

STATE OF ALASKA

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Annual Progress Report for

Study G-III-D Lake and Stream Investigations

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Job G-III-E by Richard D. Peckham

Study G-IV Harvest Studies

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OBJECTIVES

1. To determine sport fish harvest and angler utilization of king salmon, red salmon and rainbow trout stocks in the Naknek River.
2. To establish guidelines for continued management of the Naknek River sport fishery.

TECHNIQUES USED

The Naknek River military recreational facilities' sport fishing harvest estimates were tabulated from voluntary creel census reports. Estimated angler use was obtained from the King Salmon Air Force Station's Base Dock and from the Alaska Air Command for the Lake and Rapids Recreational Camps.

To determine total angler days the number of anglers at Lake Camp was multiplied by four, the average number of days a guest stayed. To obtain the angler days for Rapids Camp the number of guests was expanded by either four or five days, depending upon each group's arrival and departure schedules. Angler utilization of the King Salmon Air Force Base Dock was estimated by multiplying the season's average, 2.4 anglers per boat, times the number of boat rentals.

Expanding the reported seasonal catches for Rapids Camp and Lake Camp by the ratio of reporting anglers to the estimated angler days, an estimated total catch can be computed. Base Dock catches were expanded in the same manner as for Lake Camp except from July 1 to July 28. For the period from July 1 to July 28, the king salmon harvest estimate for Base Dock was determined by using the average king salmon harvest percentage (62.5%) for Rapids Camp, Lake Camp, and Federal Aviation Administration (FAA) dock.

A creel census program was initiated to determine the sport fish harvest by anglers who utilized the FAA dock, in personally issuing voluntary creel census forms. All reports were later collected and tabulated to determine the total effort and catch estimates.

FINDINGS

Military Reports:

Angler effort expended by all military camps were estimated at 4,103 days. Angler participation trends by military recreational facilities are shown in Table 1.

Voluntary creel census reports from military recreational facilities were tabulated, and are summarized for Rapids Camp, Lake Camp, and Base Dock in Tables 2-4, respectively.

Military fishermen accounted for 1,453 (87.1%) of the total king salmon, Oncorhynchus tshawytscha, catch.

Table 1 Total Military Angler Days as Indicated by Lake Camp, Rapids Camp and Base Dock, Naknek River, 1967-1972.

<u>Facility</u>	<u>Angler Days</u>					
	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>
Base Dock	1,293	1,495	1,140	1,589	1,259	936
Rapids Camp	2,916	2,252	2,672	1,520	1,382	2,107
Lake Camp	<u>3,951</u>	<u>3,096</u>	<u>1,740</u>	<u>1,312</u>	<u>1,182</u>	<u>1,060</u>
Total	8,160	6,843	5,552	4,421	3,823	4,103

Table 2 Weekly Angling Effort and Catch Composition from Military Voluntary Creel Census Reports for Rapids Camp, Naknek River, 1972.

	<u>5/7-</u> <u>13</u>	<u>5/14-</u> <u>20</u>	<u>5/21-</u> <u>27</u>	<u>5/28-</u> <u>6/3</u>	<u>6/4-</u> <u>10*</u>	<u>6/11-</u> <u>17</u>
Anglers Reporting	7	0	31	42	40	218
Total Hours	11.0	0.0	110.5	137.0	133.5	1,407.0
Catch Composition						
Rainbow Trout	-	-	2	1	16	74
Arctic Grayling	-	-	2	-	18	54
King Salmon	-	-	-	-	-	25
Red Salmon	-	-	-	-	-	-
Pink Salmon	-	-	-	-	-	-
Dog Salmon	-	-	-	-	-	-
Dolly Varden	2	-	12	11	1	5
Lake Trout	-	-	-	-	-	1
Northern Pike	-	-	-	<u>1</u>	-	<u>2</u>
Total	2	-	16	13	35	161
Catch/Hr.	.18	-	.14	.09	.26	.11

Table 2 (continued)

	<u>6/18- 24</u>	<u>6/25- 7/1</u>	<u>7/2- 8</u>	<u>7/9- 15</u>	<u>7/16- 22**</u>	<u>Total</u>
Anglers Reporting	248	329	225	220	4	1,364
Total Hours	1,740.0	2,396.0	1,862.0	1,540.0	40.0	9,377.0
Catch Composition						
Rainbow Trout	40	49	24	22	-	228
Arctic Grayling	12	20	9	15	-	130
King Salmon	98	256	137	202	1	719
Red Salmon	-	7	144	42	-	193
Pink Salmon	-	-	1	2	-	3
Dog Salmon	-	-	1	20	-	21
Dolly Varden	-	4	2	2	-	39
Lake Trout	4	-	-	-	-	5
Northern Pike	-	-	-	-	-	3
Total	154	336	318	305	1	1,341
Catch/Hr.	.09	.14	.17	.20	.03	.14

* Rapids Camp Officially Opened 6/9

** Rapids Camp Officially Closed 7/17

Table 3 Weekly Angling Effort and Catch Composition from Military Voluntary Creel Census Reports for Lake Camp, Naknek River, 1972.

	Fishing Periods					
	4/21- 6/3	6/4- 10	6/11- 17	6/18- 24*	6/25- 7/1	7/2- 8
Anglers Reporting	51	69	142	85	87	106
Total Hours	152.0	324.5	836.5	340.0	488.0	538.5
Catch Composition:						
Rainbow Trout	10	53	119	49	58	45
Grayling	--	--	6	1	5	16
White Fish	--	--	1	1	--	--
King Salmon	--	--	--	14	51	32
Pink Salmon	--	--	--	--	--	114
Red Salmon	--	--	--	--	--	--
Pike	--	--	3	--	--	--
Lake Trout	5	3	28	18	3	--
Total	15	56	157	83	117	207
Catch/hr.	.10	.17	.19	.24	.24	.38

Table 3 (continued)

	Fishing Periods				Total
	7/9- 15	7/16- 22	7/23- 29	7/30 8/5**	
Anglers Reporting	109	116	65	16	846
Total Hours	596.0	830.5	322.0	62.0	4,490.0
Catch Composition:					
Rainbow Trout	24	58	35	4	455
Arctic Grayling	--	3	2	--	33
Whitefish	--	--	--	--	2
King Salmon	64	19	--	--	180
Pink Salmon	--	11	14	11	36
Red Salmon	131	340	104	28	717
Pike	2	3	5	--	13
Lake Trout	3	2	1	--	63
Total	224	436	161	43	1,499
Catch/hr.	.38	.52	.50	.69	.33

* Lake Camp Officially Opened 5/19

** Lake Camp Officially Closed 7/31

Table 4 Weekly Angling Effort and Catch Composition from Military Voluntary Creel Census Reports for Base Dock, Naknek River, 1972.

	Fishing Periods								Total
	6/4- 10*	6/11 17	6/18 24	6/25- 30	7/1- 7/27**	7/28- 8/5	8/6- 12	8/13- 19	
Anglers Reporting	13	46	108	124	458	89	20	78	936
Total Hours	48.0	135.5	413.0	441.5	---	260.5	58	352.5	---
Catch Composition:									
Rainbow Trout	2	1	1	2	---	---	1	---	7
Arctic Grayling	---	---	---	---	---	5	---	---	5
King Salmon	---	5	36	28	---	---	---	---	69
Coho Salmon	---	---	---	---	---	1	2	7	10
Pink Salmon	---	---	---	---	---	75	8	78	161
Dolly Varden	---	---	---	---	---	---	---	2	2
Northern Pike	---	---	---	---	---	1	---	---	1
Total	2	6	37	30		82	11	87	255
Catch/hr.	.04	.04	.09	.07	---	.31	.19	.25	---
* Base Dock Officially Opened 6/4									
** No Catches Were Reported This Period.									

Table 5 Weekly Angling Effort and Catch Composition from Voluntary Creel Census Reports for Federal Aviation Administration Dock, Naknek River, 1972.

	Fishing Periods							Total
	6/4- 10	6/11- 17	6/18- 24	6/25- 7/1	7/2- 8	7/9- 15	7/16- 22	
Anglers Reporting*	8	52	52	71	88	80	26	377
Total Hours	36.0	145.5	153.0	301.5	408.0	282.5	96.0	1,422.5
Catch Composition:								
Rainbow Trout	16	12	5	--	23	--	--	56
Arctic Grayling	11	12	6	--	18	--	--	47
King Salmon	--	13	35	41	67	47	13	216
Red Salmon	1	--	--	--	5	1	--	7
Pink Salmon	--	--	--	--	--	1	--	1
Dolly Varden	1	2	--	--	--	--	--	3
Northern Pike	1	--	--	--	--	--	--	1
Total	30	39	46	41	113	49	13	331
Catch/hr.	.83	.27	.30	.14	.28	.17	.14	.23

* Reports Were Issued To Each Boat Operator.

Table 6 Total Military and Civilian Catch of King Salmon as estimated from Voluntary Creel Census Reports, Naknek River, 1972.

<u>Facility</u>	<u>Estimated Angler Days</u>	<u>No. Reported Angler Days</u>	<u>Percent Reporting</u>	<u>King Salmon Reported</u>	<u>Expanded King Salmon Catch</u>
Base Dock	936	-----*	-----	69	115**
Rapids Camp	2,107	1,364	63.1	719	1,111
Lake Camp	1,060	846	79.8	180	226
F.A.A.	<u>377</u>	<u>377</u>	<u>100.0</u>	<u>216</u>	<u>216</u>
Total	4,480	-----	-----	1,184	1,668

* Incomplete Data.

** Includes an Interpreted Catch of 46 Fish for the Period 7/1 - 7/29.

Civilian Reports:

During the 1972 season, creel census forms were personally issued to 17 civilian sport fishermen utilizing the FAA dock facilities. These reporting forms were issued in lieu of the Department's statistical creel census design, utilized in 1971, and are summarized in Table 5. Each boat operator reported for all fishermen fishing from his boat.

The estimated king salmon catch of 1,668 is broken down by each sport fishing facility in Table 6. The estimated 1972 harvest reflects a 59.0% increase over the 1971 estimated king salmon may be related to an increased king salmon escapement made possible by the reduced commercial fishing effort on a less-than-average return of red salmon, O. nerka, to the Naknek-Kvichak drainage. King salmon are primarily harvested, incidental to the red salmon fishery. Commercial fishing time from June 21 to July 17, 1971, was 384 hours, while during the same period in 1972 it was 120 hours.^{1/}

The voluntary military and civilian creel census forms were tabulated by both weekly time periods and species catch composition, and are presented in Tables 2-5. The expanded catches for rainbow trout, Salmo gairdneri, red salmon and Arctic grayling, Thymallus arcticus, from all facilities were 962, 1,408 and 256 respectively. The military base dock catches were not expanded in the above figures due to non-reporting from July 1st through the 27th.

Catch data for the Naknek River do not include all civilian or military fishermen since some anglers do not use facilities covered in the creel census program.

LITERATURE CITED

Siedelman, Donald L. 1972. Creel Census of the Sport Fisheries in the Bristol Bay Drainage. Alaska Department of Fish and Game. Federal Aid in Fish Restoration, Annual Report of Progress, 1971-1972, Project F-9-4, 18 pp. Volume 12.

^{1/} Unpublished Annual Management report of the Alaska Department of Fish & Game, Bristol Bay Area 1971-72.

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