13 fish (27.66%)
Age 3 <sub>1</sub>	23 fish (48.94%)
Age 4 <sub>1</sub>	11 fish (23.4%)

### Mark Sampling

We recovered 15 chinook and 209 coho that were coded wire tagged and had been caught in Yaquina Bay. All fish except one coho had been released by OreAqua Inc. That one coho had been released by Anadromous Inc and was caught August 25 at the mouth of Yaquina Bay. It was sampled during our regular ocean creel census which ended September 2.

Table 1. Shore Angler Effort and Catch Estimates from the 1986 Yaquina Bay Salmon Creel Survey

Dates	EFFORT		CATCH					Catch/ Angler
	Total Shore Angler Hours	Estimated Angler Trips	Coho	Coho Jacks	Chinook	Chinook Jacks	Combined Salmon	
Sept 6-7	1,193	342	0	11	26	13	350	0.15
Sept 8-14	4,797	1,182	56	200	74	23	353	0.30
Sept 15-21	10,440	3,070	191	689	62	49	991	0.32
Sept 22-28	8,779	2,263	316	879	25	19	1,239	0.55
Sept 29 - Oct 5	9,666	2,571	534	915	54	24	1,527	0.59
Oct 6-12	9,314	2,638	340	635	51	24	1,050	0.40
Oct 13-19	6,288	1,504	379	405	74	35	893	0.59
Oct 20-26	5,530	1,414	115	197	115	41	468	0.33
Oct 27-31	3,520	981	80	113	202	53	448	0.46
<b>Totals</b>	<b>59,527</b>	<b>15,965</b>	<b>2,011</b>	<b>4,044</b>	<b>683</b>	<b>281</b>	<b>7,019</b>	<b>0.44</b>

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Table 2. Boat Angler Effort and Catch Estimates from the 1986 Yaquina Bay Salmon Creel Survey.

Dates	Total Boat Angler Hours	Estimated Angler Trips	Coho	Coho Jacks	Chinook	Chinook Jacks	Combined Salmon	Catch/Angler
Sept 6-7	1,189	306	0	3	5	3	11	0.04
Sept 8-14	3,818	989	21	18	6	12	57	0.06
Sept 15-21	9,967	2,215	48	163	14	9	234	0.11
Sept 22-28	8,403	1,722	113	274	9	10	406	0.24
Sept 29 - Oct 5	11,800	2,458	183	356	10	15	564	0.23
Oct 6-12	6,905	1,701	90	122	5	0	217	0.13
Oct 13-19	2,846	645	10	33	0	0	43	0.07
Oct 20-26	1,193	251	10	38	5	0	53	0.21
Oct 27-31	488	106	10	6	0	0	16	0.15
<b>Totals</b>	<b>46,609</b>	<b>10,393</b>	<b>485</b>	<b>1,013</b>	<b>54</b>	<b>49</b>	<b>1,601</b>	<b>0.15</b>

Combined Shore and Boat Angler Totals: 106,136 angler hours, 26,358 angler trips

2,496 coho, 5,057 coho jacks  
(7,553 coho)

737 chinook, 330 chinook jacks  
(1,067 chinook)

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