

STATE OF ALASKA

William A. Egan, Governor



Annual Progress Report for

DISTRIBUTION, ABUNDANCE AND NATURAL
HISTORY OF THE ARCTIC GRAYLING IN
THE TANANA RIVER DRAINAGE

by

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Objectives

1. To obtain statistically based estimates of fishing pressure and catch in popular sport fishing waters to evaluate the status of the fishery from year to year.
2. To determine the effect of various levels of fishing on the age structure of grayling populations under exploitation.

Chena Hot Springs Road

The sport fishery on the upper Chena River where it parallels the Chena Hot Springs Road was censused during May and again in July and August. A stratified random sample of fisherman counts (Roguski and Tack, 1970) was used to estimate the total angler hours. Interviews with anglers who had completed their trip gave catch figures as well as trip length, residence, and an evaluation of the total experience. The census area is approximately 27 miles long, from mile 26.5 to mile 53.5.

Table 10 presents the results of the 1970 Chena Hot Springs Road creel census. The periods June 1 to July 14 and September 1 to 15 were not censused; however, if the May results are expanded to represent June, and July 14 to August 29 results are used to estimate the first half of July and the first half of September, an estimated 22,500 angler hours is obtained for May 1 through September 15. The expansion was accomplished by dividing each stratum total in Table 10 by the number of days it represented. These daily averages were then multiplied by the number of days in each expanded stratum to estimate total angler hours. At an average catch rate of 0.54 grayling per hour, an estimated 12,150 grayling were taken from the upper Chena River in 1970.

The catch rate of 0.72 grayling per hour (for July and August) is down from the 0.96 grayling per hour in 1969 (Roguski and Tack, 1970), but still higher than the 0.55 in 1968 (Roguski and Winslow, 1969). It appears that fishing pressure has risen considerably from the estimated 11,500

TABLE 10 Results of Creel Census on the Chena River along the Chena Hot Springs Road, 1970.

	Angler Hours				Total
	Weekdays		Weekends & Holidays		
	6 AM - 10 AM	10 AM - Midnight	6 AM - 10 AM	10 AM - Midnight	
Period:					
5/ 1 - 5/31	372	2,152	370	4,114	7,008
7/14 - 8/29	120	2,136	132	3,122	<u>5,510</u>
Total angler hours					12,518
Fishery Statistics:		<u>May</u>	<u>July & August</u>		
No. angler trips			1,767		
Mean hrs./angler trip			5.1		
Tot. GR catch		2,803	3,967		
GR/angler hr.		0.40	0.72		
Angler Composition:					
Local resident			58%		
Military			33%		
Tourist			9%		
Distribution of fishing pressure:					
Mile 26.5 to first bridge at mile 37.7			60%		
Mile 37.7 bridge to mile 53.5			40%		

man hours in 1968¹ and 15,500 man hours in 1969.² The sharp increase in 1970 is partially due to the unusually strong early spring fishery and moderate weather conditions through the summer.

Local residents continued to make up the majority of anglers (58%) and tourists the smallest proportion (9%). Military personnel made up 33% of all anglers. This is essentially the same as for the two previous years.

Angler satisfaction with the total experience remains high. Eighty-six percent of the anglers expressed satisfaction with the total trip.

Fewer anglers (40%) fished beyond the first bridge at mile 37.7 in 1970 than in 1969 (50%).

Badger Slough

Badger Slough, a clear water tributary of the lower Chena River, supports a strong early spring fishery, which is essentially over by mid-July. This fishery was censused using the same system of random counts and angler interviews used in the Chena Hot Springs Road creel census.

The proximity of the area to Fairbanks accounts in part for the low 1.54 hours per angler trip and large number (4,030) of angler trips in the area during the month of May (Table II). Military personnel made up 42.7% of all fishermen. Tourists rarely take part in this fishery.

The May total of 6,206 angler hours is up slightly from the 5,374 in 1969 (Roguski and Tack, 1970) and 5,828 in 1968 (Roguski and Winslow, 1969) but the 0.43 grayling per angler hour is down from 0.80 in 1969 and 0.82 in 1968 (Roguski and Tack, 1970). It is possible that enrichment due to domestic waste entering the slough is making it less attractive to grayling.

¹Values for the period May 1 to September 15 were estimated by expanding the data of Roguski and Winslow (1969) as previously explained for 1970.

²Values for the period May 1 to September 15 were estimated by expanding the data of Roguski and Tack (1970).

TABLE II Creel Census Results from Badger Slough, May, 1970.

	<u>Angler Hrs.</u>
Weekdays	2,938
Weekends	<u>3,268</u>
Total	6,206
Angler trips	4,030
Mean hrs./angler trip	1.54
Total GR catch	2,669
GR/angler hr.	0.43
Angler Composition:	
Local	55.7%
Military	42.7%
Tourist	1.6%
