Fishery Management Report No. 95-5

Annual Management Report for the Recreational Fisheries in the Anchorage Area, 1994

by

Barry Stratton

and

Paul Cyr

September 1995

Alaska Department of Fish and Game **Division of Sport Fish**

Symbols and Abbreviations

The following symbols and abbreviations, and others approved for the Système International d'Unités (SI), are used in Division of Sport Fish Fishery Manuscripts, Fishery Data Series Reports, Fishery Management Reports, and Special Publications without definition. All others must be defined in the text at first mention, as well as in the titles or footnotes of tables and in figures or figure captions.

Weights and measures (metric)

centimeter	cm
deciliter	dL
gram	g
hectare	ha
kilogram	kg
kilometer	km
liter	L
meter	m
metric ton	mt
milliliter	ml
millimeter	mm

Weights and measures (English)

cubic feet per second	ft^3/s
foot	ft
gallon	gal
inch	in
mile	mi
ounce	oz
pound	lb
quart	qt
yard	yd

Spell out acre and ton.

Time and temperature

day	d
degrees Celsius	°C
degrees Fahrenheit	°F
hour (spell out for 24-hour clock)	h
minute	min
second	s

Spell out year, month, and week.

Physics and chemistry

all atomic symbols	
alternating current	AC
ampere	A
calorie	cal
direct current	DC
hertz	Hz
horsepower	hp
hydrogen ion activity	pH
parts per million	ppm
parts per thousand	ppt, ‰
volts	V
watts	W

General

All commonly accepted abbreviations.	e.g., Mr., Mrs., a.m., p.m., etc.
All commonly accepted professional titles.	e.g., Dr., Ph.D., R.N., etc.
and	&
at	@
Compass directions:	
east	E
north	N
south	S
west	W
Copyright	©
Corporate suffixes:	
Company	Co.
Corporation	Corp.
Incorporated	Inc.
Limited	Ltd.
et alii (and other people)	et al.
et cetera (and so forth)	etc.
exempli gratia (for example)	e.g.,
id est (that is)	i.e.,
latitude or longitude	lat. or long.
monetary symbols (U.S.)	$, ¢
months (tables and figures): first three letters	Jan,...,Dec
number (before a number)	# (e.g., #10)
pounds (after a number)	# (e.g., 10#)
registered trademark	®
trademark	™
United States (adjective)	U.S.
United States of America (noun)	USA
U.S. state and District of Columbia abbreviations	use two-letter abbreviations (e.g., AK, DC)

Mathematics, statistics, fisheries

alternate hypothesis	H_A
base of natural logarithm	e
catch per unit effort	CPUE
coefficient of variation	CV
common test statistics	F, t, χ^2, etc.
confidence interval	C.I.
correlation coefficient	R (multiple)
correlation coefficient	r (simple)
covariance	cov
degree (angular or temperature)	°
degrees of freedom	df
divided by	÷ or / (in equations)
equals	=
expected value	E
fork length	FL
greater than	>
greater than or equal to	≥
harvest per unit effort	HPUE
less than	<
less than or equal to	≤
logarithm (natural)	ln
logarithm (base 10)	log
logarithm (specify base)	$\log_2$, etc.
mideye-to-fork	MEF
minute (angular)	'
multiplied by	x
not significant	NS
null hypothesis	H_O
percent	%
probability	P
probability of a type I error (rejection of the null hypothesis when true)	α
probability of a type II error (acceptance of the null hypothesis when false)	β
second (angular)	"
standard deviation	SD
standard error	SE
standard length	SL
total length	TL
variance	Var

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Barry Stratton
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Alaska Department of Fish and Game
Division of Sport Fish, Research and Technical Services
333 Raspberry Road, Anchorage, Alaska, 99518-1599

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The Fishery Management Reports series was established in 1989 for the publication of an overview of Division of Sport Fish management activities and goals in a specific geographic area. Fishery Management Reports are intended for fishery and other technical professionals, as well as lay persons. Distribution is to state and local publication distribution centers, libraries and individuals and, on request, to other libraries, agencies, and individuals. This publication has undergone regional peer review.

Barry Stratton and Paul Cyr
Alaska Department of Fish and Game, Division of Sport Fish
333 Raspberry Road, Anchorage, AK 99518-1599, USA

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SECTION I: AREA OVERVIEW

AREA DESCRIPTION

The Anchorage sport fish management area consists of all waters flowing into Knik and Turnagain Arms from the Eklutna River drainage in the north to Ingram Creek in the south (Figure 1). Local communities include Anchorage, Eagle River, Chugiak, Birchwood, Peters Creek, Eklutna, Indian, Bird, Girdwood, and Portage; and two military reservations, Elmendorf Air Force Base and Fort Richardson Army Base. Of Alaska's 545,774 residents (April 1990 national census figures), 42% reside in the Anchorage area. Access to area sport fisheries is primarily by road. Anchorage area land managers include private individuals, Municipality of Anchorage (MOA), Alaska Railroad (ARR), Alaska Department of Natural Resources (DNR), U.S. Forest Service (USFS), U.S. Bureau of Land Management (BLM), U.S. military, and native organizations.

Management and research functions for Anchorage area sport fisheries are conducted by Alaska Department of Fish and Game (ADF&G) Division of Sport Fish staff from the Anchorage regional office. Division of Sport Fish staff involved in 1994 Anchorage area programs included Regional Supervisor Kevin Delaney, Regional Management Coordinator Kelly Hepler, Regional Research Coordinator Doug McBride, Area Management Biologist Andrew Hoffmann, Assistant Area Management Biologist Barry Stratton, permanent-seasonal Fish and Wildlife Technician III Paul Cyr, and staff from Elmendorf and Fort Richardson hatcheries.

Codified regulations for Anchorage area sport fisheries are found in the Susitna-West Cook Inlet Section under Chapter 61 of the Alaska Administrative Code (AAC). For the purposes of effort and harvest reporting, the Statewide Harvest Survey (SWHS) by Mills (1979-1994) is used with Anchorage area fisheries summarized in Area L of these reports.

FISHERIES RESOURCES

The Anchorage area offers unique and diverse recreational fishing opportunities in an urban environment. Major area sport fisheries occur in fresh water and target three species of salmon (chinook or king *Oncorhynchus tshawytscha*, coho *O. kisutch*, and pink *O. gorbuscha*), rainbow trout *O. mykiss*, landlocked (chinook and coho) salmon, and Dolly Varden *Salvelinus malma*. Wild stock salmon sport fisheries occur in several Turnagain Arm streams including Bird Creek (pink salmon) and Twentymile River (coho salmon). Sport fisheries have been established in Ship Creek with stocked chinook and coho salmon. Eagle River has been stocked with chinook salmon in an attempt to develop another urban king salmon sport fishery. Stocked coho salmon fisheries have been established in Campbell and Bird creeks. Turnagain Arm supports a large personal use eulachon *Thaleichthys pacificus* (hooligan or smelt) fishery. The Anchorage area stocked lake program includes over 25 lakes stocked with rainbow trout; some of these lakes are also stocked with landlocked salmon, Arctic char *Salvelinus alpinus*, and Arctic grayling *Thymallus arcticus*. Two streams, Campbell and Chester creeks, are stocked with rainbow trout.

ALASKA BOARD OF FISHERIES ACTIVITIES

The development of fishing regulations for Anchorage Management Area sport fisheries occurs within the established Alaska Board of Fisheries (BOF) process. This process provides for public input concerning regulatory changes and allocation issues through local fish and game advisory committee participation and testimony to the BOF. Local advisory committees have

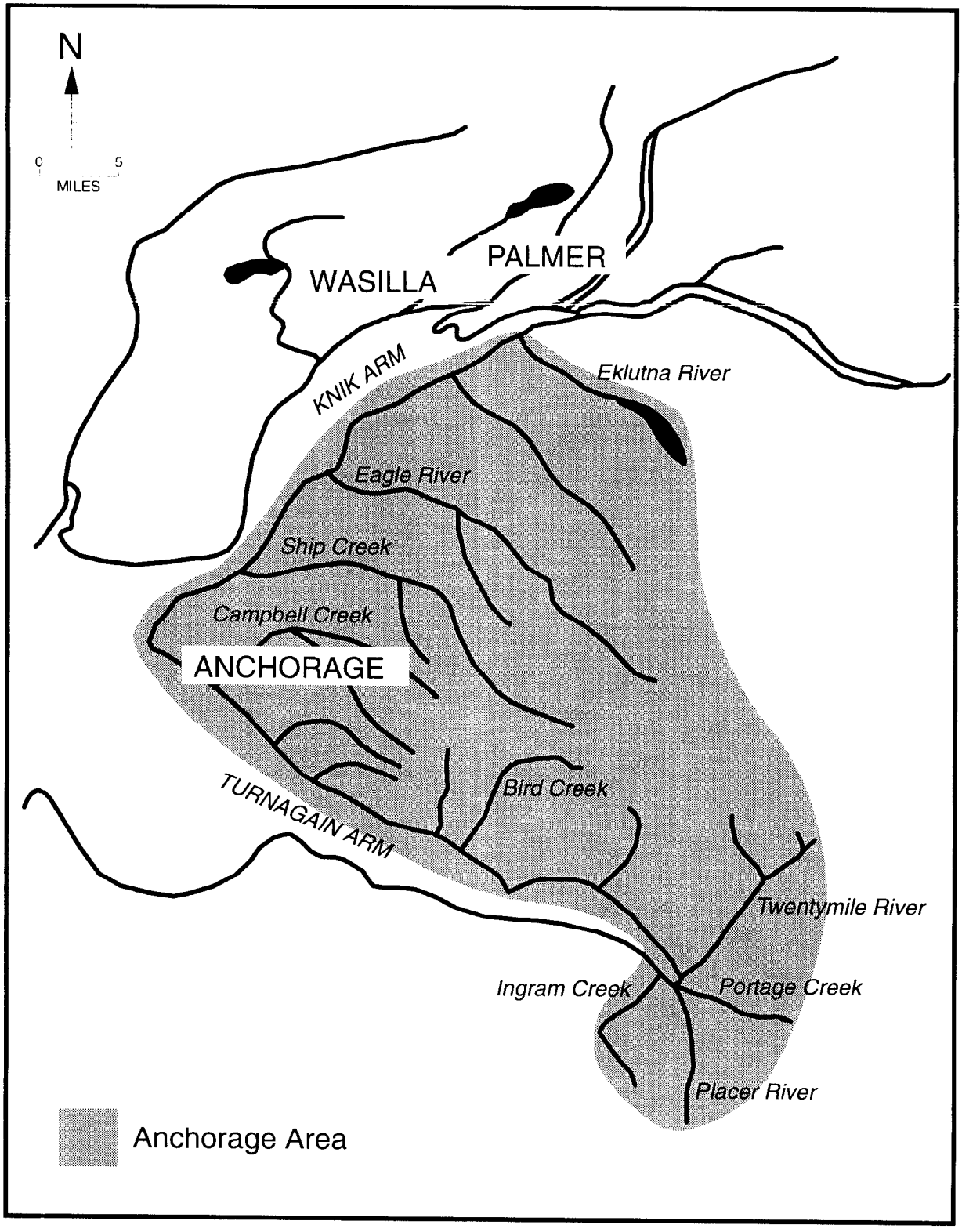


Figure 1.-Map of the Anchorage area.

been established throughout Alaska to assist the BOF with assessing fisheries and wildlife issues. Active committees usually meet in the fall before BOF meetings. ADF&G staff from all divisions are often invited to the advisory committee meetings. In this way, advisory committee meetings allow for direct public interaction with staff involved with local resource issues. The Anchorage Fish and Game Advisory Committee serves the Anchorage area. Under the current operating schedule, the BOF meets on a 3-year cycle. Proposals regarding Anchorage area fisheries were last discussed during the 1992/1993 BOF meetings. Detailed summaries of BOF actions in 1992 can be found in Hoffmann et al. (1993). Proposals for Anchorage area sport fisheries will be discussed by the BOF at their 1995/1996 meetings.

Historic regulation summaries for Campbell Creek, Eagle River, and Ship Creek are presented in Appendix A.

RECREATIONAL ANGLER EFFORT

When compared to other major Southcentral Alaska sport fisheries, Anchorage stocked lakes effort approximates that of Russian River (Figure 2), while 1993 Anchorage area streams angler effort was almost twice that expended on Little Susitna River. In 1993, angler effort in the Anchorage area totaled 144,823 angler days (Table 1, Figure 3), about 6% of the total statewide sport fishing effort and 8% of the total Southcentral Alaska effort.

Anchorage streams accounted for about 51% of the total 1993 Anchorage area effort, stocked lakes accounted for 45%, and saltwater angling represented 4% (Table 2, Figure 4). Effort expended in Anchorage area streams has almost doubled since 1990 as a direct result of our urban coho salmon stocking program (Figure 5). The Ship Creek salmon sport fishery has grown rapidly in recent years. In 1993, Ship Creek accounted for 55% of the Anchorage area stream effort, up from 19% in 1985 before stocked fish became available in the fishery (Table 3). Other Anchorage area streams that receive substantial effort are Bird Creek (17% of 1993 total stream effort), Campbell Creek (12%), Eagle River (5%), and Twentymile River (5%). Anchorage lakes fall into four basic geographic areas: (1) Anchorage bowl, (2) Fort Richardson, (3) Elmendorf, and (4) Other which includes Portage Valley ponds and lakes north of Eagle River to Eklutna. Anchorage bowl lakes accounted for most of the 1993 lake effort (48%) followed by Fort Richardson (25%) and Elmendorf (22%) (Table 4). Total lake effort has dropped in recent years and was estimated at about 65,000 angler days in 1993 (Figure 6). Historic summaries of effort estimates by site are listed in Appendix B1.

Coho salmon comprised the largest anadromous harvest by area anglers in 1993 (16,387) (Table 5), followed by sockeye (3,085), and chinook (3,041). Rainbow trout (29,112) and landlocked salmon (17,489) are the most harvested resident species (Table 6). In 1993, fishers released high proportions of their rainbow trout, Dolly Varden, Arctic grayling, and pink and chum salmon catches while retaining most of their coho and about half of their sockeye salmon catches (Table 7 and Figure 7).

OTHER USER GROUPS

Anchorage area commercial, subsistence and recreational salmon fisheries are prosecuted under guidelines described in 5 AAC 21.363 *Upper Cook Inlet Salmon Management Plan*. The only Anchorage area commercial fishery is the Northern District set gillnet salmon fishery. This fishery is open the first three Mondays in June with a 12,000 chinook salmon quota. The Northern District fishery re-opens June 25 and targets sockeye salmon. There are two weekly

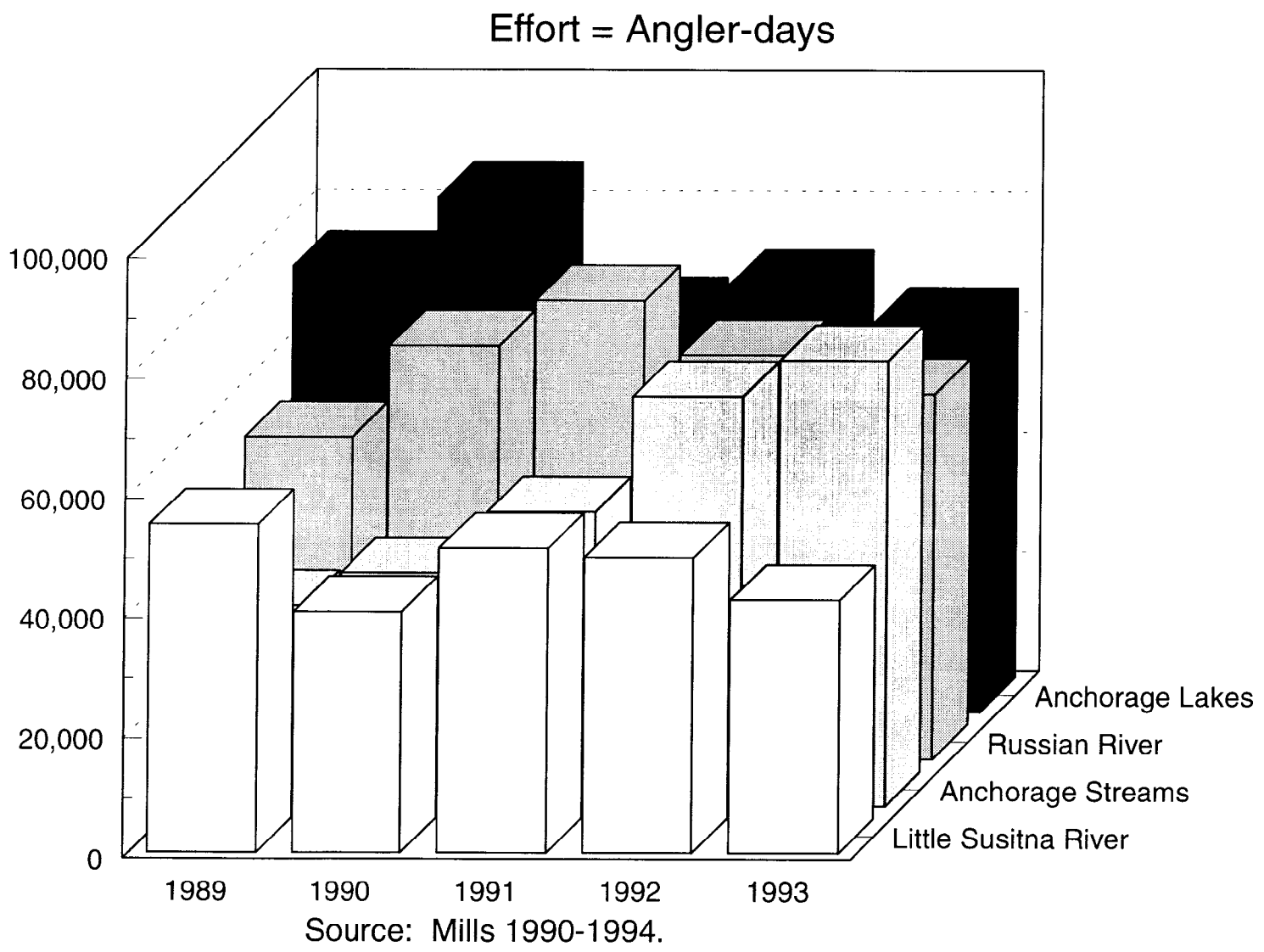


Figure 2.-Comparison of angler effort in the Anchorage area to other major Southcentral Alaska fisheries.

Table 1.-Number of angler-days expended in the Anchorage area, 1977-1993.

Year	Statewide Effort	Southcentral Effort	Anchorage Effort	Anchorage % of Statewide	Anchorage % of S. Central
1977	1,198,486	828,351	55,060	5%	7%
1978	1,285,063	913,417	31,147	2%	3%
1979	1,364,739	1,014,018	65,425	5%	6%
1980	1,488,962	1,072,384	79,665	5%	7%
1981	1,420,172	1,016,731	67,618	5%	7%
1982	1,623,090	1,131,358	82,007	5%	7%
1983	1,732,528	1,212,916	75,596	4%	6%
1984	1,866,837	1,341,658	120,206	6%	9%
1985	1,943,069	1,406,419	96,985	5%	7%
1986	2,071,412	1,518,712	103,672	5%	7%
1987	2,152,886	1,556,050	115,652	5%	7%
1988	2,311,291	1,679,939	115,999	5%	7%
1989	2,264,079	1,583,547	108,593	5%	7%
1990	2,453,284	1,745,110	126,722	5%	7%
1991	2,456,328	1,782,055	118,517	5%	7%
1992	2,540,374	1,889,930	142,830	6%	8%
1993	2,559,408	1,867,233	144,823	6%	8%

Source: Mills 1979-1994

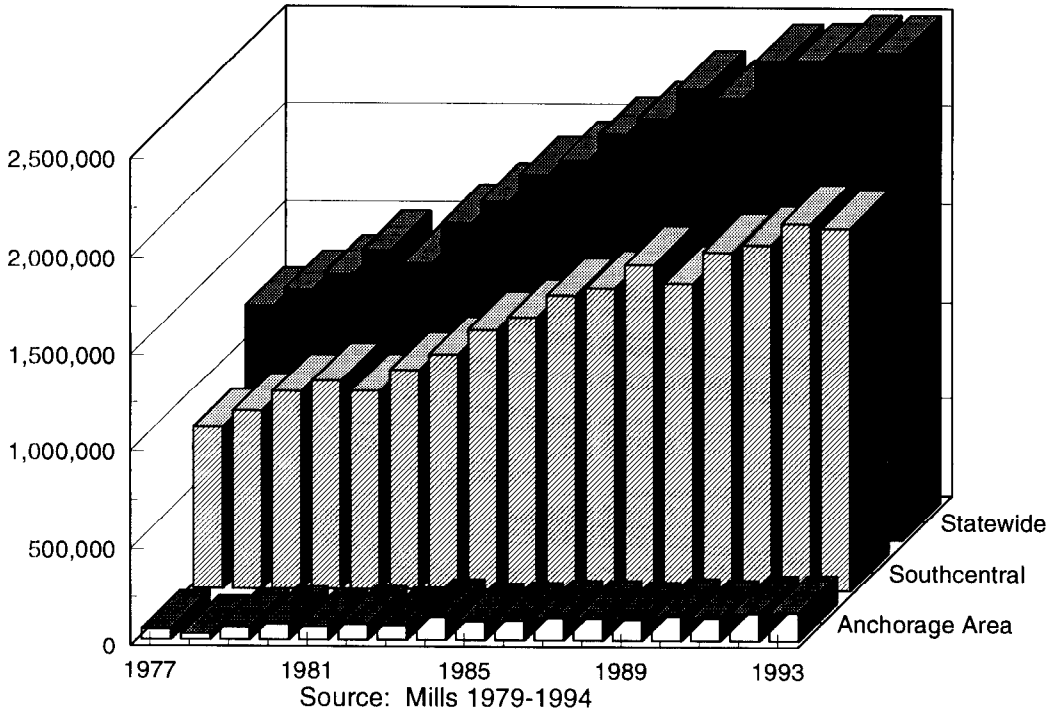


Figure 3.-Number of angler-days expended in the Anchorage area, 1977-1993.

Table 2.-Components of Anchorage area sport fish effort, 1977-1993.

Year	Anchorage Effort	Saltwater Effort	Saltwater Percent	Lake Effort	Lake Percent	Stream Effort	Stream Percent
1977	55,060	a		38,784	70%	16,276	30%
1978	31,147	a		24,318	78%	6,829	22%
1979	65,425	a		51,702	79%	13,723	21%
1980	79,665	a		60,630	76%	19,035	24%
1981	67,618	a		52,890	78%	14,728	22%
1982	82,007	a		66,705	81%	15,302	19%
1983	75,596	3,308	4%	56,554	75%	15,734	21%
1984	120,206	5,755	5%	88,887	74%	25,564	21%
1985	96,985	3,103	3%	68,495	71%	25,387	26%
1986	103,672	1,721	2%	70,517	68%	31,434	30%
1987	115,652	1,587	1%	84,444	73%	29,621	26%
1988	115,999	1,190	1%	75,314	65%	39,495	34%
1989	108,593	1,163	1%	74,118	68%	33,312	31%
1990	126,722	2,186	2%	85,715	68%	38,821	31%
1991	118,517	2,828	2%	66,596	56%	49,093	41%
1992	142,830	3,271	2%	71,194	50%	68,365	48%
1993	144,823	5,413	4%	64,997	45%	74,413	51%

Source: Mills 1979-1994

[a] Data not broken out by site but included in total

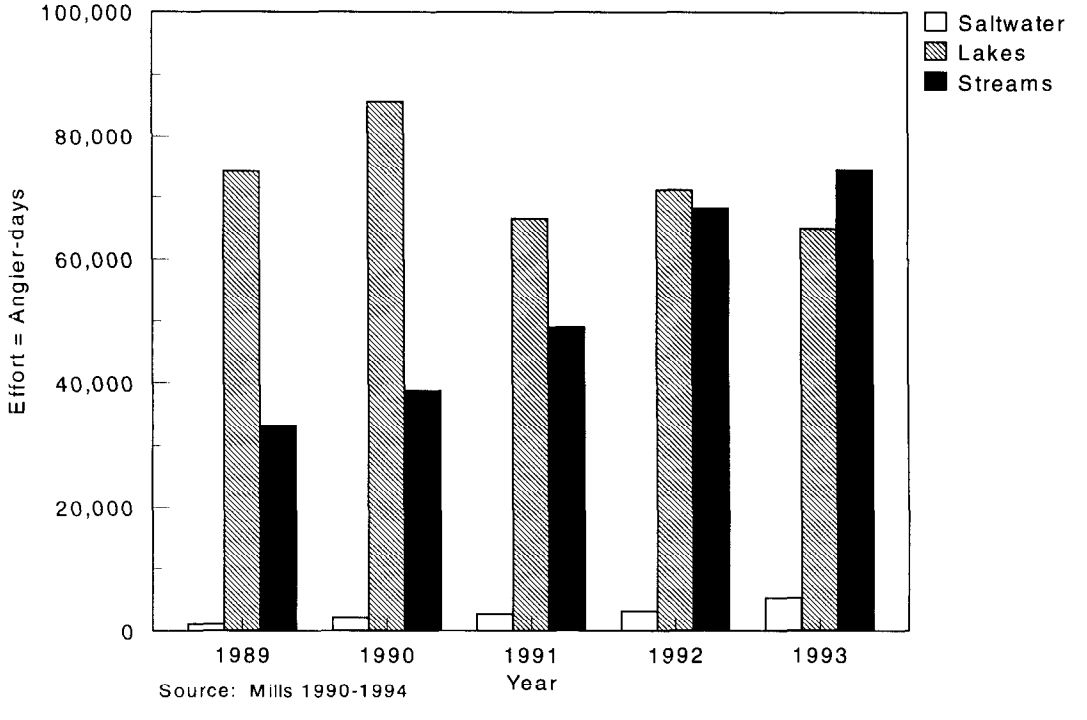


Figure 4.-Components of Anchorage area sport fish effort, 1977-1993.

Table 3.-Angler effort in Anchorage area streams, 1977-1993.

	Stream	Ship Creek		Bird Creek		Campbell Creek		Twentymile River		Eagle River		Other [a]	
Year	Effort	Effort	Percent	Effort	Percent	Effort	Percent	Effort	Percent	Effort	Percent	Effort	Percent
1977	16,276	1,156	7%	7,389	45%	b	b	6,403	39%	1,328	8%	b	b
1978	6,829	1,551	23%	1,896	28%	b	b	2,736	40%	646	9%	b	b
1979	13,723	4,150	30%	2,971	22%	b	b	3,899	28%	2,703	20%	b	b
1980	19,035	4,441	23%	3,927	21%	b	b	8,582	45%	2,085	11%	b	b
1981	14,728	2,293	16%	2,946	20%	b	b	7,429	50%	2,060	14%	b	b
1982	15,302	2,695	18%	2,081	14%	b	b	7,489	49%	3,037	20%	b	b
1983	15,734	1,844	12%	3,325	21%	1,017	6%	4,790	30%	2,205	14%	1,929	12%
1984	25,564	3,647	14%	6,843	27%	1,824	7%	6,207	24%	5,387	21%	1,422	6%
1985	25,387	4,890	19%	8,497	33%	2,272	9%	6,676	26%	1,838	7%	989	4%
1986	31,434	4,618	15%	12,507	40%	2,217	7%	6,452	21%	2,645	8%	2,475	8%
1987	29,621	11,989	40%	5,614	19%	1,485	5%	5,505	19%	1,684	6%	2,837	10%
1988	39,495	14,115	36%	9,532	24%	4,729	12%	4,820	12%	1,273	3%	3,850	10%
1989	33,312	16,424	49%	5,844	18%	1,942	6%	4,043	12%	2,017	6%	2,062	6%
1990	38,821	15,112	39%	9,138	24%	3,983	10%	4,537	12%	2,002	5%	3,176	8%
1991	49,093	29,768	61%	7,551	15%	1,977	4%	4,178	9%	1,106	2%	3,776	8%
1992	68,365	40,513	59%	11,352	17%	1,515	2%	4,257	6%	4,908	7%	4,561	7%
1993	74,413	40,815	55%	12,852	17%	9,073	12%	3,480	5%	3,396	5%	3,466	5%

Source: Mills 1979-1994

[a] Includes saltwater effort from 1977-1982.

[b] Data not broken out by site but included in total.

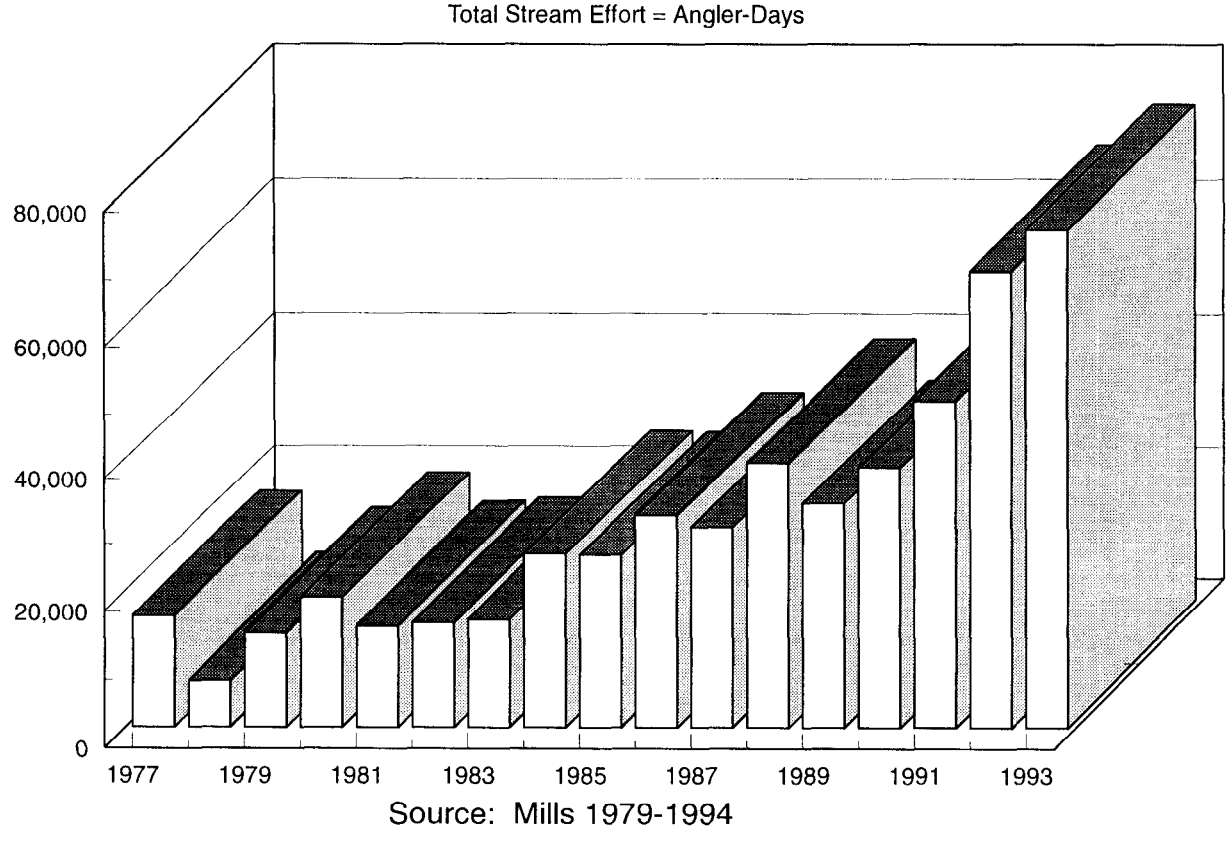


Figure 5.-Angler effort in Anchorage area streams, 1977-1993.

Table 4.-Angler effort in Anchorage area lakes by geographic area, 1977-1993.

Year	Total Lake Effort	Anchorage		Fort Richardson		Elmendorf		Other	
		Effort	Percent	Effort	Percent	Effort	Percent	Effort	Percent
1977	38,784	16,046	41%	9,011	23%	7,238	19%	6,489	17%
1978	24,318	8,939	37%	4,157	17%	4,415	18%	6,807	28%
1979	51,702	19,194	37%	12,765	25%	12,638	24%	7,105	14%
1980	60,630	21,733	36%	12,452	21%	20,519	34%	5,926	10%
1981	52,890	18,863	36%	11,913	23%	16,818	32%	5,296	10%
1982	66,705	23,066	35%	16,599	25%	20,967	31%	6,073	9%
1983	56,554	24,867	44%	13,440	24%	17,179	30%	1,068	2%
1984	88,887	33,545	38%	24,392	27%	29,093	33%	1,857	2%
1985	68,495	30,554	45%	9,884	14%	27,225	40%	832	1%
1986	70,517	20,264	29%	17,139	24%	31,681	45%	1,433	2%
1987	84,444	28,740	34%	23,634	28%	30,461	36%	1,609	2%
1988	75,314	36,280	48%	17,225	23%	20,157	27%	1,652	2%
1989	74,118	39,022	53%	16,209	22%	16,836	23%	2,051	3%
1990	85,715	46,328	54%	19,254	22%	18,691	22%	1,442	2%
1991	66,596	34,536	52%	17,482	26%	11,986	18%	2,592	4%
1992	71,194	41,120	58%	12,964	18%	14,853	21%	2,257	3%
1993	64,997	31,333	48%	16,006	25%	14,130	22%	3,528	5%

Source: Mills 1979-1994

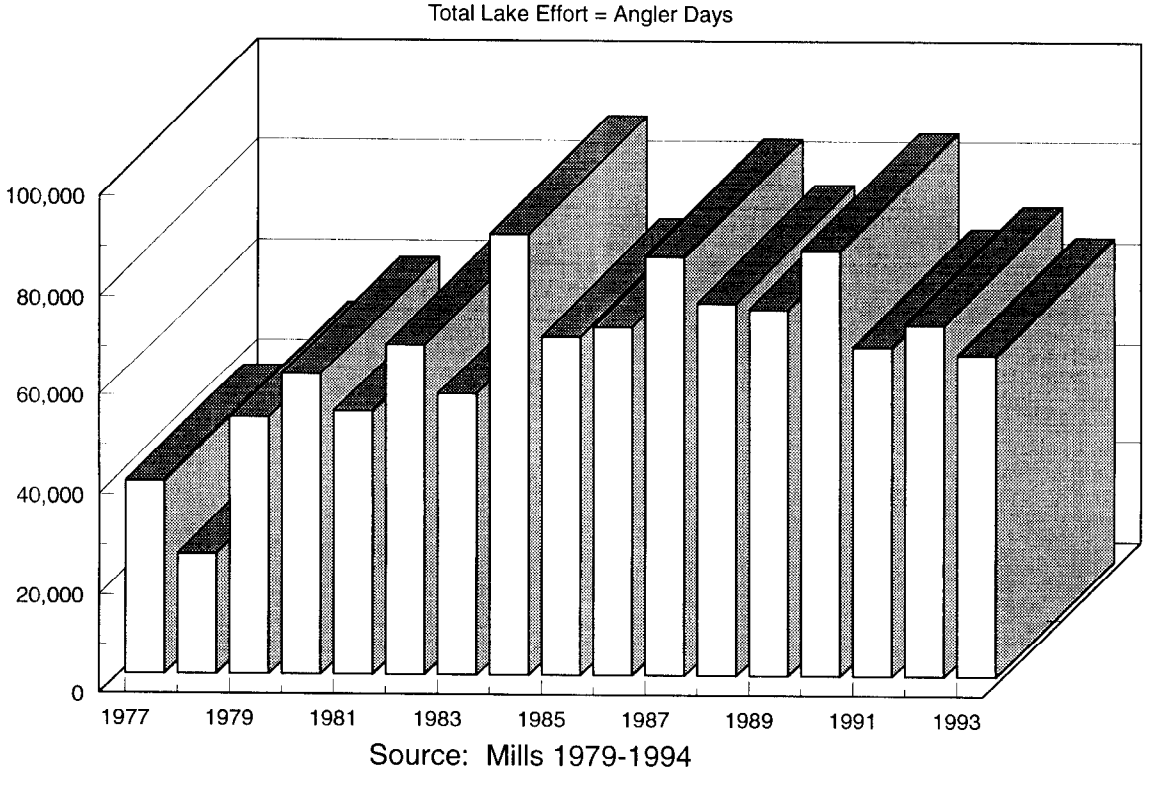


Figure 6.-Angler effort in Anchorage area lakes by geographic area, 1977-1993.

Table 5.-Anchorage area sport harvest of anadromous salmon, 1977-1993.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1977	52	25	1,127	2,953	0	4,157
1978	0	14	792	1,176	20	2,002
1979	0	204	974	781	0	1,959
1980	0	146	1,222	2,601	86	4,055
1981	0	383	1,474	1,293	29	3,179
1982	0	272	1,571	1,178	10	3,031
1983	2	603	1,905	1,122	0	3,632
1984	74	598	2,843	3,992	162	7,669
1985	61	721	2,052	1,866	634	5,334
1986	33	609	3,458	11,664	960	16,724
1987	485	1,507	3,096	2,282	579	7,949
1988	663	472	6,730	5,330	691	13,886
1989	950	564	4,940	1,631	1,015	9,100
1990	457	254	2,488	4,932	315	8,446
1991	1,169	749	4,393	1,986	360	8,657
1992	2,448	1,315	5,698	8,901	297	18,659
1993	3,041	3,085	16,387	2,767	383	25,663

Source: Mills 1979-1994

Table 6.-Anchorage area sport harvest of resident species and personal use eulachon harvest, 1977-1993.

Year	Landlocked Salmon	Dolly Varden/ Arctic char	Rainbow Trout	Arctic Grayling	Eulachon
1977	129	4,040	17,733	187	201,209
1978	18	4,264	30,463	0	112,352
1979	209	3,763	39,259	18	107,132
1980	15,574	3,607	33,141	77	81,624
1981	7,167	5,002	30,914	115	150,329
1982	2,557	2,893	49,242	210	116,617
1983	524	3,020	44,678	0	95,606
1984	997	6,981	49,592	262	302,793
1985	399	2,512	43,020	0	268,135
1986	749	2,563	39,864	168	123,954
1987	2,263	2,101	35,259	18	131,584
1988	4,364	3,745	59,864	1,001	139,508
1989	14,483	2,705	53,197	66	103,881
1990	6,775	2,257	58,435	576	133,027
1991	10,817	2,558	49,303	238	69,257
1992	13,985	3,351	33,317	413	42,964
1993	17,489	1,793	29,112	233	29,865

Source: Mills 1979-1994

Table 7.-Sport fish catch, harvest, and number released by species, Anchorage area, 1993.

Species	Catch	Harvest	Released	
			Number	%
Chinook Salmon	7,824	3,041	4,783	61
Coho Salmon	23,462	16,387	7,075	30
Sockeye Salmon	6,052	3,085	2,967	49
Chum Salmon	1,359	383	976	72
Pink Salmon	11,124	2,767	8,357	75
Landlocked Salmon	36,072	17,489	18,583	52
Dolly Varden/Arctic Char	7,661	1,793	5,868	77
Rainbow Trout	107,465	29,112	78,353	73
Arctic Grayling	1,382	233	1,149	83

Source: Mills 1994

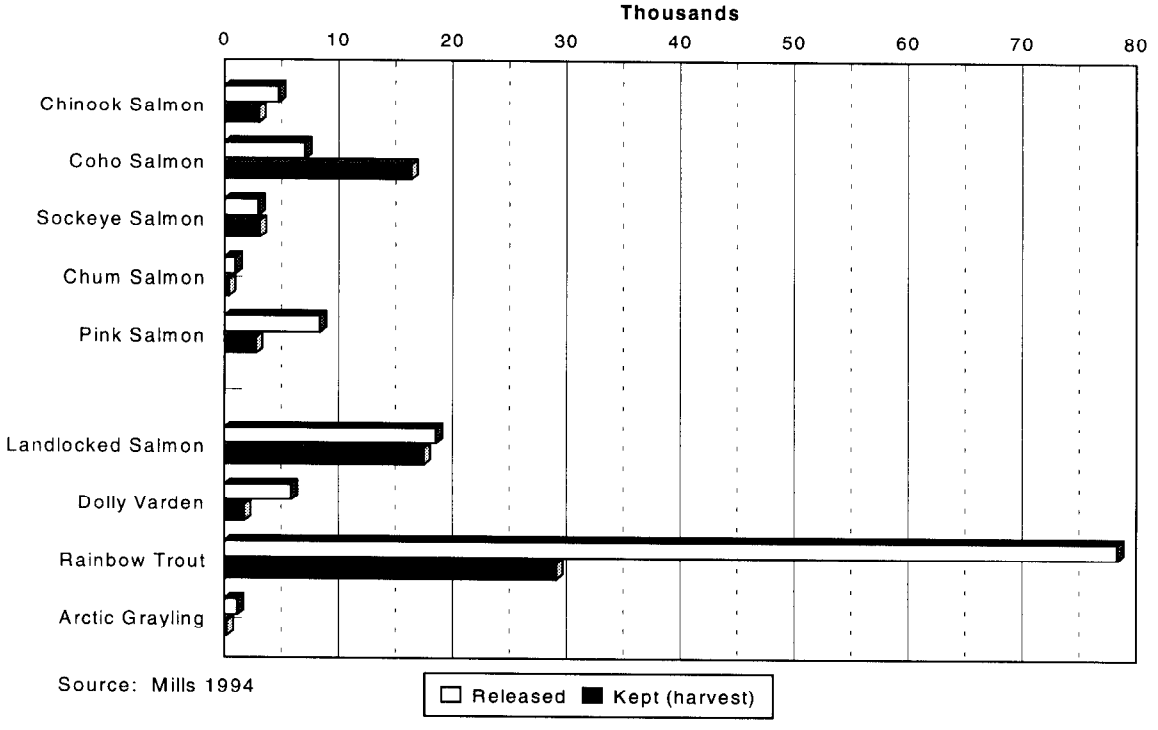


Figure 7.-Sport fish catch, harvest, and number released by species, Anchorage area, 1993.

openings, Monday and Friday, from 7:00 a.m. to 7:00 p.m. Additional openings are possible with emergency orders and generally occur on Wednesdays.

ECONOMIC VALUE OF SPORT FISHERIES

Evaluation of an activity from an economical standpoint is useful for comparing that value to other resource uses and/or community activities. These comparisons provide a cost/benefit basis for evaluating resource management and research activities. Unfortunately, assigning a dollar value to recreational activities is an extremely complex and subjective endeavor. In 1987, Jones and Stokes Associates, Inc. of Sacramento, California completed the first sport fishing economic study of Southcentral Alaska for ADF&G (Jones and Stokes Associates, Inc. 1987). This study was conducted using fishery and economic data from 1986. The purpose of the study was to assess the economic importance of sport fisheries in Southcentral Alaska by estimating (1) sport fishing expenditures, (2) economic impacts of angler spending, and (3) nonmarket values. The study found that, in 1986, anglers spent more than $127 million to participate in Southcentral Alaska sport fishing activities. Of this total, $34 million were spent outside Alaska on transportation costs, $44 million were spent in the Anchorage area, $32 million were spent in the Kenai Peninsula area, and the remaining $17 million were spent in other areas of the state (primarily Fairbanks). Money spent in the Anchorage area were for purchases used at sport fishing sites all over the state. They do not represent the value of fishing in the Anchorage area alone. The Anchorage area received a major portion of the money spent in Southcentral Alaska because it is the transportation hub of Alaska. In 1986, sport fishing related spending accounted for over 750 jobs in the Anchorage area with $7.5 million in direct earnings. Over 65% of the money spent in Anchorage on sport fishing related goods and services were at retail outlets.

MAJOR ISSUES

Issues currently facing Anchorage area management biologists are both biological and social in nature. As the department develops urban area recreational fisheries to keep up with increasing angler demands, potential conflicts with other resource users arise. The central issue is identifying who is responsible for parking, litter, bathroom facilities, and crowd control after fish are stocked and the fishery is in operation. Other concerns include trespass and habitat degradation resulting from increased angler activity.

The Ship Creek chinook and coho salmon fisheries, located in the middle of Anchorage's largest industrial area, are well established and continue to grow in popularity. Development by the primary land manager surrounding the fishery (ARR) is also increasing. Topics of concern at Ship Creek include parking shortages, litter, bathroom facilities, and additional security needs at night due to trespass and poaching.

The Eagle River chinook salmon fishery occurs in areas managed by DNR and Fort Richardson Army Base. Concerns with the Eagle River fishery involve potential bank degradation from increased foot traffic compromising the "wilderness" character of Chugach State Park.

While the Campbell Creek coho salmon fishery is located primarily within MOA green belt, portions of the stream flow through private residential areas. Some residents are concerned about trespass and increased hazards to area children, along with concerns about bank erosion and litter.

Several areas of concern have been identified in Turnagain Arm. In the Girdwood area, particularly Glacier and California creeks, there are trespass problems in accessing favored fishing spots, as well as high incidences of snagging. Snagging, over-limits, and confirmed cases of gillnetting have occurred in the Twentymile River drainage. Poaching and snagging is also a problem in Lower Explorer and Skookum creeks.

Biological issues for Anchorage area sport fisheries include the debate over wild versus hatchery stock genetics. While this issue is not of much concern in the Anchorage stocked lake program (most are closed systems), it is a popular topic with the increased anadromous stocking in Eagle River, Ship, Campbell, and Bird creeks. A final biological concern is the illegal introduction of northern pike into at least three Anchorage area stocked lakes: Sand, Lower Fire, and Delong lakes. The presence of pike may lead to a reduction in the sport harvest of stocked species.

Biological escapement goals (BEG) have been determined for chinook (300) and coho (200) salmon in Ship Creek, chinook salmon (300) in South Fork Eagle River, and coho salmon (200) in Campbell Creek. Detailed methods used to determine these BEGs are reported in Fried (*In press*).

STOCKING PROGRAM INVENTORY

With limitations on the abundance of wild stocks and consistent increases in fishing effort, Anchorage area sport fisheries have become increasingly reliant on hatchery produced fish. Most fish stocked in the area lakes are harvested by the recreational fishery. However, anadromous salmon stocked in area streams become part of the common property fishery and are caught by commercial, subsistence, and personal use fishers as well as sport anglers.

All stocking activities related to state run hatcheries are conducted under guidelines established in the Statewide Stocking Plan for Recreational Fisheries (ADF&G 1995). The coordination of statewide stocking activities was developed in 1988 to (1) optimize use of hatchery facilities, (2) provide consistency, and (3) establish stocking priorities. The first plan was completed in 1989 after internal and public review and provided statewide stocking locations and schedules for 1989 through 1993 (ADF&G 1989). The current stocking plan provides statewide stocking locations and schedules for 1995-1996.

As outlined in the 1995-1996 stocking plan, 56,000 chinook salmon catchables will be distributed among 13 Anchorage area lakes and 315,000 chinook salmon smolt will be stocked into two area streams. Three Anchorage area streams will share 450,000 coho salmon smolt. A total of 116,000 rainbow trout catchables will be distributed among 24 area lakes, and two streams will divide an additional 10,000 rainbow trout catchables. About 4,000 catchable rainbow trout are allotted annually for the April Great Alaskan Sportsman's Show fishing pond. Approximately 355,000 rainbow trout fry are planned for release in Eklutna Lake. Arctic grayling (15,000) will be distributed among three Anchorage area lakes, and 5,000 Arctic char will be stocked in three area lakes. The individual locations and numbers per site for 1990-1994 and those proposed for 1995-1996 are listed in Table 8. Historic stocking records for the Anchorage area are presented in Appendix C.

Table 8.-Anchorage area stocking summary from 1990-1994 and proposed stocking for 1995.

	1990	1991	1992	1993	1994	1995
Rainbow Trout						
Alder Pond				8,420	5,118	5,000
Beach Lake	4,572	4,497	4,311	3,249	22,185	4,000
Campbell Creek	7,277	10,856	8,010	6,071	6,634	5,000
Campbell Point Lake	5,175	5,194	5,017	3,299	5,099	5,000
Cheney Lake	10,323	7,503	10,307	11,547	10,998	10,000
Chester Creek*	5,011	4,964	7,970	4,606	4,741	5,000
Clunie Lake	8,290	5,076	8,106	56,285	65,187	9,000
Delong Lake	10,437	8,235	15,649	10,968	10,549	9,000
Dishno Pond	0	0	0	0	0	500
Eklutna Lake (fry)	50,016	2,405,416	986,434	608,856	377,044	355,000
Fish Lake			1,021	822	1,016	1,000
Green Lake	2,006	2,048	2,049	1,600	1,995	3,000
Gwen Lake	4,827	3,316	4,985	3,855	4,688	5,000
Hillberg Lake	1,500	1,557	1,500	1,200	1,502	3,000
Jewel Lake	14,527	12,950	18,671	15,282	13,627	13,000
Lake Otis	1,500	1,566	1,485	1,307	1,510	1,500
Lower Fire Lake	5,220	5,501	5,481	5,329	6,706	5,000
Mirror Lake	10,273	7,841	10,786	8,137	40,429	10,000
Otter Lake	11,150	11,232	106,177	80,348	96,403	10,000
Portage Valley Lakes	5,215	5,570	5,230			
Rabbit Lake	1,010	0	0	0	2,000	0
Sand Lake	7,211	5,225	11,413	6,684	7,273	6,000
Spring Lake	0	0	1,065	784	1,000	1,000
Sundi Lake	1,508	1,500	1,516	1,283	0	0
Taku Campbell Lake	4,246	4,242	4,536	3,382	4,119	4,000
Tangle Pond				0	0	3,000
Thompson Lake	2,019	2,017	1,982	1,408	0	2,000
Triangle Lake	1,028	984	1,006	674	1,032	1,000
Upper Sixmile Lake	1,498	1,496	1,510	1,272	1,529	3,000
Waldon Lake		2,016	4,146	3,348	4,000	2,000
Total (catchables and fry)	175,839	2,520,802	1,230,363	850,016	696,384	481,000
Arctic Grayling						
Beach Lake	4,000	4,000		7,000	4,000	4,000
Lower Fire Lake	7,000	7,000		7,000	7,000	7,000
Otter Lake				50	0	0
Tangle Pond				2,000	0	0
Waldon Lake				4,000	4,000	4,000
Total	11,000	11,000	0	20,050	15,000	15,000

-continued-

Table 8.-Page 2 of 2.

	1990	1991	1992	1993	1994	1995
Landlocked Salmon						
Beach Lake	3,104	3,076	3,037	3,168	3,178	3,000
Campbell Point Lake	1,587	1,617	1,986	1,711	1,552	1,500
Cheney Lake	3,030	5,206	37,927	3,029	5,489	5,000
Clunie Lake	4,096	4,232	3,937	21,920	4,103	4,000
Delong Lake	5,051	13,661	7,626	5,066	7,432	5,000
Fish Lake				4,000	0	0
Green Lake		1,007	1,043	11,231	989	1,500
Gwen Lake	2,090	0	2,004	0	0	0
Hillberg Lake		6,624	1,071	9,156	889	1,500
Jewel Lake	140,130	15,620	183,411	12,851	17,995	12,500
Mirror Lake	6,880	4,981	10,263	7,480	5,466	7,000
Otter Lake	5,014	7,314	15,106	5,400	6,954	6,000
Sand Lake	9,973	10,014	15,302	9,968	9,542	6,000
Spring Lake	0	4,516	0	8,505	980	1,000
Taku Campbell Lake	0	0	0	0	0	2,000
Triangle Lake		6,268	0	0	0	0
Upper Sixmile Lake			423	522	0	0
Waldon Lake				5,000	0	0
Total	180,955	84,136	283,136	109,007	64,569	56,000
Arctic Char						
Campbell Point Lake	1,000	2,000	0	0	1,250	1,250
Clunie Lake	500	1,250	2,000	1,000	1,250	1,250
Gwen Lake	500	1,250	1,000	0	0	0
Mirror Lake	500	1,250	0	1,000	2,500	2,500
Thompson Lake	500	0	0	0	0	0
Total	3,000	5,750	3,000	2,000	5,000	5,000
Chinook Salmon smolt						
Bird Creek						105,000
Eagle River	109,000	102,100	107,695	121,066	109,165	0
Ship Creek	102,523	211,268	176,380	217,557	216,165	210,000
Total	211,523	313,368	284,075	338,623	325,330	315,000
Coho Salmon smolt						
Bird Creek			121,416	140,394	84,643	150,000
Campbell Creek			80,759	140,691	87,686	150,000
Ship Creek	64,006	57,800	66,752	54,764	75,907	150,000
Total	64,006	57,800	268,927	335,849	248,236	450,000
All Species Total	646,323	2,992,856	2,069,501	1,655,545	1,354,519	1,322,000

* Includes fish stocked in University/APU Lake

SECTION II: FISHERIES OVERVIEW

This section discusses Anchorage area sport fisheries. For each major fishery, a discussion is presented on: (1) background and historical perspective, (2) recent fishery performance, (3) management objectives, (4) recent Board of Fisheries actions, (5) current biological and social issues, (6) ongoing research and management activities, and (7) recommended research and management activities. Discussion of recent fishery performance will center around 1993. The major source of data for area fisheries is the SWHS and the most current edition covers the 1993 season. Available observations or data regarding the 1994 fishery are presented.

STOCKED LAKES

Background and Historical Perspective

Few Anchorage area lakes supported resident fish populations of recreational interest before the initiation of stocking efforts. Most lakes are landlocked and threespine stickleback *Gasterosteus aculeatus* was the only species present. In the 1960s, the department began a rainbow trout stocking program to increase sport fishing opportunities within the Anchorage area. Individual stocking histories for all Anchorage area stocked lakes are found in Appendix C. Relative locations of stocked lakes can be found in Figure 8.

In 1993, 23 area lakes and two creeks were stocked with about 160,000 catchable size rainbow trout (Table 8). An additional 4,000 catchable rainbow trout were allotted for *The Great Alaskan Sportsman's Show* fishing pond in April. Approximately 609,000 rainbow trout fry were released in Eklutna Lake and about 80,000 rainbow trout fingerling and subcatchables were released into Otter Lake. Over 107,000 rainbow trout were caught in area lakes in 1993 (Table 7, Figure 7), and over 29,000 were retained (Table 9, Figure 9). Fifteen lakes were stocked in late fall with about 109,000 landlocked chinook and coho salmon catchables to provide winter ice fishing opportunities. These fish are very aggressive and strike readily throughout the winter. In 1993, over 36,000 landlocked salmon were caught, 52% of which were released (Table 7, Figure 7). The sport harvest of landlocked chinook salmon increased from 399 fish in 1985 to almost 17,500 fish in 1993 (Table 9, Figure 9). Five local lakes received a total of 20,050 Arctic grayling fingerlings. Catch was estimated at 1,382, 83% of the catch was released and 233 were harvested. A total of 2,000 Arctic char were divided among two local lakes. The 1993 Arctic char harvest from stocked lakes was 867. These lake stocking efforts provide significant urban angling opportunities in the Anchorage area throughout the year, and have supported 45%-80% of the annual Anchorage area sport fishing effort.

A creel survey to evaluate the stocking program was conducted during 1986 on four Anchorage area lakes. Results of this survey indicated that youth and adult males were the primary recreational fishers. The main objective of the survey was to determine if a single annual spring release of a large number of rainbow trout was suitable for the area lakes. Data indicated that catch rates remained high for 2 to 6 weeks after stocking, then dropped to below one fish per angler-hour. It was recommended, and adopted, that initial stocking occur after ice-out and then repeated in 4 to 6 weeks. It is believed that multiple stocking of high use lakes increases fishing success throughout the open water season. The Anchorage Area stocked lakes and streams program has increased sport fishing opportunities for the general public. This increase in opportunity has led to the development of educational fishing classes for youth and adults, the

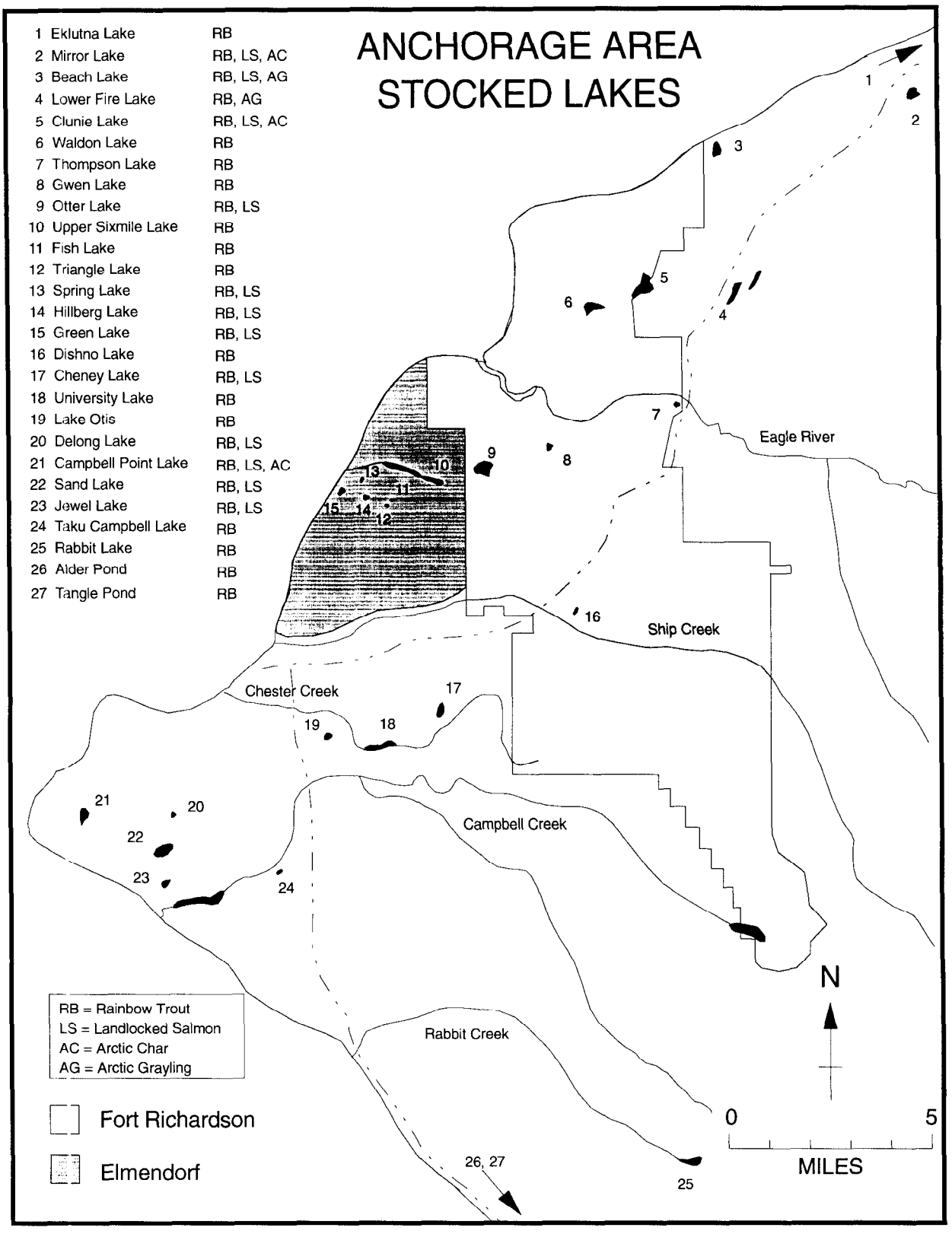


Figure 8.-Map of Anchorage area stocked lakes.

Table 9.-Anchorage area sport fish harvest from lakes by species, 1977-1993.

Year	Lake Total	Rainbow Trout	% of Total	Landlocked Salmon	% of Total	Arctic Grayling	% of Total	Dolly Varden	% of Total
1977	17,500	17,184	98%	129	1%	187	1%	0	
1978	29,813	29,752	100%	18	0%	0		43	0%
1979	38,558	38,295	99%	209	1%	9		45	0%
1980	47,673	31,936	67%	15,574	33%	77	0%	86	0%
1981	37,746	30,531	81%	7,167	19%	48	0%	0	
1982	50,426	47,869	95%	2,557	5%	0		0	
1983	45,150	44,311	98%	524	1%	0		315	1%
1984	48,256	47,086	98%	997	2%	0		173	0%
1985	41,095	40,627	99%	399	1%	0		69	0%
1986	38,256	37,339	98%	749	2%	0		168	0%
1987	36,848	34,549	94%	2,263	6%	0		36	0%
1988	62,663	57,372	92%	4,364	7%	819	1%	108	0%
1989	67,351	52,071	77%	14,483	22%	66	0%	731	1%
1990	64,222	56,277	88%	6,775	11%	527	1%	643	1%
1991	60,621	48,818	81%	10,817	18%	188	0%	798	1%
1992	48,721	32,708	67%	13,985	29%	413	1%	1,615	3%
1993	47,210	28,621	61%	17,489	37%	233	0%	867	2%

Source: Mills 1979-1994

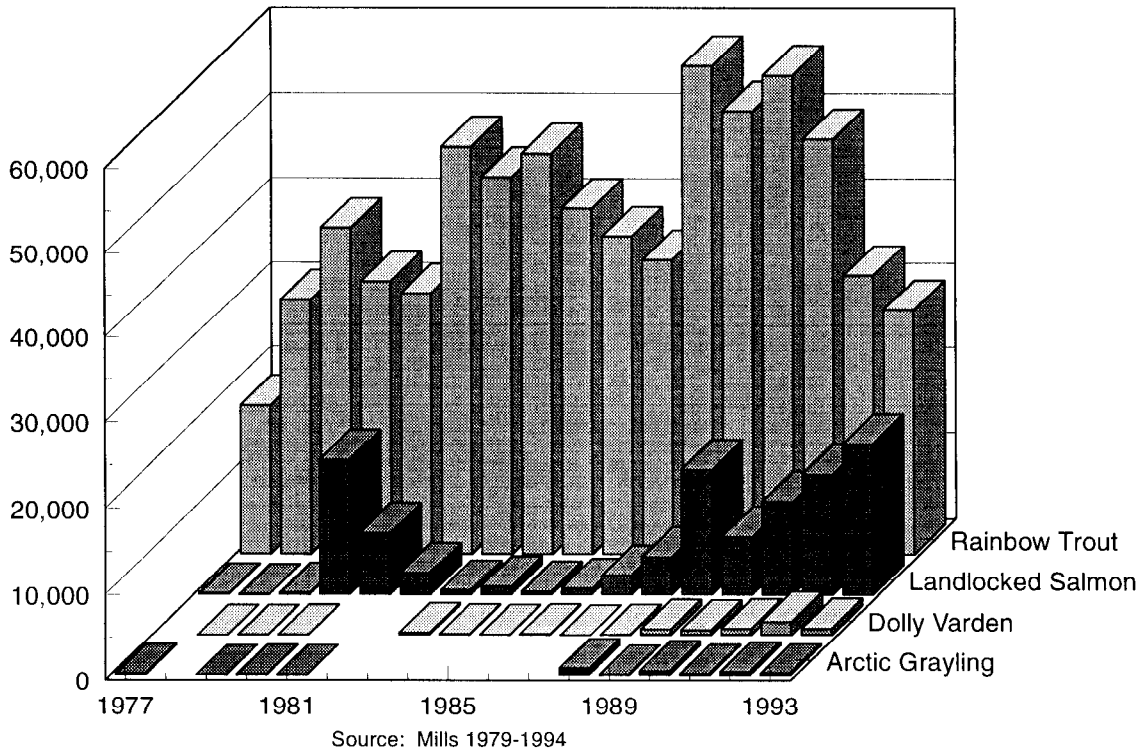


Figure 9.-Anchorage area sport fish harvest from lakes by species, 1977-1993.

annual ice fishing jamboree for disabled and underprivileged anglers, and the Ship Creek king salmon derby that benefits the Foster Grandparents and Senior Companion programs.

Daily bag and possession limits in all area lakes open to sport fishing vary by species. For rainbow trout, daily bag and possession limits are five of which only one can be 20 in or more in length. Anglers must immediately record rainbow trout 20 in or more in length on the back of their sport fishing license, and in all Cook Inlet waters combined, there is a seasonal limit of two rainbow trout 20 in or more in length. Dolly Varden/Arctic char and grayling daily bag and possession limits are five each with no size restrictions. Landlocked salmon daily bag and possession limits are 10 with no size restrictions.

Recent Fishery Performance

In 1993, rainbow trout dominated Anchorage area lakes' harvests (61%) with landlocked salmon comprising most of the remaining harvest (37%) (Table 9, Figure 9). Arctic char and Arctic grayling combined contributed 2% in 1993. Overall lake harvest has decreased in recent years, and the 1993 rainbow trout harvest was the lowest since 1977. While total area effort has increased, angler effort in area lakes has decreased (Table 2). Effort appears to be shifting to area streams as a result of the Urban coho salmon stocking program. The most popular Anchorage area lakes include Jewel, Mirror, Otter, Sixmile, Cheney and Delong (Appendix B). Lake fishery harvest trends by geographic area are shown in Tables 10 through 12. In 1993, Anchorage area lakes produced 54% of the lake harvest, followed by Fort Richardson lakes with 30%, and Elmendorf lakes contributed 13% in 1993. Elmendorf was opened to fishing by nonmilitary anglers in 1993 and we expect to see harvest increase in the future as the public becomes aware of this opportunity. The other lakes category, consisting of Portage Valley lakes and lakes north of Anchorage (from Eagle River to Eklutna), contributed 3% to the total Anchorage area lake sport harvest. Contributions from these lakes are expected to increase due to the development of several gravel pit ponds in the Portage area by USFS.

Eklutna Lake is stocked with rainbow trout fry rather than catchable sized fish. When a reduction in the numbers of rainbow trout fry reared at Fort Richardson Hatchery is required to allow for growth of remaining fish to catchable size, the excess production is stocked into Eklutna Lake. Variable numbers of fish have been stocked, from 50,000 in 1990 to nearly 2.5 million in 1991 (Table 8). Survival of fry and fingerlings is much lower than that for catchable sized fish, and growth is much slower in this glacier-fed lake. However, sampling of Eklutna Lake has shown that an adequate population of catchable rainbow trout exists to support a sport fishery. Several news releases were issued in 1994 to make the public aware of this opportunity.

During Chugiak/Eagle River Parks and Recreation Board of Supervisors meetings in late spring of 1994, rumors of illegally introduced cutthroat trout in Eagle Lake, headwaters of South Fork Eagle River, surfaced. The Board of Supervisors requested that the department confirm these rumors. Department staff and the Superintendent of Chugach State Park traveled to Eagle Lake on June 29, 1994. Gillnets, hoop nets, and minnow traps were set throughout glacial Eagle Lake. Dolly Varden, ranging in size from 4-10 inches, were the only fish species captured. Considering these catches, we were confident that cutthroat trout were not present in Eagle Lake.

While sampling Eagle Lake, staff sampled nearby Symphony Lake with hook and line. Symphony Lake is a clear, landlocked, high alpine lake. Freshwater shrimps were noted and an insect hatch was observed. Considering these cursory observations, it was recommended that

Table 10.-Harvest of all species from Anchorage area lakes by geographic area, 1977-1993.

Year	Area Total	Anchorage	% of Total	Fort Richardson	% of Total	Elmendorf	% of Total	Other Lakes	% of Total
1977	17,500	5,664	32%	5,677	32%	3,101	18%	3,058	17%
1978	29,813	9,843	33%	10,576	35%	4,196	14%	5,198	17%
1979	38,558	12,443	32%	13,344	35%	7,426	19%	5,345	14%
1980	47,673	17,039	36%	12,743	27%	14,077	30%	3,814	8%
1981	37,746	14,739	39%	12,004	32%	9,025	24%	2,290	6%
1982	50,426	19,651	39%	17,847	35%	10,433	21%	2,495	5%
1983	45,150	20,507	45%	11,813	26%	11,046	24%	1,784	4%
1984	48,256	20,162	42%	16,235	34%	10,014	21%	1,845	4%
1985	41,095	19,473	47%	9,103	22%	11,392	28%	1,127	3%
1986	38,256	14,399	38%	13,728	36%	9,705	25%	424	1%
1987	36,848	13,141	36%	12,656	34%	9,613	26%	1,438	4%
1988	62,663	34,041	54%	12,986	21%	12,707	20%	2,929	5%
1989	67,351	40,794	61%	16,340	24%	9,607	14%	610	1%
1990	64,222	29,483	46%	23,649	37%	7,828	12%	3,262	5%
1991	60,621	30,236	50%	23,381	39%	4,585	8%	2,419	4%
1992	48,721	30,694	63%	10,894	22%	5,318	11%	1,815	4%
1993	47,210	25,615	54%	13,964	30%	5,989	13%	1,642	3%

Source: Mills 1979-1994

Table 11.-Anchorage area lakes rainbow trout sport fish harvest by geographic area, 1977-1993.

Year	Lakes Total	Anchorage	% of Total	Fort Richardson	% of Total	Elmendorf	% of Total	Other Lakes	% of Total
1977	17,184	5,477	32%	5,677	33%	3,082	18%	2,948	17%
1978	29,752	9,843	33%	10,533	35%	4,178	14%	5,198	17%
1979	38,295	12,434	32%	13,299	35%	7,217	19%	5,345	14%
1980	31,936	13,561	42%	11,409	36%	3,866	12%	3,100	10%
1981	30,531	12,185	40%	12,004	39%	4,694	15%	1,648	5%
1982	47,869	17,398	36%	17,847	37%	10,276	21%	2,348	5%
1983	44,311	20,004	45%	11,498	26%	11,025	25%	1,784	4%
1984	47,086	19,116	41%	16,173	34%	9,952	21%	1,845	4%
1985	40,627	19,473	48%	8,704	21%	11,323	28%	1,127	3%
1986	37,339	14,008	38%	13,236	35%	9,671	26%	424	1%
1987	34,549	11,584	34%	11,914	34%	9,613	28%	1,438	4%
1988	57,372	31,324	55%	12,150	21%	10,969	19%	2,929	5%
1989	52,071	27,944	54%	14,764	28%	8,791	17%	572	1%
1990	56,277	23,549	42%	22,132	39%	7,383	13%	3,213	6%
1991	48,818	21,169	43%	20,734	42%	4,585	9%	2,330	5%
1992	32,708	18,800	57%	8,185	25%	4,132	13%	1,591	5%
1993	28,621	13,353	47%	9,724	34%	4,211	15%	1,333	5%

Source: Mills 1979-1994

Table 12.-Anchorage area lakes landlocked salmon sport fish harvest by geographic area, 1977-1993.

Year	Lake Total	Anchorage	% of Total	Fort Richardson	% of Total	Elmendorf	% of Total	Other Lakes	% of Total
1977	129	110	85%	0		19	15%	0	
1978	18	0		0		18	100%	0	
1979	209	0		0		209	100%	0	
1980	15,574	3,401	22%	1,248	8%	10,211	66%	714	5%
1981	7,167	2,194	31%	0		4,331	60%	642	9%
1982	2,557	2,253	88%	0		157	6%	147	6%
1983	524	503	96%	0		21	4%	0	
1984	997	972	97%	25	3%	0		0	
1985	399	0		399	100%	0		0	
1986	749	279	37%	436	58%	34	5%	0	
1987	2,263	1,521	67%	742	33%	0		0	
1988	4,364	1,826	42%	836	19%	1,702	39%	0	
1989	14,483	12,222	84%	1,454	10%	807	6%	0	
1990	6,775	5,357	79%	1,022	15%	396	6%	0	
1991	10,817	8,627	80%	2,190	20%	0		0	
1992	13,985	10,882	78%	1,914	14%	973	7%	216	2%
1993	17,489	11,629	66%	3,802	22%	1,778	10%	280	2%

Source: Mills 1979-1994

Symphony Lake be stocked with Arctic grayling beginning in 1996. It is recommended that a more involved lake sampling trip be made to produce a bathymetric map and determine if any fish species are present. Results of this sampling trip will determine if stocking will occur.

Management Objectives

Maintain or increase current effort levels in area lakes through stocking, public information programs, news releases, and community school classes.

Recent Board of Fisheries Actions

During the November 1992 BOF meeting, that portion of the Campbell Creek drainage downstream of Dimond Boulevard, including Campbell Lake, was closed to all sport fishing. Most of the land surrounding this area is privately owned and the BOF felt that there was no practical public access.

Several public proposals have been submitted for consideration by the BOF during its January 1996 meeting. These include opening lower Campbell Creek and portions of Campbell Lake to sport fishing during coho salmon season, and opening portions of Campbell Lake for ice fishing.

Current Biological and Social Issues

Bag and possession limits for stocked rainbow trout in the Anchorage area are higher than those for wild stocks in other areas in the state. As these fish are from hatchery stocking programs, there are no major biological issues regarding the Anchorage area stocked lake fisheries.

Northern pike have been illegally introduced into at least three Anchorage area lakes. Northern pike adults have been caught in Sand Lake and juveniles have been brought into the Anchorage ADF&G office, indicating that this species is successfully spawning. Several adults have been caught in Lower Fire Lake, and at least one adult northern pike was caught in Delong lake. As the northern pike population increases in these lakes, the success of the stocking program may diminish. The major concern is that additional illegal introductions may occur in other area lakes.

Social issues include litter, over-limits and snagging due to lack of enforcement activities, trespass, and poor or restricted access to some area lakes.

Ongoing Research and Management Activities

No specific research activities are currently being conducted on the Anchorage area lakes. Management activities consist of coordinating stocking schedules with hatcheries, public information programs, news releases, community schools classes, and enforcement.

In late December 1994, management and access staff toured most area lakes to identify known public access points, available facilities, and land ownership as well as sign needs. A memorandum that summarized the findings and requested further research on access to University/APU, Lower Fire, Mirror, Edmunds, Sundi, Otis, and Cheney lakes was generated. Access staff thoroughly researched the public access points on the requested lakes and that information was incorporated into a public handout. Access staff also ordered all required signs, and had begun working with the appropriate land managers to install them. Management staff will assist with hanging signs as time allows.

Recommended Research and Management Activities

The rainbow trout stocking schedule for area lakes and streams was revised from once to twice annually in 1987. The success, measured in angler effort, of urban lake stocking programs for put-and-take fisheries is primarily dependent on catch rates. High catch rates generally lead to increased angler participation and satisfaction. The 1986 creel survey found that most anglers became dissatisfied when catch rates fell below one fish per hour. In 1992, rainbow trout stocking schedules of some high use lakes (Jewel, Delong, and Cheney) were changed to three times per year.

The area's most heavily fished lakes (Jewel, Delong, Otter, and Cheney) should continue on the current stocking schedule. The first stocking should be conducted in May with approximately one-third of the total allocation of fish. The remaining allotment of fish should be incrementally stocked in these lakes every 6 weeks. This schedule should provide an initial pulse of fish for the spring fishery. Additional stockings should maintain angler satisfaction by keeping catch rates over one fish per hour through the season.

Several stocked lakes should be evaluated to determine the value of continued stocking. For example, Lake Otis has been stocked annually since 1990 but does not appear in SWHS results. Other Anchorage area lakes should be evaluated for potential stocking to increase rainbow trout sport fishing opportunities. Several Portage Valley ponds have been incorporated into the 1995-1996 Stocking Plan (ADF&G 1995) and will provide additional sport fishing opportunities.

A handout describing Anchorage area sport fishing opportunities has been completed. It provides basic information on the waters and species stocked and a general location description of area lakes. While this handout has filled a void in the information available to area anglers, more detailed information is often requested. Preparation of a brochure detailing the specific location of each area lake, access site(s), available facilities, and bottom profiles is recommended. Marking of public access points should be completed in 1995.

Arctic grayling and Arctic char from Clear Hatchery are stocked in a few local lakes. While SWHS reports small harvests of Arctic grayling from Lower Fire and Beach lakes (stocked with fingerlings), the harvest is sporadic from year to year. For Arctic char, all stocked lakes have small, sporadic harvests. Test netting of these lakes to determine the success of these stocking efforts should be conducted if the harvest does not stabilize. Other area lakes (Symphony Lake and Portage Valley Ponds) should be evaluated as potential stocking sites for these species to increase and diversify angling opportunities.

Lakes containing illegally introduced northern pike (Sand, Lower Fire, and Delong) should be netted to collect stomach and scale samples. This would give us an idea of their impact on our stocking program, anecdotal information on pike population densities, and an idea of when these fish were illegally introduced. Effort, catch, and harvest trends of stocked rainbow trout and landlocked salmon in these lakes should also determine if stocking rates should be reduced.

A sampling trip to produce a bathymetric map and determine if any fish species are present should be performed in Symphony Lake. Results of this sampling trip will determine if the planned 1996 Arctic grayling stocking will occur.

CHINOOK SALMON FISHERIES

Area-wide Assessment

While several Anchorage area streams support wild chinook salmon stocks, none are large enough to support a sport fishery. As a result, sport fishing for chinook salmon has been closed with few exceptions. Natural chinook salmon runs are found in Campbell, Bird, Indian, Rabbit, California (a tributary to Glacier Creek in Girdwood), Peters, Portage, and Ship creeks and Eagle Glacier, Carmen, Twentymile, and Placer rivers.

Recreational chinook salmon fishing in the Anchorage area began in 1987 with the 2 days per week opening of Ship Creek (Appendix A1). This fishery was expanded to 7 days per week in 1991, and over 1,000 chinook salmon were harvested. In 1992, the Ship Creek harvest exceeded 2,000, and approached 3,000 in 1993 (Table 13, Figure 10).

Eagle River was first stocked with chinook smolt of Ship Creek origin in 1990 (Appendix C4) in an attempt to create another urban chinook fishery and opened to king salmon sport fishing in 1992 (Appendix A2). As minimal harvest and participation were documented from 1992-1994, the stocking program was dropped in early 1995. All other Anchorage area streams are closed to sport fishing for chinook salmon over 16 in in length.

Bag and possession limits for king salmon over 16 in in length in Ship Creek and Eagle River are one and two. Harvests must be immediately recorded on the back of the angler's sport fishing license, and count towards the Cook Inlet seasonal limit of five. A signed king salmon stamp is also required. Bag and possession limits for king salmon 16 in or less in length are 10. King salmon 16 in or less in length do not need to be recorded on the back of the sport fishing license and do not count toward the Cook Inlet seasonal limit.

Chinook salmon return to Anchorage area streams from late May through early July. Due to the timing of these returns, commercial catches of chinook salmon bound for Anchorage area streams are assumed to be small; most are harvested in the June Northern District commercial setnet fishery. Small harvests of king salmon bound for Anchorage area streams also occur in Northern District subsistence/personal use fisheries.

Ship Creek

Background and Historical Perspective

Before World War II, the Ship Creek wild stock chinook salmon run supported sport, personal use, and subsistence fisheries. However, dams were constructed in the lower 11 miles of the creek during the 1940s and 1950s for power generation and as a water source for both MOA and the military bases. This development substantially reduced Ship Creek wild salmon runs. Attempts to increase Ship Creek salmon runs occurred from 1966 through 1980 when chinook salmon of Alaska and Oregon origin (Miller 1990) (Appendix C6) were stocked. During this period, eggs obtained from these stocks were incubated at Fire Lake Hatchery. The resultant fry were reared to smolt in the Fort Richardson Hatchery pond before release. These releases were generally unsuccessful, as consistent numbers of returning adults could not be established. More consistent returns of chinook salmon to Ship Creek have been established since 1987 due to smolt releases from the Elmendorf Hatchery using Ship Creek chinook salmon brood stock.

Ship Creek was open to chinook salmon sport fishing from 1957 through 1959, but was closed from 1960 through 1969 (Appendix A1). Chinook salmon fishing was allowed during selected

Table 13.-Anchorage area anadromous chinook salmon sport fish harvest, 1977-1993.

Year	Area Total	Ship Creek	% of Total	Eagle River	% of Total	Other Streams	% of Total
1977	52	52	100%	0		0	
1978	0	0		0		0	
1979	0	0		0		0	
1980	0	0		0		0	
1981	0	0		0		0	
1982	0	0		0		0	
1983	2	0		0		2	100%
1984	74	0		25	34%	49	66%
1985	61	0		0		61	100%
1986	33	0		0		33	100%
1987	485	437	90%	0		48	10%
1988	663	587	89%	0		76	11%
1989	950	792	83%	28	3%	130	14%
1990	457	445	97%	0		12	3%
1991	1,169	1,127	96%	6	1%	36	3%
1992	2,448	2,282	93%	48	2%	118	5%
1993	3,041	2,872	94%	47	2%	122	4%

Source: Mills 1979-1994

Includes anadromous chinook salmon less than 16 inches in length

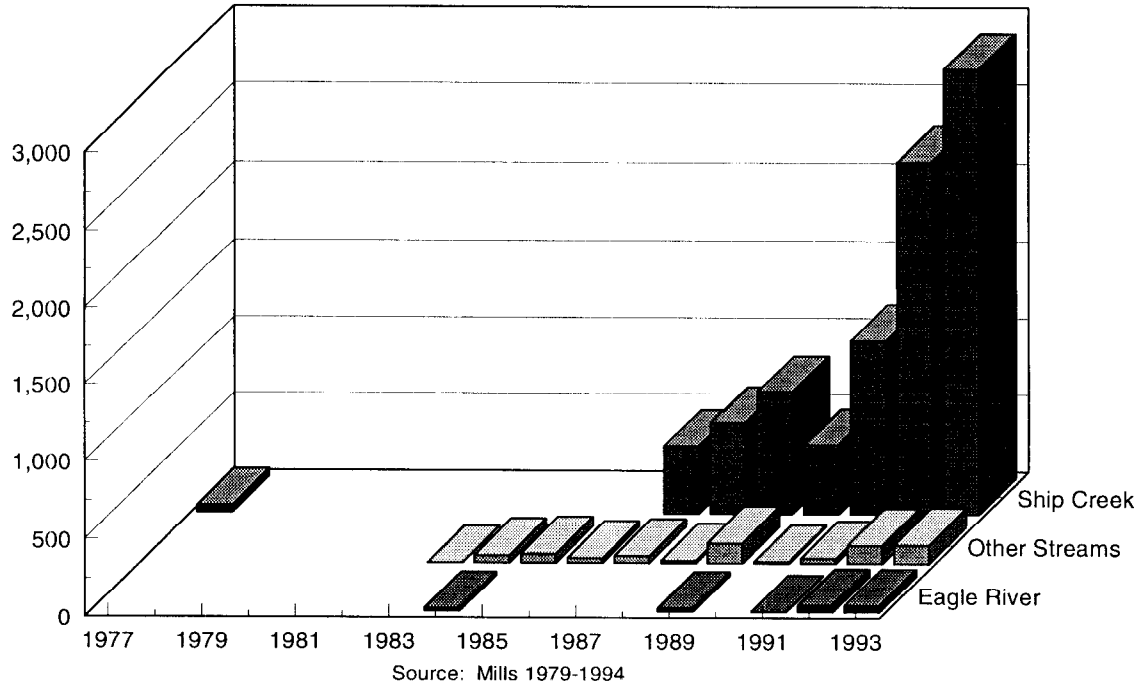


Figure 10.-Anchorage area anadromous chinook salmon sport fish harvest, 1977-1993.

periods in Ship Creek downstream of the Chugach Power Plant dam from 1970 through 1972. From 1973 through 1986, the creek was closed to chinook salmon sport fishing due, in part, to low chinook salmon abundance throughout northern Cook Inlet in the early and mid-1970s. Beginning in 1987, through increased returns resulting from annual stocking efforts, the lower portion of Ship Creek downstream of the Chugach Power Plant dam was re-opened to chinook salmon sport fishing 2 days per week for 5 consecutive weeks in June and July.

In recent years, hatchery produced chinook salmon runs to Ship Creek have provided a unique opportunity for sport anglers to fish in an urban setting. The chinook salmon run is a result of an annual release of approximately 105,000 smolt raised at Elmendorf Hatchery. The periods open to fishing were initially limited to 2 days per week to allow for an orderly fishery and insure that sufficient fish were available for upstream viewing opportunities and brood stock needs. The season was expanded to 7 days a week, January 1 through July 13, in 1990. The fishery occurs during late May through early July in the lower 1 mile of Ship Creek, downstream of the Chugach Power Plant dam. The shorelines of the area open to chinook salmon fishing are owned and managed by ARR and MOA. *The Ship Creek King Salmon Derby* began in 1993 during June. This derby was well received by the angling public and has become an annual event.

Recent Fishery Performance

Harvest and effort of the Ship Creek sport fishery are estimated in SWHS (Mills 1979-1994). The sport harvest of chinook salmon in Ship Creek has increased from 437 fish in 1987 to 2,872 fish during 1993 (Table 13, Figure 10). The 1994 harvest estimate will probably exceed 3,000 fish. Total angling effort in Ship Creek has also increased from 11,989 angler-days in 1987 to 40,815 angler days in 1993 (Table 3). Effort levels continue to increase as the popularity of this fishery grows, in part due to the *Annual Ship Creek King Salmon Derby*. Runs to Ship Creek are predicted to average about 4,000 chinook salmon annually.

The 1994 Ship Creek chinook salmon escapement was estimated at 424 fish (Appendix D1). Approximately 100 fish were taken for Elmendorf Hatchery brood stock requirements while the remainder spawned naturally near the hatchery and provided an opportunity for people to view spawning chinook salmon.

Management Objectives

The management objectives for the Ship Creek chinook salmon fishery are to maintain or increase current angler effort through smolt stocking, and achieve the 300 chinook salmon escapement goal above the Chugach Power Plant dam. This escapement goal includes 100 chinook salmon needed for brood stock requirements and a minimum of 200 fish necessary to provide natural spawning and viewing opportunities in Ship Creek. Present regulations should achieve these management objectives.

Recent Board of Fisheries Actions

No action was taken during the November 1992 BOF meetings regarding Ship Creek chinook salmon fishery.

A department proposal has been submitted for BOF consideration in January 1996 to close the reach of Ship Creek near the Elmendorf Hatchery. Several hatchery structures exist in Ship Creek near the Elmendorf Hatchery. This reach, extending from Reeve Boulevard bridge upstream to the hatchery dam, is approximately 1,650 feet in length. Statewide regulation 5

AAC 75.050, WATERS CLOSED TO SPORT FISHING. (a*) The waters within 300 feet of a fish weir or fish ladder are closed to sport fishing unless a lesser distance is indicated by department markers* is commonly interpreted to include all hatchery structures. Because there is more than 600 feet between some of these hatchery structures, small areas of this portion of Ship Creek are open to sport fishing. Only sport fishing for rainbow trout and Dolly Varden is allowed in this reach, however, most anglers in this reach are illegally targeting salmon. Hatchery personnel spend considerable time educating the public about closed waters, fishing seasons, bag and possession limits in this reach. To avoid public confusion, we are recommending that this area be closed to all sport fishing.

Current Biological and Social Issues

Besides the sport harvest, there has been an unknown number of chinook salmon illegally harvested by people camping along Ship Creek between the Chugach Power Plant dam and Elmendorf Hatchery. It is believed that this illegal harvest does not jeopardize the brood stock and viewing requirements for Ship Creek chinook salmon at this time. However, in years of low instream abundance, this illegal harvest could significantly reduce the Ship Creek chinook salmon escapement. Enforcement activities were increased in this area in 1993 and 1994. Patrols found few tent camps and few citations were issued.

Both effort and harvest have increased in the Ship Creek chinook salmon sport fishery. This trend of increased angler participation within such a limited area has created crowding, sanitation, and parking problems along the creek and adjacent ARR and MOA property. As this fishery occurs in a highly industrialized area of the city, potential conflicts exist between land managers and sport anglers.

Increased opportunity through liberalization of the season in 1990 helped reduce peak crowding problems. In addition, improvements along lower Ship Creek for access, parking, and trails have been made by ARR and MOA. These improvements have addressed some of the social issues caused by this fishery.

With an annual sport fishing derby now in place, a combat type fishery with a carnival atmosphere exists around the clock for 10 days during mid June. While only 400 king salmon were officially weighed-in for the 1993 derby, observations of the fishery in 1993 and 1994 found high success rates, and therefore, large harvests of kings. Escapement counts and brood stock collection were behind schedule in late June 1994. In order to meet both the brood stock collection and escapement goal, an emergency order (E.O. #2-KS-2-21-94) was issued closing the entire Ship Creek drainage to all sport fishing from July 7 through July 13, 1994. The escapement goal was exceeded but the brood stock goal was not met. We will continue to closely monitor the sport fishery and daily escapement rates in 1995. We will also investigate the feasibility of beginning brood stock collection earlier in the season.

There has been public concern over water quality and the suitability of Ship Creek fish for human consumption. Water quality in Ship Creek has been monitored by MOA in recent years. While water quality has improved, pollution from urban activities and development still affects Ship Creek. Most Ship Creek salmon are raised to smolt stage at Elmendorf Hatchery before emigrating to Cook Inlet marine waters. Upon entering Ship Creek as adult salmon, they have ceased feeding. Therefore, ingestion of pollutants does not occur. A study conducted by USF&WS during 1986 estimated that pollutant levels in naturally produced juvenile Ship Creek

salmon (primarily PCBs) may significantly reduce their survivability. Sampling by MOA has shown that Ship Creek water periodically contains high levels of fecal coliform bacteria. Proper cooking of salmon harvested from Ship Creek eliminates any potential health risks from bacterial pollution.

Ongoing Research and Management Activities

No research activities are planned for the Ship Creek chinook salmon fishery.

Management activities include a variety of tasks necessary to maintain the fishery. Chinook salmon escapements are monitored by management staff and hatchery personnel passing fish through a live box located on the upstream end of the Chugach Power Plant dam, as well as by foot surveys. Live-box operations had begun around June 12 in past years.

Continued coordination with the primary land manager, ARR, is essential to keep the program operating smoothly. This coordination consists of determining facilities (parking, bathrooms, and trash receptacles) and sign needs necessary to control angler activities in a manner consistent with ARR operations. Enforcement activities are conducted during the Ship Creek chinook salmon fishery. Management staff participation in the annual derby includes tagging three fish for the nonprofit group (Foster Grandparents and Senior Companion programs) running the derby, assisting with development of derby rules, and educating derby officials in sport fishing regulations.

Recommended Research and Management Activities

The following activities are recommended for Ship Creek:

1. Continue to monitor daily escapement levels. Coordinate with Elmendorf Hatchery staff to insure that brood stock goals are met.
2. Begin live box operation before June 12 and investigate the feasibility of collecting brood stock before June 12.
3. During peak periods of the sport fishery, efforts should be directed at minimizing potential conflicts between industrial activities in lower Ship Creek and sport anglers by assisting area land managers in signing, enforcement, and angler education.
4. Efforts should be continued to insure that adequate access, parking, and sanitation facilities are available. The department should take an active role as planning and development of the port area continues.
5. Improvements to the Elmendorf Hatchery viewing area are recommended. Over 60,000 people a year observe spawning salmon at this location. Gravel deposition during high water events has filled the pool located immediately downstream of the hatchery dam and reduced the size of the holding area near the viewing area. Re-establishment of the holding area, development of barrier-free access, and installation of an informational kiosk are recommended.
6. Continue participation in *The Ship Creek King Salmon Derby* and promote "catch and release."
7. Investigate potential to increase number of smolt stocked.

8. Access staff should coordinate the installation of permanent rest rooms, garbage cans, and an informational kiosk on ARR land with MOA.

Eagle River

Background and Historical Perspective

The Eagle River drainage originates in the Chugach Mountains with most flow contributed by Eagle Glacier. The lower portion of the river flows through flats on Fort Richardson Army Base that were historically used as a large weapon test firing range and impact area. All access to Eagle River from the mouth upstream to Bravo Bridge, approximately 2 miles, is restricted due to the presence of unexploded ordinance. That portion of Eagle River upstream from Bailey Bridge to the Glenn Highway bridge is accessed through Fort Richardson. Upstream of Glenn Highway, the river meanders through dedicated greenbelt as part of Chugach State Park. Developed access points on Eagle River are limited. These access sites include: (1) Glenn Highway campground located immediately upstream of Glenn Highway, (2) day use area upstream of Briggs Bridge, and (3) a parking area and unimproved small boat launch site located at mile 7.4 of Eagle River Road. The current nonangling use pattern for Eagle River drainage includes hiking and whitewater float trips.

The Eagle River drainage was closed to chinook salmon fishing from 1964-1991 (Appendix A2). Wild stock chinook salmon return to the Eagle River drainage during June and early July. Most chinook salmon spawn in South Fork Eagle River downstream of the barrier falls. Foot surveys of chinook salmon escapement in Eagle River have documented from 28 to 513 fish annually since 1963 (Appendix D2).

The drainage is relatively unproductive and, due to the population growth in the surrounding area, the department sought to address the problem of limited sport fishing opportunities in the Eagle River area by creating a hatchery chinook run. The Eagle River chinook salmon stocking program was designed to generate 6,000 angler-days of effort directed at chinook salmon annually in Eagle River. In 1990, an annual stocking program was initiated in Eagle River with approximately 105,000 chinook salmon smolt of Ship Creek origin (Appendix C4). While some fish from these stocking efforts returned in 1991, full returns composed of all age classes were expected to total 3,000 fish annually beginning in 1994.

Recent Fishery Performance

Before the king fishery opening in 1992, angler effort in Eagle River averaged about 2,300 angler-days from 1982-1991 (Table 3). In 1992, the first year of the king fishery, effort was estimated at about 4,900 angler-days; chinook harvest was estimated at 48 (Table 13). Approximately 300 wild stock chinook salmon and 1,000 hatchery chinook salmon were projected to be available to sport anglers. Observations during an informal creel survey, part of the 1992 cooperative DNR/ADF&G Eagle River access study, indicated low angler participation and harvest. Three locations were surveyed: (1) Eagle River campground, (2) Briggs Bridge, and (3) North Fork access trail. Boat anglers were also interviewed. Most angler effort occurred at the Eagle River campground site and all fish harvested were observed at this site. Most fish were fairly large, indicating that this harvest was primarily from the wild stock as those expected to return from the stocking efforts would have been small 1- and 2-ocean fish. Effort was estimated at about 3,500 angler-days in 1993 (Table 3), and harvest was estimated at 47 (Table 13). The low harvest in 1993 was surprising as over 2,300 hatchery chinook were expected to be

available. While harvest and effort estimates are not yet available for 1994, we would be surprised if more than 100 kings were harvested and expect effort to be lower than that expended in 1993. Anglers have used the Eagle River campground site and the Hiland Road access points to enter the fishery. Practically no effort was noted once water levels increased in mid-June. Float trips by department staff (June, July, and August) found no evidence of chinook salmon in Eagle River except the natural spawning run in South Fork. For some reason, the hatchery run has not materialized. Virtually no effort has been expended near the mile 7.4 Eagle River Road access site and a drift fishery has not developed.

Observations during 1990 and 1992 indicated that a significant illegal harvest occurs in the clear water of South Fork. The South Fork chinook salmon escapement count in 1994 was 440 fish (Appendix D2), and exceeded the 300 escapement goal. Therefore, in spite of legal and illegal harvests, adequate returns made it to the spawning grounds. Expected run strength for 1995 was estimated using average smolt survival observed in other hatchery runs. While it is anticipated that 3,000 stocked chinook salmon will return in 1995, the poor returns from hatchery stockings observed from 1992-1994 suggest that few fish will actually return.

Management Objectives

The Eagle River chinook salmon fishery was established to provide quality chinook salmon fishing close to Anchorage. A goal of increasing angler effort by approximately 6,000 angler days as measured by SWHS was set to achieve the objective of generating a sufficient increase in angler effort to make the stocking program cost effective. In addition, the fishery is managed to maintain historical escapement levels, continue natural production, and provide viewing opportunities. An escapement goal of 300 king salmon was established for South Fork Eagle River based on historic escapement counts from foot surveys.

Recent Board of Fisheries Actions

During the 1992 November BOF meeting, action was taken to expand the Eagle River chinook salmon sport fishing season and reduce the area opened to fishing. The new regulations opened the season 24 hours per day for a 30 day period starting on the Saturday before Memorial Day, an increase from the 3 days per week opening in 1992. The area opened to chinook salmon fishing was from Bailey Bridge on Fort Richardson upstream to a department marker placed on the mainstem river bank near mile 7.4 of Eagle River Road. In addition, areas that were open in 1992 were closed in 1993. The area located 100 yards on both sides of the confluence of South Fork and Eagle River was closed to all fishing from June 1 to August 14; the North Fork was closed to all fishing during king salmon season (Figure 11), and Eagle River mainstem upstream of a department marker placed on the river bank near mile 7.4 of Eagle River Road was closed to all fishing (Figure 11, Appendix A2).

A department proposal has been submitted for BOF consideration in January 1996 to close the king salmon season in Eagle River.

Current Biological and Social Issues

Chinook salmon returning to Eagle River are the result of annual stocking efforts and, to a lesser extent, natural production. The original intent was to review the stocking program after the 1995 season. However, poor hatchery returns to Eagle River combined with a shortage of chinook smolt at the Elmendorf Hatchery forced an internal review in the winter of 1994. As a result of the internal review, the smolt stocking program was canceled beginning in 1995.

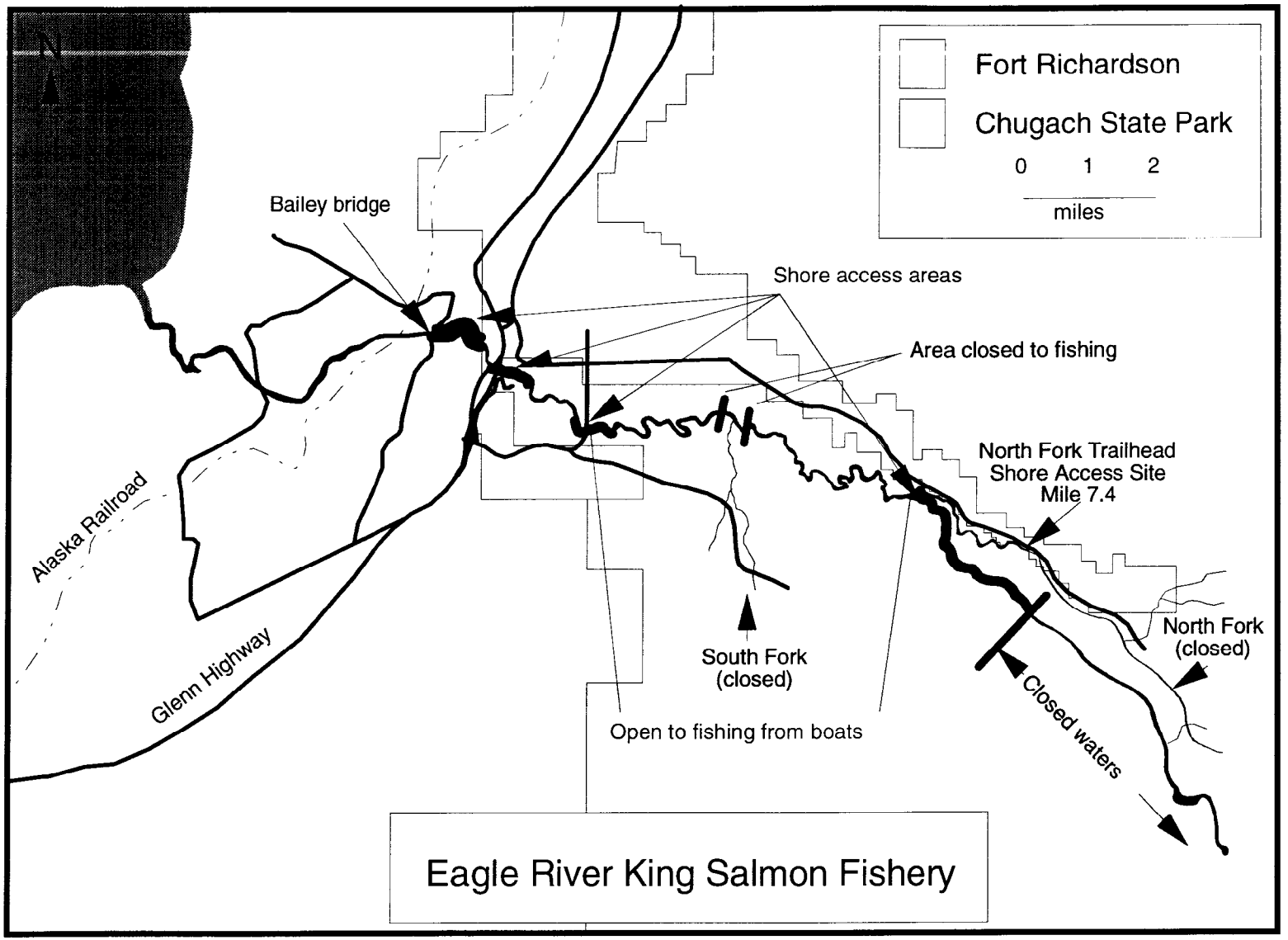


Figure 11.-Map of the Eagle River chinook salmon fishery.

Most of the sport fishing effort occurs within the Eagle River greenbelt. Concerns about the Eagle River chinook salmon sport fishery include trespass, crowding, habitat degradation, and sanitation. DNR has constructed new access sites, parking areas, and litter and sanitation facilities. These facilities have improved access to the area for all Chugach State Park users.

DNR has identified specific guidelines for fishing activities in Eagle River. Three shore angling sites have been developed. These areas are: (1) the Glenn Highway campground upstream from the Glenn Highway bridge; (2) the Briggs Bridge access point, and (3) mainstem Eagle River near mile 7.4 Eagle River Road. In the remainder of the park, fishing is allowed in all areas (sand and gravel bars, from nonmotorized boats) except from vegetated shorelines. Fishing on Fort Richardson Army Base is allowed from Bailey Bridge upstream to a department marker at the base boundary. A pass, available at entrance guard stations, is required to fish on base.

A drift fishery was expected to develop in Eagle River. DNR completed a parking and unimproved boat launch area during 1990 at approximately mile 7.4 of Eagle River Road and this site is used as a starting point for float trips. Unfortunately, boats must be carried approximately one-quarter mile to the river. Therefore, trailered drift boats are unable to launch. Most boats using the river are not equipped to handle the whitewater conditions that exist downstream of Briggs Bridge. DNR constructed a pullout site near Briggs Bridge in 1993 that allows smaller rafts and canoes to leave the river without having to travel through the rapids. Takeout points also are in place at the Glenn Highway campground, and Fort Richardson completed a new pullout site just upstream of Bravo Bridge in late 1994.

Ongoing Research and Management Activities
No specific research projects are planned for Eagle River.

Management activities for the Eagle River chinook salmon fishery include conducting chinook salmon escapement counts in South Fork to assure achievement of the 300 fish escapement goal. In addition, area staff will visit the fishery frequently to evaluate participation, harvest trends, and enforce Fish and Game regulations as time allows.

Recommended Research and Management Activities
Staff will attempt to make one to two trips per week during the 1995 king salmon season noting angler use trends and success rates. If large amounts of effort and good catch rates are observed, a re-evaluation of the stocking program will occur.

Other Chinook Salmon Streams

Chinook salmon return to several other Anchorage area streams. Foot escapement surveys have been conducted periodically in Campbell and Bird creeks. Small numbers of chinook salmon have also been reported in Rabbit, Indian, California (a tributary to Glacier Creek in Girdwood), Peters, and Portage creeks, and Glacier, Carmen, Twentymile, and Placer rivers. All of these streams are closed to chinook salmon sport fishing as the runs cannot support a sport fishery. In most streams, illegal harvests of chinook salmon occur.

Campbell Creek
Campbell Creek, the largest free-flowing stream in the Anchorage metropolitan area, supports a small chinook salmon run. While this run has averaged approximately 275 fish annually from 1961-1993, 1,076 chinook salmon were observed during foot surveys in 1994 (Appendix D4). Although chinook salmon sport fishing has not been permitted in Campbell Creek since

statehood (Appendix A3), a department BOF proposal to allow a limited, weekend only chinook salmon sport fishery may be submitted if runs continue to increase.

The upper reach of Campbell Creek is composed of two tributaries, North and South Forks, which drain the Chugach Mountains east of Anchorage. Both forks flow through canyons in their upper reaches that are impassable to upstream fish migration. Downstream of the canyons, these tributary streams flow approximately 10 miles through undeveloped forests and wetlands before converging upstream of Lake Otis Parkway. Campbell Creek flows through MOA greenbelt and private property from the confluence of the forks downstream to Cook Inlet. It is in this reach of Campbell Creek that the greatest urbanization impacts have occurred.

Campbell Creek once supported large runs of chinook salmon. However, byproducts of extensive urbanization including reduced water quality, siltation, re-channelization, and poaching have reduced chinook salmon production in the drainage. MOA has made an effort to obtain and preserve the riparian habitat of Campbell Creek from Lake Otis Parkway downstream to Campbell Lake and improve water quality. In 1981, BLM transferred title to the 4,000 acre Campbell Tract (Bicentennial Park) to MOA. This area comprises the primary salmon spawning and rearing habitat. Recent run sizes suggest that Campbell Creek chinook salmon runs are rebounding.

Bird Creek

Foot survey counts of chinook salmon returning to Bird Creek and its tributary, Penguin Creek, in recent years indicate an annual run of less than 100 chinook salmon. A series of falls in Bird Creek approximately one-half mile above the Penguin Creek confluence presents a complete barrier to upstream migration. Most chinook salmon are observed within one-quarter mile of the first waterfall in Bird Creek and the lower mile of Penguin Creek. This area comprises the primary spawning and rearing habitat for chinook salmon. In 1994, a total of 289 chinook salmon were counted in the Bird Creek drainage (Appendix D3).

Significant illegal king salmon harvests have occurred in the intertidal portion of Bird Creek. Staff should coordinate enforcement with Alaska Department of Public Safety, Fish and Wildlife Protection (FWP) staff, and maintain signs.

Bird Creek is a good candidate for hatchery enhancement. Extensive parking and public access have been developed in response to the large natural pink salmon and hatchery enhanced coho salmon sport fisheries. However, as Bird Creek flows through Chugach State Park, there is a vocal minority that opposes any attempt to stock chinook salmon into Bird Creek. The primary reason cited in opposition to developing a hatchery enhanced chinook salmon run is the demise of the wild Bird Creek chinook run. While the department is sensitive to this concern, we will continue to work with all user groups to explain the benefits of enhancing Bird Creek.

Other

Small, wild stock chinook salmon runs are found in Indian, Rabbit, California (a tributary to Glacier Creek in Girdwood), Peters, and Portage creeks, and Glacier (tributary to Twentymile River), Carmen, Twentymile, and Placer rivers.

Each of these streams supports annual chinook salmon runs of < 100 fish, and all are closed to chinook salmon fishing. The Rabbit Creek chinook salmon run provides viewing opportunities for Potter Marsh visitors in June and July. Research activities in Turnagain Arm were conducted

by USFS (the primary land manager) personnel in 1994. Adult salmon escapement counts were tallied on seven Portage area streams including Twentymile River, and Williwaw, Explorer, Upper Railroad, Lower Railroad, Ingram, and Portage creeks (Table 14). Only two chinook salmon were observed.

Several requests to open the glacial Twentymile River drainage (Twentymile, Glacier, and Carmen rivers) to chinook salmon sport fishing were received during June and July of 1994. Management staff chartered a local guide on July 14 and surveyed the drainage. While visibility was poor throughout most of the drainage, 32 chinook salmon were observed in the lower mile of Carmen River immediately upstream of the confluence with Glacier River. In addition, six chinook salmon were landed by hook and line. Given the relatively easy accessibility of this area via jet boat, and the small number of chinook salmon observed, it is felt that this chinook salmon run cannot support a viable sport fishery.

Recommended Research and Management Activities

Staff should continue participating in the development of the Potter Marsh Coastal Wildlife area. Enforcement activities along streams by department personnel should continue as time allows. Regulations currently allow anglers to catch and harvest chinook salmon <16 inches in length in these systems. Although few, if any chinook salmon <16 inches have been observed during escapement surveys of area streams, anglers are using this regulation to fish for larger chinook salmon. It is recommended that a proposal to close all area streams, except Ship Creek and Eagle River, to all chinook salmon sport fishing be prepared for consideration by BOF.

As development and urbanization affect area streams, efforts should continue to maintain and improve water quality and fish habitat. Evaluation of Bird Creek as a site for chinook salmon enhancement through annual smolt stocking is recommended.

COHO SALMON FISHERIES

Area-wide Assessment

While wild stock coho salmon are present in several Anchorage area streams, few native populations are large enough to support significant sport fisheries. As a result, Anchorage area sport fishing opportunities for this species have been limited. Streams supporting annual runs of coho salmon include Campbell, Rabbit, Bird, Ship, Peters, Glacier, California, and Portage creeks and Eagle, Eklutna, Twentymile, and Placer rivers. According to SWHS, the largest Anchorage area coho salmon sport fisheries occur in Bird, Campbell, and Ship creeks and Twentymile River (Table 15). Twentymile River supports wild coho salmon, Bird and Campbell creeks' runs are a combination of wild stock and hatchery production, and Ship Creek coho salmon are primarily hatchery produced. Bag and possession limits for salmon, other than king salmon, >16 in in length are three. Bag and possession limits for salmon other than king salmon, < 16 in in length are 10. Potter and Sixmile creeks are totally closed to all sport fishing, and portions of Rabbit, Campbell, and Ship creeks are closed.

Stocking efforts using coho salmon fingerlings were conducted in Ingram Creek from 1985-1990 in an attempt to establish a coho salmon sport fishery, but poor returns caused this program to be discontinued. An urban coho project was initiated in 1991 to provide additional recreational fishing opportunities by stocking coho salmon smolt in several other urban area streams. This program identified seven streams to receive stocked anadromous coho salmon in the Northern Cook Inlet (NCI) area (Meyer et al. 1991, Delaney and Vincent-Lang 1991, Whitmore and

Table 14.-Salmon escapement counts from foot surveys performed by U.S. Forest Service personnel in selected Turnagain Arm streams, 1994.

Stream	Salmon Species					
	Chinook	Sockeye	Pink	Chum	Coho	Total
Twentymile River Drainage	1	155	105	104	800	1,165
Portage Creek Drainage						
Williwaw Creek	1	468	0	907	30	1,406
Explorer Creek	0	35	0	2	804	841
Upper Railroad Slough	0	750	50	111	200	1,111
Lower Railroad Slough	0	65	70	25	355	515
Portage Creek	0	0	0	20	40	60
Ingram Creek	0	0	0	1	8	9

Table 15.-Anchorage area anadromous coho salmon sport fish harvest, 1977-1993.

Year	Area Total	Ship Creek	% of Total	Bird Creek	% of Total	Campbell Creek	% of Total	Twentymile River	% of Total	Other	% of Total
1977	1,127	125	11%	0		0		996	88%	6	1%
1978	792	151	19%	151	19%	0		289	36%	201	25%
1979	974	512	53%	0		0		362	37%	100	10%
1980	1,222	301	25%	26	2%	0		439	36%	456	37%
1981	1,474	220	15%	38	3%	0		737	50%	479	32%
1982	1,571	168	11%	31	2%	0		618	39%	754	48%
1983	1,905	94	5%	94	5%	0		712	37%	1,005	53%
1984	2,843	312	11%	324	11%	0		1,297	46%	910	32%
1985	2,052	236	12%	373	18%	0		709	35%	734	36%
1986	3,458	89	3%	994	29%	0		1,765	51%	610	18%
1987	3,096	779	25%	761	25%	0		1,050	34%	506	16%
1988	6,730	2,128	32%	1,710	25%	0		2,055	31%	837	12%
1989	4,940	1,467	30%	899	18%	28	1%	1,715	35%	831	17%
1990	2,488	818	33%	535	22%	0		787	32%	348	14%
1991	4,393	1,168	27%	1,099	25%	25	1%	1,308	30%	793	18%
1992	5,698	1,911	34%	785	14%	8	0%	1,684	30%	1,310	23%
1993	16,387	2,579	16%	6,195	38%	3,942	24%	1,986	12%	1,685	10%

Source: Mills 1979-1994

Roth 1991). Three of these streams, Ship, Bird and Campbell creeks, are in the Anchorage area; the other four, Fish, Wasilla, and Cottonwood creeks, and Little Susitna River are in the Palmer/Wasilla urban areas. The Big Lake Hatchery was closed in 1993, reducing the Palmer/Wasilla urban stocking program to Little Susitna River. Of the Anchorage area streams, Ship Creek already received stocked fish, but the numbers were increased to provide additional angling opportunities. Bird Creek, which had a limited wild coho salmon fishery, was augmented through stocking to provide additional opportunities. Finally, Campbell Creek was stocked to provide a new fishery that opened in 1993.

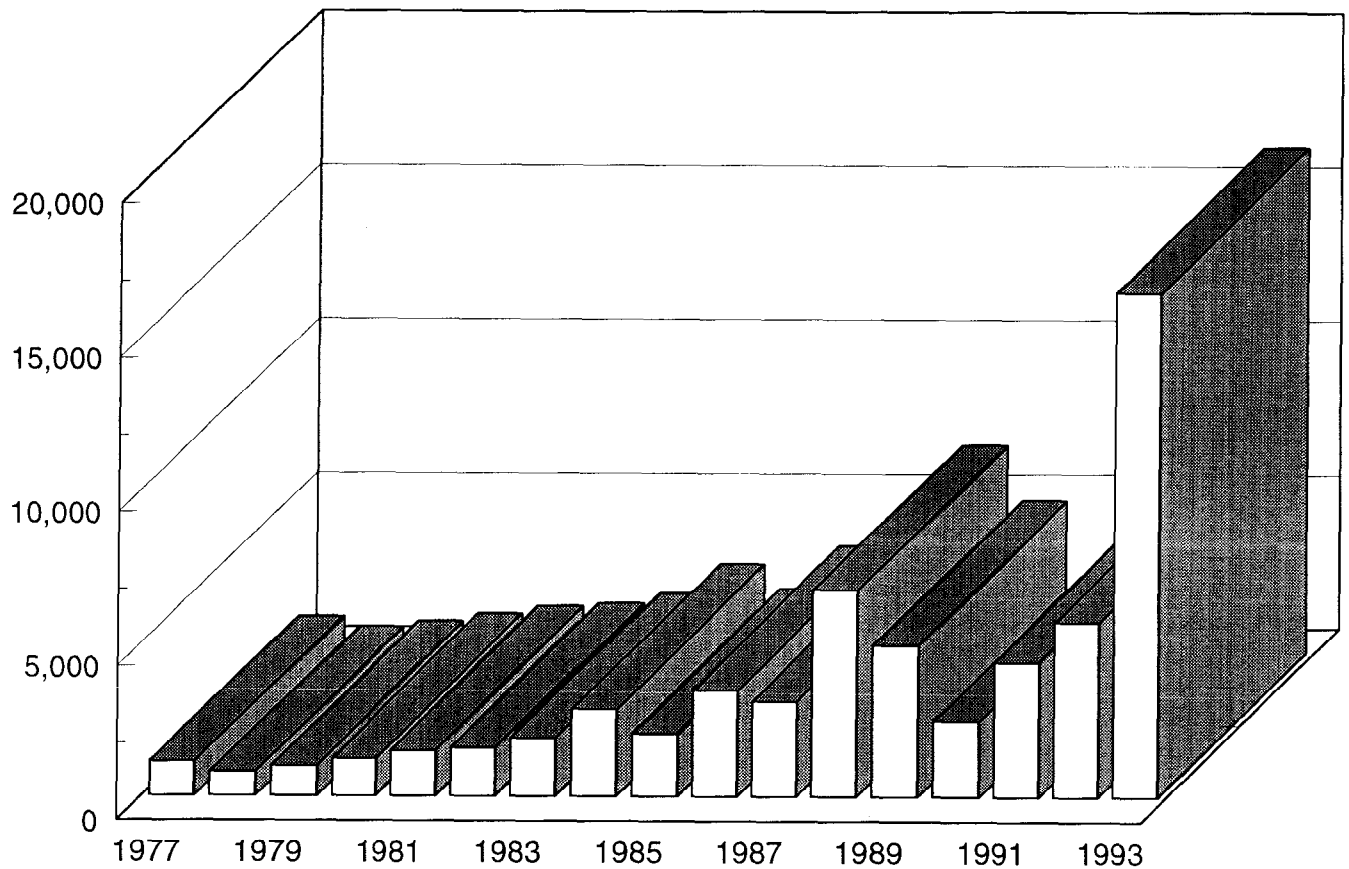
Prior to the Urban Coho stocking program, the highest coho salmon harvest occurred in 1988 (6,730) (Table 15, Figure 12). In 1993, 16,387 coho salmon were harvested by the sport fishery, and while 1994 estimates are not yet available, we expect harvest to equal or exceed that estimated for 1993. The recent increase in Anchorage area coho salmon sport harvest is directly related to increased sport fishing effort on Ship, Campbell, and Bird creeks due to hatchery stocking, and on natural stocks in Twentymile River. Coho salmon return to area streams from mid-July through mid-October. Stocked stream runs peak in mid to late August, while Turnagain Arm runs peak in mid-September. Detailed estimates of stocked coho salmon caught in selected UCI commercial fisheries can be found in Hoffmann and Hasbrouck (1994) and Stratton et al. (*In prep*).

Ship Creek

Background and Historical Perspective

Ship Creek's wild coho salmon run supported sport, personal use, and subsistence fisheries before World War II. The dams constructed in the lower 11 miles of creek for power generation and as a water source for MOA and military during the 1940s and 1950s significantly reduced Ship Creek salmon runs. To rebuild these runs, the creek was stocked annually with coho salmon smolt from 1968-1977. These efforts proved unsuccessful in providing consistent numbers of returning adults. Nine different brood stocks from Ship Creek, Bear Lake (near Seward), Kodiak, Washington, and Oregon were used (Miller 1990; Appendix C6). Eggs obtained from these stocks were incubated at Fire Lake Hatchery and the resultant fry were reared to smolt at Fort Richardson Hatchery. No coho salmon smolt were released in Ship Creek from 1978-1986. From 1987-1994, the department stocked coho salmon smolt in Ship Creek using fish of Ship Creek origin reared at Elmendorf Hatchery. While these efforts have provided consistent coho salmon runs, these runs tend to enter the system slowly throughout the fall. Ideally, coho runs that appeal to sport anglers exhibit a compressed run timing with large numbers of fish available in a relatively short time period. The decision was made to change brood stock for Ship Creek to Little Susitna River origin fish which exhibit the preferred condensed run timing. The first release of Little Susitna River origin coho salmon smolt will occur in 1995.

Ship Creek was open to coho salmon sport fishing from 1957-1959, and again from 1964 to present (Appendix A1). Currently, only the reach downstream of the Chugach Power Plant dam is open to salmon fishing. Hatchery supported coho salmon returns to Ship Creek in recent years have provided a unique opportunity for anglers to fish for and harvest coho salmon in an urban setting.



Source: Mills 1979-1994

Figure 12.-Anchorage area anadromous coho salmon sport fish harvest, 1977-1993.

Recent Fishery Performance
Performance of the Ship Creek sport fishery has been estimated in SWHS (Mills 1979-1994) since 1977. The Ship Creek coho salmon sport harvest has ranged from less than 100 fish (1986) to 2,579 fish in 1993 (Table 15). We expect the 1994 harvest estimate to approach 3,000. Increases in harvest and effort are expected to continue.

In 1994, 878 coho salmon were captured above the sport fishery boundary in the Ship Creek fish pass. Of these 878 fish, 224 with missing adipose fins, which identifies a coded wire tagged fish, were killed and their heads collected as part of the Urban Coho project to test for straying. The remaining 654 fish were allowed to swim upstream and spawn naturally (Appendix D1). No fish were collected for brood stock.

Management Objectives
The Ship Creek coho salmon fishery management objectives are to maintain or increase current angler effort through annual smolt stocking and achieve the 200 fish escapement goal above the Chugach Power Plant dam. Coho salmon are no longer needed for brood stock requirements. Present regulations provide for the harvest of coho salmon in excess of spawning and viewing requirements and allow optimum utilization of Ship Creek coho salmon.

Recent Board of Fisheries Actions
No action was taken by BOF in the November 1992 meeting.

A department proposal has been submitted for BOF consideration in January 1996 to close the reach of Ship Creek near the Elmendorf Hatchery. Several hatchery structures exist in Ship Creek near the Elmendorf Hatchery. This reach, extending from Reeve Boulevard bridge upstream to the hatchery dam, is approximately 1,650 feet in length. Statewide regulation 5 AAC 75.050, WATERS CLOSED TO SPORT FISHING. (a*) The waters within 300 feet of a fish weir or fish ladder are closed to sport fishing unless a lesser distance is indicated by department markers* is commonly interpreted to include all hatchery structures. Because there is more than 600 feet between some of these hatchery structures, small areas of this portion of Ship Creek are open to sport fishing. Only sport fishing for rainbow trout and Dolly Varden are allowed in this reach, however, most anglers in this reach are illegally targeting salmon. Hatchery personnel spend considerable time educating the public about closed waters, fishing seasons, bag and possession limits in this reach. To avoid public confusion, we are recommending that this area be closed to all sport fishing.

Current Biological and Social Issues
The escapement goal of 200 fish was exceeded three fold in 1994. Discussions about increasing the daily bag and possession limit when the escapement goal was reached occurred. While consensus could not be reached in 1994 to increase daily bag and possession limits, postseason meetings on this issue reached consensus. In the future, daily bag and possession limits will be liberalized. The fishery should continue to be monitored to assure adequate escapement.

The Ship Creek coho salmon sport fishery has evolved in recent years. Effort has increased and anglers have become more effective at harvesting returning fish. This trend of increasing angler participation within a limited area creates crowding, sanitation, and parking problems along the creek and adjacent ARR and MOA property. The coho salmon sport fishery takes place in a highly industrialized area of the city. The potential for conflicts exists between sport anglers and land managers including ARR and MOA. Sanitation and parking facilities in place for the

chinook salmon fishery remain in place for the coho salmon fishery. Development proposed for lower Ship Creek includes access improvements, parking, and trails.

There is some concern over water quality and the suitability of fish taken from Ship Creek for human consumption. Water quality in Ship Creek has been monitored by MOA in recent years. While water quality has improved, pollution from urban activities and development still affects Ship Creek. A study conducted by USF&WS during 1986 estimated that pollutant levels in juvenile salmon in Ship Creek (primarily PCBs) may significantly reduce the survival of emigrating smolt which result from natural production. However, salmon returning to Ship Creek pose no health threats. These salmon are raised to smolt at Elmendorf Hatchery and spend very little time in Ship Creek before emigrating into Cook Inlet marine waters. Feeding by returning adult salmon has ceased upon entering Ship Creek, therefore ingestion of pollutants does not occur. Sampling by MOA has shown that Ship Creek water periodically contains high levels of fecal coliform bacteria. However, proper cooking of salmon harvested from Ship Creek eliminates potential health risks from bacterial pollution.

Ongoing Research and Management Activities

Management activities consist of a variety of tasks necessary to maintain the fishery. Escapement counts are conducted annually to assure achievement of the 200 fish biological escapement goal (BEG). Coordination with ARR occurs to keep the program operating smoothly and includes determination of necessary facilities (parking, bathrooms, and trash receptacles) and signs needed to control angler activities in a manner consistent with ARR operations. Enforcement activities are also conducted during the Ship Creek fisheries as time allows.

Coho salmon escapements are monitored by department personnel passing fish through a holding box located on a fish pass at the upstream end of the Chugach Power Plant dam. Foot surveys will not be conducted.

Recommended Research and Management Activities

The following activities are recommended for Ship Creek:

1. Continue to monitor daily escapement levels through the fish pass.
2. During peak periods of the sport fishery, effort should be directed at minimizing potential conflicts between industrial activities in lower Ship Creek and sport anglers by assisting area land managers in signing, enforcement, and angler education.
3. Efforts should be continued to insure that adequate access, parking, and sanitation facilities are available. The department should be active in the planning and development of the port area.
4. Improvements to the Elmendorf Hatchery viewing area are recommended. Over 60,000 people a year observe spawning salmon at this location. Gravel deposition during high water events has filled the pool located immediately downstream of the hatchery dam and reduced the size of the holding area near the viewing area. Re-establishment of the holding area, development of barrier free access, and installation of an informational kiosk are recommended.
5. Access staff should coordinate the installation of permanent rest rooms, garbage cans, and an informational kiosk on ARR land with MOA.

Campbell Creek

Background and Historical Perspective

While wild coho salmon return to Campbell Creek during August and September, the number of returning adults is insufficient to support a viable sport fishery. Most fish migrate upstream of Lake Otis Parkway, and spawn in both North and South Forks. Campbell Creek coho salmon escapement surveys averaged 159 fish annually from 1986 to 1992, before returns of hatchery fish (Appendix D4). Campbell Creek historically supported annual coho salmon runs greater than observed in recent years. The reduction of Campbell Creek coho salmon runs were a result of urbanization and development along the creek, reduced number and size of wetlands and associated rearing habitat, influx of pollutants and silt from storm drain runoffs, and poaching.

The annual stocking of 150,000 coho smolt of Little Susitna River origin was initiated in 1992 to increase coho salmon runs to Campbell Creek (Appendix C2). This stocking is part of the urban coho salmon project aimed at increasing coho salmon angling opportunities in the Anchorage area. Campbell Creek was opened to coho salmon fishing in 1993 for the first time since 1971 (Appendix A3). The Campbell Creek greenbelt includes a major segment of the MOA bike trail system and provides excellent public access to the creek from the confluence of North and South Forks downstream to Campbell Lake.

Recent Fishery Performance

Campbell Creek has been closed to salmon fishing for a number of years. Small, illegal coho salmon fisheries occurred at the mouth of Campbell Creek and between Campbell Lake and Lake Otis Parkway. A BEG of 200 fish was set for Campbell Creek coho salmon, and a weir was operated on Campbell Creek from 1993-1994 to count returning adult salmon. An escapement of 2,312 fish was observed during 1993 weir operations (Appendix D4), and harvest was estimated at 3,942 (Table 15). In 1994, 3,054 coho salmon passed the weir. Formal harvest estimates are not yet available for 1994, however, we feel that anglers harvested at least 3,500 coho salmon.

Management Objectives

The Campbell Creek coho salmon fishery was established to provide additional angler opportunities in Anchorage. The main objective is to generate sufficient increases in angler effort to make the stocking program cost effective. An increase of approximately 3,000 angler days effort, as measured by SWHS, was established to achieve this objective. In addition, the fishery will be managed to maintain historic escapement levels, and provide continued natural production and viewing opportunities. An escapement goal of 200 coho salmon has been established.

Recent Board of Fisheries Actions

During the November 1992 BOF meeting, two proposals were submitted to open portions of Campbell Creek to coho salmon sport fishing in 1993. One proposal recommended opening the entire reach from Dimond Boulevard to a department marker near Folker Street. An alternative proposal suggested closing the stretch of Campbell Creek that flows through Wickersham Subdivision. After deliberation, BOF opened Campbell Creek from Dimond Boulevard upstream to a department marker near Folker Street (Figure 13). The sport fishing season was set from July 25 through October 15 with a daily bag and possession limit of three coho salmon. A proposal for closing the area downstream of Dimond Boulevard, including Campbell Lake, to all sport fishing was passed.

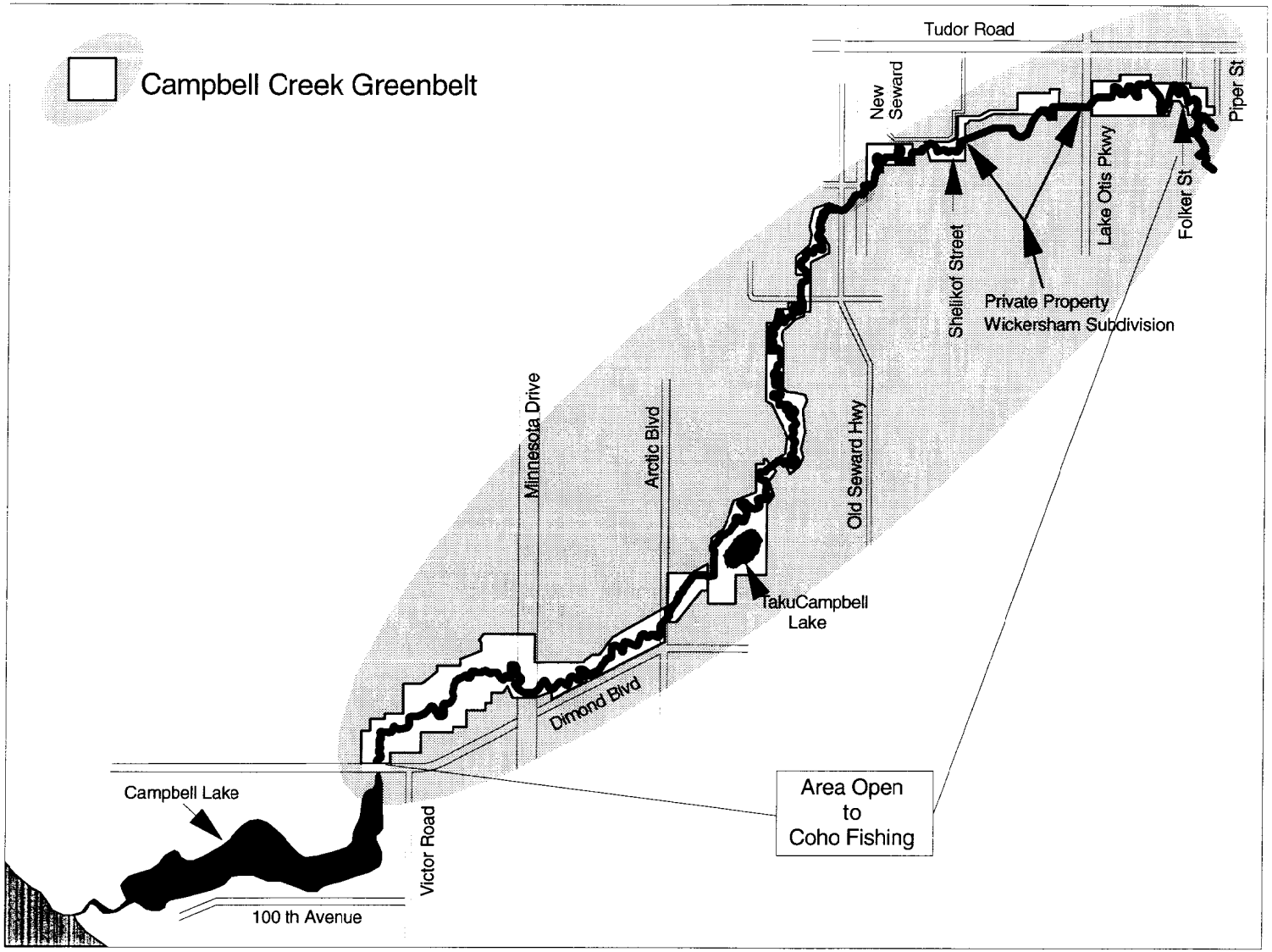


Figure 13.-Map of the Campbell Creek coho salmon fishery.

Several proposals have been submitted for consideration by the BOF during its January 1996 meeting. A department proposal incorporates time and area opening dates as well as extending the area open to sport fishing to include that portion of Campbell Creek upstream of Folker Street. Several public proposals have also been submitted. These include: closing that portion of Campbell Creek that flows through Wickersham Subdivision during coho salmon season, opening lower Campbell Creek and portions of Campbell Lake to sport fishing during coho salmon season, and opening portions of Campbell Lake for ice fishing.

Current Biological and Social Issues

Little Susitna River coho salmon brood stock is being used to develop the Campbell Creek fishery. Attempts to collect wild Campbell Creek coho salmon in 1990 for brood stock were unsuccessful due to low numbers of spawning adults. The introduction of Little Susitna origin coho salmon compromises the genetic makeup of naturally spawning Campbell Creek coho salmon. However, the projected increase in angler opportunity was viewed as more beneficial.

Social issues dominate the Campbell Creek coho salmon fishery. Various concerns have been voiced, particularly by Wickersham subdivision residents, and include trespass, public safety, suitability of fish to eat, habitat and bank degradation, and other potential problems associated with increased fishing activity in a residential area.

Efforts were made before the 1992 BOF meeting to encourage creekside residents to participate in the board process. Two residents testified and at least two letters were sent by FAX to the board. Public testimony recommended restricting or not opening the fishery, and the letters included one opposed to the fishery and one in favor. Several calls from area residents were received by staff before the meeting. As a result of concerns expressed in these calls an alternate staff proposal was submitted to keep the Wickersham Subdivision area closed to fishing. However, BOF opened Campbell Creek to coho fishing from the Dimond Boulevard Bridge to Folker Street, including Wickersham Park. In response to continued concern from Wickersham Park residents, a subcommittee of the Campbell Park Community Council was established to monitor and respond to these concerns.

Issues that developed in 1994 included: (1) fishing in closed waters near Dimond Boulevard, (2) public and political pressure to open Campbell Lake and lower Campbell Creek to sport fishing, (3) trespass complaints in Wickersham Park, and (4) snagging complaints throughout the creek. The department responded by installing a barrier fence at Dimond Boulevard, and increasing enforcement patrols. A great deal of time was spent discussing the lack of practical public access to Campbell Lake and lower Campbell Creek. Staff attended several meetings regarding the Campbell Creek coho fishery, and assisted the public in drafting BOF proposals. Staff attended the annual Campbell Lake Owners Inc. meeting and discussed the BOF process. The homeowners group voted to oppose any and all attempts to open sport fishing in Campbell Lake.

NCI commercial setnetters were contacted to discuss results of the Urban coho program.

Ongoing Research and Management Activities

The Campbell Creek coho salmon escapement will be estimated via foot surveys as part of the NCI urban coho salmon project.

Recommended Research and Management Activities

As the Campbell Creek coho salmon sport fishery develops, it is necessary to work with MOA Parks and Recreation, area Advisory Committees, Community Councils, and property owners along the Campbell Creek greenbelt to monitor the fishery and address potential problems as they arise. Coordination with MOA Parks and Recreation and the Anchorage ADF&G Game Advisory Committee will continue. A group has been formed through the Campbell Park Community Council to coordinate fishery monitoring with ADF&G.

Coho salmon escapement surveys should be continued to provide baseline data necessary for evaluation of the stocking program.

Access staff should coordinate the installation of barrier free access on MOA land near Dimond Boulevard as well as permanent rest rooms, garbage cans, and an informational kiosk.

Enforcement activities by area staff will continue as time permits.

Bird Creek

Background and Historical Perspective

Little historic information is available for Bird Creek coho salmon. The first foot surveys were made in 1986 with three coho salmon observed; foot surveys were also conducted from 1990 through 1992 and escapements ranged from nine to 101 (Appendix D3). The area open to sport fishing in Bird Creek is the intertidal reach, and coho salmon are harvested from late July through mid-September. Harvest information is available, and from 1977 through 1992 ranged from zero to 1,710 (Table 15). Given the low observed escapements, it was assumed that most of the Bird Creek coho salmon harvest was fish bound for other Turnagain Arm streams that milled in the intertidal portion of Bird Creek. Bird Creek is a very popular pink salmon fishing spot and DNR, the primary land manager, has developed parking, camping, and sanitation facilities.

The well developed access, proximity to Anchorage, and lack of natural coho salmon production made Bird Creek an ideal candidate for enhancement. The annual stocking of 150,000 coho smolt of Little Susitna River origin was initiated in 1992 to increase the number of coho salmon for sport anglers (Appendix C1). This stocking is part of the urban coho salmon project aimed at increasing coho salmon angling opportunities in the Anchorage area. The first return of adult coho salmon from stocking efforts occurred in 1993.

Recent Fishery Performance

The first returns from hatchery stockings resulted in a 1993 harvest of 6,195 coho salmon (Table 15). While harvest estimates for 1994 are not yet available, observations during the coho sport fishery indicate a harvest similar to or slightly less than the 1993 harvest. Escapement counts from foot surveys totaled 593 in 1993 and 277 in 1994 (Appendix D3), and indicate that most stocked coho salmon are being harvested in the sport fishery.

Management Objectives

The Bird Creek coho salmon fishery was established to provide additional angler opportunities in Anchorage. The specific objective is to generate sufficient increases in angler effort to make the stocking program cost effective. An increase of approximately 3,000 angler days effort, as measured by SWHS, was established to achieve this objective. The limited information available for natural coho salmon production in Bird Creek suggests that few coho salmon spawn in the

system, therefore no escapement goal has been established for Bird Creek. The sport fishery is managed to fully utilize returns from hatchery stockings.

Recent Board of Fisheries Actions
At the November 1992 BOF meeting, an additional 100 yards of Bird Creek, upstream from the old boundary, was opened to sport fishing as a result of a land exchange between ADF&G and private landowners. About 500 yards of the intertidal reach in Bird Creek is open to sport fishing.

No BOF proposals have been submitted for the January 1996 meetings.

Current Biological and Social Issues
Little Susitna River coho salmon brood stock is used to develop the Bird Creek fishery. No attempts were made to collect wild Bird Creek coho salmon for brood stock as natural production is very low. As Bird Creek historically produced few coho salmon, there are no genetic concerns.

A substantial amount of parking and sanitation facilities already existed prior to stocking, and as the fishery occurs in the intertidal reach, there are no habitat concerns. A few reports of snagging, over-limits, and trespass incidents are occasionally received.

Ongoing Research and Management Activities
The Bird Creek drainage coho salmon escapement will be estimated via foot surveys as part of the NCI urban coho salmon project.

Recommended Research and Management Activities
As the Bird Creek coho salmon sport fishery develops, it will be necessary to work with DNR, Chugach State Park, Advisory Committees, Community Councils, and property owners along the creek to monitor the fishery and address potential problems as they arise. Coho salmon foot escapement surveys should be continued to provide baseline data necessary for evaluation of the stocking program.

Enforcement activities by area staff will continue as time permits.

Turnagain Arm

Background and Historical Perspective
Upper Turnagain Arm is unique in that it supports diverse sport and personal use activities in close proximity to Anchorage, primarily targeting eulachon, Dolly Varden, and coho salmon. Some fisheries are accessible by highway vehicle while others are limited to jet boat access. Angler activities on these streams range from high to low use. While Turnagain Arm produces the largest wild stock coho salmon runs in the Anchorage management area, only anecdotal information is available on run timing and abundance of these stocks. Wild coho salmon return to several Turnagain Arm streams from late July through mid-September and fresh fish are often available into October. The Twentymile River drainage supports the largest and most popular recreational coho salmon fishery in the Turnagain Arm area. Harvest and angler participation have increased in recent years to the point that we are concerned about this stock.

In the Placer River drainage, Skookum and Lower Explorer creeks, we have the opposite situation. Sport fishing effort is minimal at this time and the entire drainage is open to recreational angling. The limited available escapement information suggests that while these

systems can support small sport fisheries, they cannot support harvests of more than 400-500 coho salmon.

Ingram Creek in Turnagain Arm supports a small natural coho salmon run. In the mid-1980s, a channel connecting the large pond between Placer River and Ingram Creek was dug, and a water control structure installed. ADF&G and USFS, Glacier Ranger District in Girdwood, stocked this pond with 72,000-160,000 coho salmon fingerlings (reared at Crooked Creek Hatchery) annually between 1985-1990 in an effort to create a coho salmon sport fishery (Appendix C5). The stocked coho salmon fingerlings reared and overwintered in the pond and emigrated the following spring as smolt into Turnagain Arm. While outmigrant weirs operated by the USFS found that the growth and survival of the fingerlings to the smolt stage were good, adult returns were very low. Ingram Creek coho salmon fingerling stocking efforts were canceled in 1991.

Coho salmon have also been harvested in California, Glacier, Ingram, Peterson, and Placer creeks and several Portage Valley streams. No escapement information has been collected from these streams by the department and limited information has been collected by USFS.

Recent Fishery Performance

Coho salmon harvests in Twentymile River peaked in 1988 (2,055) and were estimated at almost 2,000 in 1993 (Table 15), while Placer River coho salmon harvest was estimated at 650 fish (Appendix B7). The targeted effort and harvest of these "late run" stocks have markedly increased the past 5 years, particularly in Twentymile River. This increased harvest and effort, coupled with no information on spawning escapements, prompted some public concerns about overharvest of Twentymile River stocks. Harvest estimates are not yet available for 1994 but we expect harvest to be equal to or greater than that in 1993. Department aerial surveys estimated 986 coho salmon spawning in 1994 (Table 16) compared to the peak USFS foot survey estimate of 800 (Table 14). In the Placer River drainage, angler activity was minimal. Department aerial surveys counted 805 coho salmon in Placer River and its tributary streams and sloughs, most (750) in Skookum Creek (Table 16). USFS personnel estimated the Explorer Creek coho escapement at 804 (Table 14). As this area grows in popularity, we expect to see increasing numbers of anglers targeting coho salmon throughout these streams. If large harvests are observed, we would be forced to take emergency order actions to either close portions of the drainage to angling or restrict bait to decrease angler efficiency while still allowing participation.

Management Objectives

The management objective for Turnagain Arm coho salmon fisheries is to provide angler opportunities while ensuring adequate spawning escapement. No escapement goals have been set.

Recent Board of Fisheries Actions

No proposals were submitted for BOF deliberation during the 1992 meeting.

The department has submitted a proposal package for BOF consideration during their January 1996 meeting. This proposal would create sustainable Turnagain Arm coho salmon sport fisheries that provide continued opportunity and diversity. Angler opportunity and participation in Upper Turnagain Arm streams will not be significantly impacted by adoption of this plan that would allow fish to migrate through existing sport fisheries onto spawning grounds. This concept of "pass through fisheries" is similar to the management philosophy currently used in

Table 16.-Salmon escapement counts from aerial surveys in selected Turnagain Arm streams, October 24, 1994.

Stream	Coho	Chum
Twentymile River Drainage		
"A" Hole Slough	75	0
NE Fork	75	0
Mainstem	780	0
Glacier River	50	20
Upper Carmen River	0	0
South Fork Carmen River	6	0
TOTAL	986	20
Portage Creek Drainage		
Mainstem	0	0
Upper Railroad Slough	0	0
Lower Railroad Slough	0	0
Placer Creek	0	0
TOTAL	0	0
Placer River Drainage		
Sloughs and Mainstem	55	0
Skookum Creek	750	0
TOTAL	805	0

Parks Highway coho salmon fisheries. If the proposal is adopted, the following waters will be closed to sport fishing from July 14 through December 31:

(A) mainstem Twentymile River upstream of department markers located approximately 10 miles upstream of the Seward Highway bridge;

(B) Upper Carmen River, South Fork Carmen River, Carmen Lake, and the Carmen Lake outlet downstream to department markers located near its confluence with Glacier River;

(C) Glacier River upstream from department markers located near its confluence with Carmen Lake outlet stream;

(D) unnamed slough entering Portage Creek from the north approximately 2 miles upstream from the northern Seward Highway bridge upstream of department markers located near its confluence with Portage Creek;

(E) Lower Explorer Creek upstream of department markers located near its confluence with Lower Explorer Pond; and

(F) Skookum Creek upstream of the Alaska Railroad bridge.

Current Biological and Social Issues

Turnagain Arm streams are growing in popularity. The main biological issue is to provide angler opportunity while ensuring an adequate number of fish reach the spawning grounds. While the amount of effort targeting Twentymile River coho salmon stocks is growing, other Turnagain Arm streams are underutilized. Staff has addressed these concerns through the BOF process.

Significant access and parking area improvements have been made at Ingram Creek. The Twentymile and Placer River parking sites are small and provide limited access. Access to both of these rivers is primarily by jet or air boat. Most sport fishing activity takes place at the confluence of clearwater streams and sloughs flowing into the glacially turbid rivers. While a few shore anglers fish Twentymile and Placer rivers and their tributaries, they must trespass across ARR property to access fishing areas.

Ongoing Research and Management Activities

The department did not conduct any specific research programs in 1994, but research activities in Turnagain Arm were conducted by USFS, the primary land manager. Adult salmon escapement counts were tallied on seven Portage area streams; Twentymile River and Williwaw, Explorer, Upper Railroad, Lower Railroad, Ingram, and Portage creeks (Table 14). Management staff made several trips in 1994 to become familiar with the area, and performed one aerial survey in mid-October.

Recommended Research and Management Activities

Several Turnagain Arm streams will be incorporated into the Urban Coho research project. Escapements will be assessed with aerial surveys performed by department staff and foot surveys performed by department and USFS staff. These streams include Twentymile River drainage (mainstem, tributaries, sloughs, and both Carmen River forks), Portage Creek drainage (Upper and Lower Railroad sloughs, Williwaw, and Placer creeks), Placer River drainage (Lower Explorer and Skookum creeks, and sloughs), and Ingram Creek. Recreational effort and harvest will be estimated by SWHS.

Turnagain Arm is the next logical place to consider for developing new fisheries through a combination of publicizing existing, underutilized wild runs and hatchery enhancement. Ingram Creek appears to be an ideal candidate for smolt stocking. The ponds east of Ingram Creek were stocked with coho fry in the late 1980s, survival to smolt was good, but adults failed to return. DOT constructed several pull-outs along Seward Highway in anticipation of a fishery that did not develop. The department has had excellent success with coho salmon smolt plants in recent years. It is recommended that another attempt be made to create a viable Ingram Creek coho fishery using a Turnagain Arm brood source and smolt releases.

Staff should explore the feasibility of collecting brood stock from road accessible Lower Explorer Creek in Portage Valley or jet boat accessible Skookum Creek in the Placer River drainage. Utilization of a Turnagain Arm coho brood stock for Turnagain Arm releases should alleviate most genetic concerns associated with hatchery releases. If a dependable Turnagain Arm brood stock exists, Bird Creek plants could be switched to this new brood source. The stream selected for brood stock collection should also be supplemented with hatchery-reared fish.

From early August through late September, staff will travel Twentymile and Placer rivers and Portage Creek drainages twice weekly and begin documenting baseline angler-use information. Enforcement activities will also be conducted.

Other Coho Salmon Streams

Chester Creek was stocked with coho salmon in 1971 (Appendix C3). In early August 1994, several calls were received reporting coho salmon catches at the confluence of Chester Creek and Westchester Lagoon. Staff traveled to the area on three occasions and observed happy anglers (mostly kids) and a total of 12 coho salmon. Coho salmon were also observed finning the water. All fish visually observed had their adipose fin. Reports came in from several other successful anglers over the next week. While some coho obviously migrated through the Westchester Lagoon water control structure, it is still assumed to be a migration barrier. MOA studied the possibility of removing the barrier to allow upstream passage of returning adult salmon, but recommended that the money be spent on creek rehabilitation and pollution control. Chester Creek supports a native Dolly Varden population and is stocked annually with rainbow trout catchables. Stocking salmon in Chester Creek is not recommended until the water control structure is modified to allow relatively easy fish passage.

Several other Anchorage area streams support small runs of coho salmon. Rabbit and Sixmile creeks are closed to all sport fishing for salmon, while portions of Peters, Glacier, California, and Portage creeks and Eagle and Eklutna rivers are open to salmon fishing. Harvests from these streams are low, and escapement surveys are not conducted. It is recommended that surveys of these area streams be conducted as time and budget allow to determine coho salmon distribution and relative abundance, evaluate the capability of these streams to support sport fishing, and identify potential sites for future stocking efforts.

PINK SALMON FISHERIES

Area-wide Assessment

While pink salmon return annually to Anchorage area streams in July and August, the largest runs occur in even numbered years. In 1993, 2,767 pink salmon were harvested in the Anchorage area (Table 17, Figure 14). Bird Creek supports the largest pink salmon sport fishery in the Anchorage area. Other area streams with reported pink salmon harvests include California,

Table 17.-Anchorage area pink salmon sport fish harvest, 1977-1993.

Year	Area Total	Bird Creek	% of Total	Ship Creek	% of Total	Twentymile River	% of Total	Other	% of Total
1977	2,953	2,797	95%	93	3%	0		63	2%
1978	1,176	913	78%	93	8%	31	3%	139	12%
1979	781	654	84%	91	12%	36	5%	0	
1980	2,601	2,127	82%	405	16%	43	2%	26	1%
1981	1,293	795	61%	230	18%	48	4%	220	17%
1982	1,178	1,006	85%	0		73	6%	99	8%
1983	1,122	692	62%	42	4%	31	3%	357	32%
1984	3,992	2,669	67%	162	4%	350	9%	811	20%
1985	1,866	1,717	92%	25	1%	0		124	7%
1986	11,664	9,159	79%	849	7%	491	4%	1,165	10%
1987	2,282	1,684	74%	145	6%	145	6%	308	13%
1988	5,330	3,256	61%	564	11%	218	4%	1,292	24%
1989	1,631	1,155	71%	291	18%	17	1%	168	10%
1990	4,932	3,815	77%	81	2%	81	2%	955	19%
1991	1,986	1,513	76%	353	18%	46	2%	74	4%
1992	8,901	5,899	66%	1,346	15%	73	1%	1,583	18%
1993	2,767	1,745	63%	163	6%	0		859	31%

Source: Mills 1979-1994

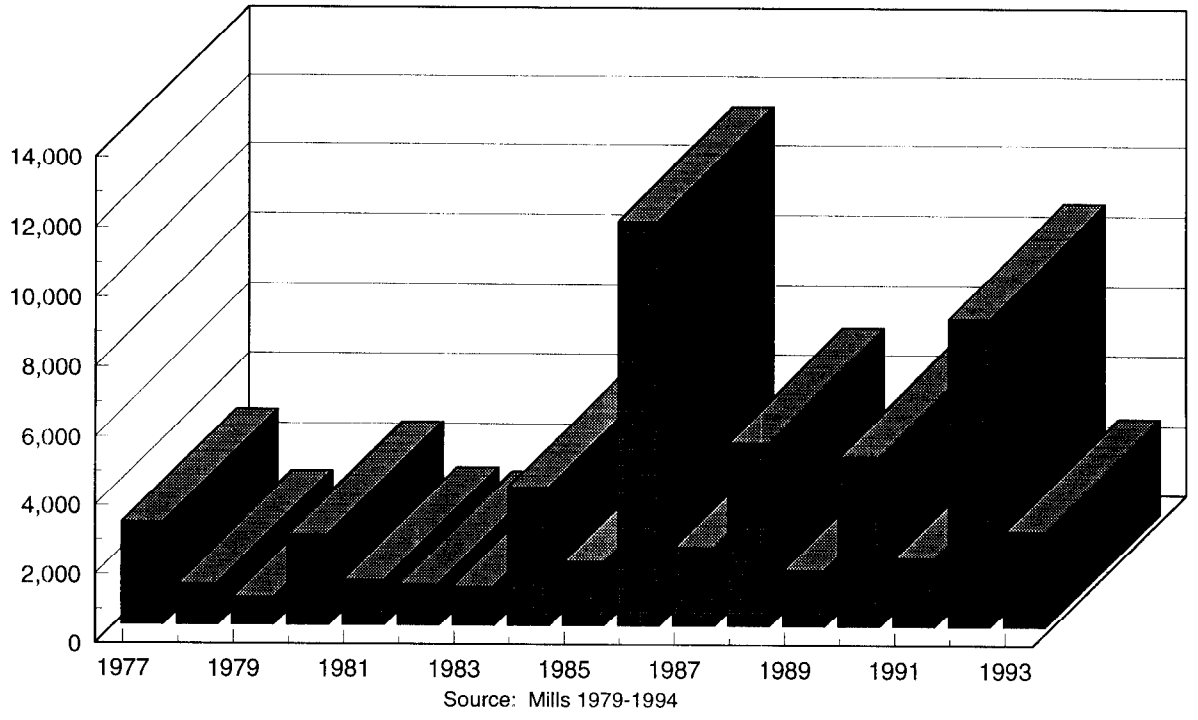


Figure 14.-Anchorage area pink salmon sport fish harvest, 1977-1993.

Campbell, Fish, Glacier, Indian, Ingram, Peters, Rabbit, and Ship creeks, Eagle, Eklutna, Placer, and Twentymile rivers, and Sixmile Lake. Rabbit and Sixmile creeks are closed to all salmon fishing and Campbell Creek is closed to pink salmon fishing. Therefore, all reported harvests from these three streams were illegal.

Bird Creek

Background and Historical Perspective

Bird Creek flows into Turnagain Arm approximately 25 miles south of Anchorage and supports the primary Anchorage area pink salmon sport fishery. Recent improvements in parking areas and access trails have increased Bird Creek's popularity as a fishing destination for both local and nonresident anglers. Pink salmon return to Bird Creek in July and early August each year; however, the number of returns during even-numbered years are significantly higher than the number of returns during odd-numbered years. These differences in relative abundance significantly influence annual angler effort and pink salmon harvest levels in Bird Creek. Bird Creek is open to sport fishing from department markers approximately 500 yards above the Seward Highway Bridge downstream to the mouth of the creek. This area was recently expanded by approximately 100 yards as a result of a land exchange between ADF&G and private landowners. Bird Creek, upstream of this reach is closed to all salmon fishing.

Recent Fishery Performance

A total of 1,745 pink salmon were harvested in Bird Creek in 1993, a large harvest for a low cycle year, and accounted for 63% of the total Anchorage area pink salmon sport harvest (Table 17).

Management Objectives

No specific management objectives have been established for the Bird Creek pink salmon fishery.

Recent Board of Fisheries Actions

At the November 1992 BOF meeting, an additional 100 yards of Bird Creek, upstream from the old boundary, was opened to sport fishing as a result of a land exchange between ADF&G and private landowners. About 500 yards of the intertidal reach in Bird Creek is open to sport fishing.

No proposals specific to Bird Creek fisheries were submitted to BOF for consideration in January 1996.

Current Biological and Social Issues

There are presently no significant biological or social issues pertaining to the Bird Creek pink salmon sport fishery. Sufficient escapement reaches the spawning grounds to perpetuate the run and basic infrastructure such as parking, trails, and sanitation facilities are in place to allow access to the sport fishery.

Ongoing Research and Management Activities

No specific research or management activities are currently being conducted for the Bird Creek pink salmon fishery. Enforcement activities will be conducted as time allows.

Recommended Research and Management Activities

At present, the annual even year pink salmon runs to Bird Creek are sufficient to support increased sport fishing participation. Stocking to increase the odd year return may be appropriate

to reduce the annual variability in run magnitude and increase angling opportunities during low (odd year) cycles. Bird Creek was listed as a proposed site for annual pink salmon enhancement in the Statewide Stocking Plan for Recreational Fisheries (ADF&G 1989), but was dropped from future stocking plans as hatchery space is unavailable.

Other Pink Salmon Streams

Ingram Creek was stocked annually with approximately 285,000 pink salmon fry from 1987 to 1990 in an effort to increase pink salmon abundance and provide an additional Anchorage area pink salmon sport fishing site (Appendix C5). Returns of adult fish from these stocking efforts were sporadic and did not prove to be cost-effective. As a significant sport fishery was not developed, stocking of pink salmon fry was discontinued in 1991.

Most other Anchorage area streams support annual pink salmon runs but harvest levels are low. Other area streams with reported pink salmon harvests include California, Campbell, Fish, Glacier, Indian, Ingram, Peters, and Ship creeks, Eagle, Eklutna, Placer, and Twentymile rivers, and Sixmile Lake. Rabbit and Sixmile creeks are closed to all salmon fishing and Campbell Creek is closed to pink salmon fishing. Pink salmon escapement surveys are not conducted in Anchorage area streams by ADF&G staff. Research activities in Turnagain Arm were conducted by USFS, the primary land manager, in 1994. Adult salmon escapement counts were tallied on seven Portage area streams; Twentymile River and Williwaw, Explorer, Upper Railroad, Lower Railroad, Ingram, and Portage creeks (Table 14).

Military personnel from Elmendorf have operated a weir on Sixmile Creek from 1988-1994 (Appendix D5). In 1994, 243 pink salmon were counted.

OTHER FISHERIES

Sockeye Salmon

The primary Anchorage area streams that support sockeye salmon runs are Campbell and Sixmile creeks, and Twentymile and Placer rivers. The 1993 Anchorage area sockeye salmon sport harvest was 3,085 fish (Table 18, Figure 15). Other Anchorage area streams with reported sockeye salmon harvests include Ingram, Ship, and Portage Valley streams, and Eagle River.

In Campbell Creek, most sockeye salmon spawn in North Fork and little is documented on their life history. Campbell Creek has no natural lake system, only the man-made lake near the creek mouth. Sockeye salmon were counted at the Campbell Creek weir in 1993 and 1994 as part of the urban coho salmon project. However, the weir was not operational until most sockeye salmon had passed the site. Therefore, foot survey counts were used to estimate Campbell Creek sockeye salmon escapement. The average escapement from 1986 to 1994 was 557 fish (Appendix D4). Campbell Creek is closed to sockeye salmon sport fishing.

A weir has been operated by Elmendorf Air Force Base personnel in Sixmile Creek since 1988 (Appendix D5). Annual counts of returning sockeye salmon from 1988 through 1994 have averaged 1,987 fish. While Sixmile Creek is presently closed to sport fishing, fishing is allowed in the intertidal area below the high tide mark near the creek mouth. This site, marked with a steel cable across the stream and by department markers, is growing in popularity and contributes most of the area saltwater harvest.

Research activities in Turnagain Arm were conducted by USFS, the primary land manager, in 1994. Adult salmon escapement counts were tallied on seven Portage area streams; Twentymile

Table 18.-Anchorage area sockeye salmon sport fish harvest, 1977-1993.

Year	Area Total	Sixmile Creek	% of Total	Bird Creek	% of Total	Twentymile River	% of Total	Placer River	% of Total	Other*	% of Total
1977	25	0		0		0				25	100%
1978	14	0		0		14	100%			0	
1979	204	0		0		204	100%			0	
1980	146	0		0		146	100%			0	
1981	383	0		0		335	87%			48	13%
1982	272	0		0		178	65%			94	35%
1983	603	0		0		123	20%	14	2%	466	77%
1984	598	0		249	42%	62	10%	0		287	48%
1985	721	37	5%	261	36%	62	9%	100	14%	261	36%
1986	609	0		190	31%	346	57%	6	1%	67	11%
1987	1,507	36	2%	163	11%	435	29%	38	3%	835	55%
1988	472	36	8%	236	50%	200	42%	0		0	
1989	564	111	20%	128	23%	145	26%	0		180	32%
1990	254	10	4%	97	38%	19	7%	10	4%	118	46%
1991	749	44	6%	78	10%	331	44%	113	15%	183	24%
1992	1,315	230	17%	173	13%	214	16%	99	8%	599	46%
1993	3,085	597	19%	109	4%	125	4%	48	2%	2,206	72%

Source: Mills 1979-1994

* Includes saltwater harvests

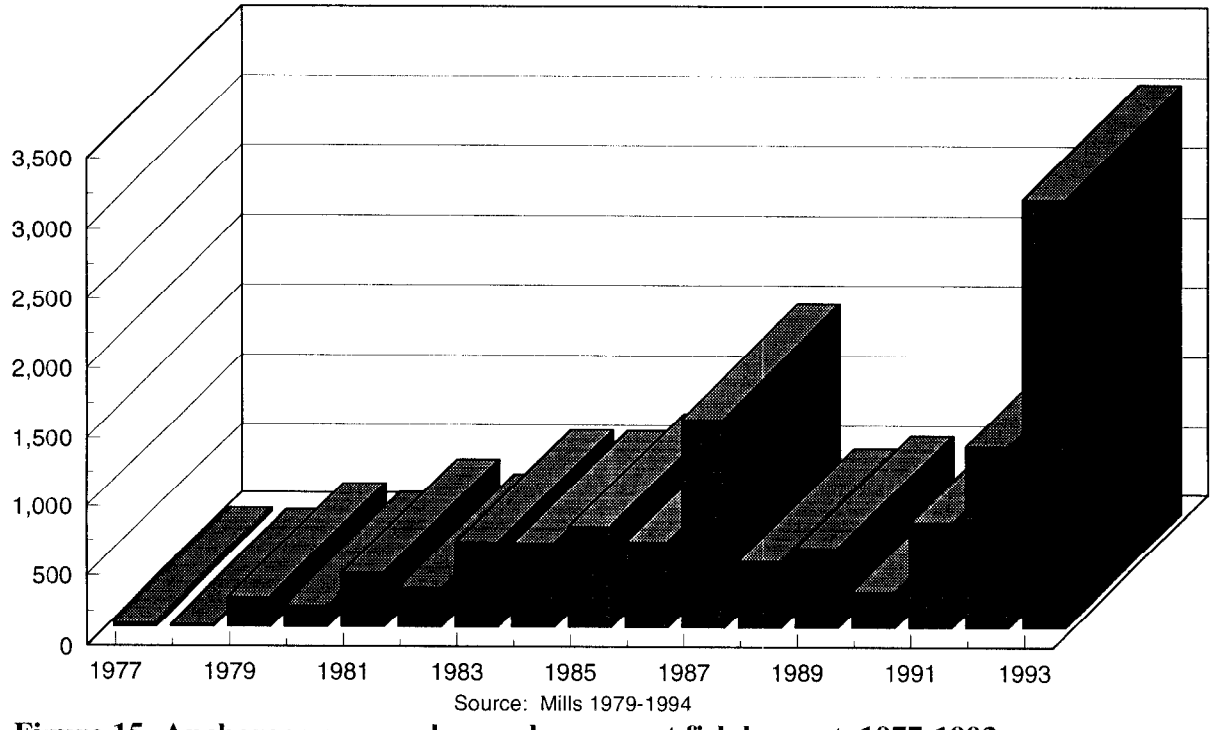


Figure 15.-Anchorage area sockeye salmon sport fish harvest, 1977-1993.

River and Williwaw, Explorer, Upper Railroad, Lower Railroad, Ingram, and Portage creeks (Table 14). While Carmen Lake and its inlet tributaries are the primary sockeye salmon spawning areas in the Twentymile River drainage, mainstem spawning has been documented (Stratton et al. 1994). Sockeye salmon returning to Placer River spawn in Luebner Lake. Sockeye returning to Portage Creek primarily spawn in the artificially created channel in Williwaw Creek where a viewing platform and information kiosk were installed by USFS.

Chum Salmon

Chum salmon do not return in significant numbers to any Anchorage area stream. Most chum salmon are harvested by anglers targeting pink and coho salmon. The 1993 Anchorage area chum salmon sport harvest was 383 (Table 19, Figure 16) of which 74% were taken in Bird Creek. Chum salmon have also been harvested in California, Fish, Glacier, Indian, Peters, and Ship creeks, and Eagle, Eklutna, Placer, and Twentymile rivers (Appendix B10). Chum salmon are occasionally observed during chinook salmon escapement surveys although no directed chum salmon counts are conducted by department staff. In 1994, 15 chum salmon were observed at the Campbell Creek weir, 89 chums were counted through the Ship Creek fish pass, and 30 chum salmon were counted during Bird and Penguin Creek chinook salmon foot surveys (Appendix Tables D1, D3, D4). Aerial survey counts conducted by department staff in Turnagain Arm can be found in Table 16. These surveys were timed for peak coho salmon abundance and only 20 chum salmon were observed in Twentymile River. Research activities in Turnagain Arm were conducted by USFS, the primary land manager, in 1994. Adult salmon escapement counts were tallied on seven Portage area streams; Twentymile River and Williwaw, Explorer, Upper Railroad, Lower Railroad, Ingram, and Portage creeks (Table 14). No specific management activities are recommended for chum salmon in the Anchorage area.

Steelhead Trout

Although steelhead trout are not indigenous to the Anchorage area, there has been public interest in developing a steelhead run in one or more area streams. In 1956, 50,000 eyed steelhead trout eggs from Kodiak were placed in egg trays and planted in Campbell Creek. There was no reported harvest from this release. In 1985 and 1986, steelhead smolt of Anchor River origin, hatched and reared at Elmendorf Hatchery, were stocked in Campbell Creek in an effort to establish an Anchorage area steelhead trout run (Appendix C2). A weir was operated at the Campbell Lake outlet in 1986 and 1987 during August and September. No steelhead trout were observed in 1986 and only three steelhead trout were captured during 1987. One steelhead trout from the Campbell Creek release was caught in the high seas drift net fishery. The stocking program was discontinued in 1987 due to the poor return.

Although no steelhead have been observed during occasional spring surveys of selected stream reaches, steelhead have reportedly been caught by anglers fishing Campbell and Chester creeks in April. In 1990, 10 steelhead were observed downstream of the Elmendorf Hatchery raceway outfall in Ship Creek. There are no steelhead trout stocking programs planned.

Stocked Rainbow Trout Streams

Two Anchorage area streams, Campbell and Chester creeks, are stocked with rainbow trout (Appendix Tables C2 and C3). Rainbow trout were first stocked in Campbell Creek in 1983 and are released annually between Lake Otis Parkway and the confluence of North and South Forks. Stocking of Chester Creek began in 1971.

Table 19.-Anchorage area chum salmon sport fish harvest, 1977-1993.

Year	Area Total	Ship Creek	% of Total	Bird Creek	% of Total	Twentymile River	% of Total	Other	% of Total
1977	0	0		0		0		0	
1978	20	0		0		20	100%	0	
1979	0	0		0		0		0	
1980	86	9	10%	34	40%	43	50%	0	
1981	29	0		0		10	34%	19	66%
1982	10	0		0		10	100%	0	
1983	0	0		0		0		0	
1984	162	0		125	77%	25	15%	12	7%
1985	634	25	4%	448	71%	0		161	25%
1986	960	89	9%	681	71%	112	12%	78	8%
1987	579	54	9%	290	50%	181	31%	54	9%
1988	691	182	26%	364	53%	91	13%	54	8%
1989	1,015	44	4%	613	60%	44	4%	314	31%
1990	315	11	3%	136	43%	102	32%	66	21%
1991	360	16	4%	120	33%	120	33%	104	29%
1992	297	61	21%	129	43%	38	13%	69	23%
1993	383	28	7%	283	74%	9	2%	63	16%

Source: Mills 1979-1994

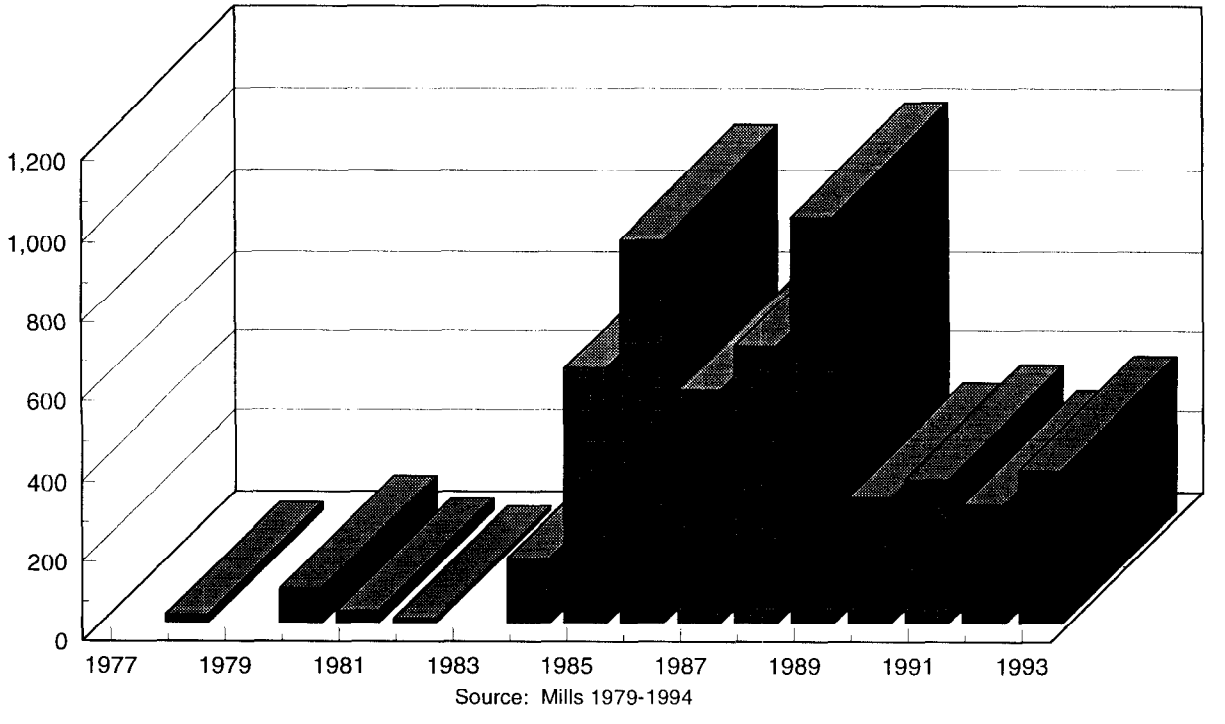


Figure 16.-Anchorage area chum salmon sport fish harvest, 1977-1993.

At the fall 1986 meetings, BOF created a trophy rainbow trout area in the upper reaches of Campbell Creek (Appendix A3). Both the North and South Forks were restricted to single hook, artificial lure fishing only, and the retention of rainbow trout was prohibited. Although the North and South Forks of Campbell Creek are currently managed as trophy areas for rainbow trout, no large rainbow trout have been observed in these Campbell Creek reaches during chinook and coho salmon escapement surveys. Evaluation of rainbow trout size in the North and South Forks of Campbell Creek is recommended to determine if current regulations regarding catch and release are appropriate. If these Campbell Creek reaches do not produce large rainbow trout, a staff proposal should be developed for consideration by BOF to allow sport harvests of these hatchery produced fish. Daily bag and possession limits for other waters open to rainbow trout sport fishing are five, only one of which may be 20 in or more in length. Rainbow trout 20 in or more in length must be immediately recorded on the back of the sport fishing license, and the Cook Inlet seasonal limit for rainbow trout 20 in or more in length is two.

Both Campbell and Chester creeks are open systems. SWHS estimates a 1993 harvest of 491 rainbow trout from Anchorage area streams (Table 20, Figure 17) of which 54% were from Campbell Creek. No estimate is generated for Chester Creek in SWHS due to no reported harvest. As neither fishery contributes significantly to the annual angler effort or harvest in the Anchorage area based on SWHS results, consideration should be made to discontinue these stocking efforts. This decision should be made only after (1) analyzing the costs and benefits of these stockings as opposed to alternative sites, and (2) monitoring the fishery to determine if actual effort is greater than effort reported in SWHS. In 1995, it is recommended that the number of rainbow trout stocked in these two streams be reduced.

Dolly Varden Streams

Several area streams support small populations of resident Dolly Varden. Harvests have decreased in recent years, most likely as a result of increased effort for stocked species. The 1993 harvest was estimated at 916 (Table 21, Figure 18), of which 54% were taken in Eagle River. Dolly Varden have been reported harvested from Bird, Campbell, Ingram, and Ship Creeks, and Placer and Twentymile rivers (Appendix B3). Daily bag and possession limits for Dolly Varden are five, with no size restrictions.

Arctic Grayling

Arctic grayling are not known to naturally occur in the Anchorage area. However, grayling are occasionally reported harvested in Eagle River. A harvest of 233 Arctic grayling was reported for 1993 in the Anchorage area (Table 22, Figure 19) all from stocked lakes. Daily bag and possession limits for Arctic grayling are five, with no size restrictions.

Arctic grayling fry of Tolsona Lake origin were released in Campbell Creek during 1968 (Appendix C2). No Arctic grayling have been reported harvested in Campbell Creek since the inception of the SWHS in 1977.

Northern Pike

Northern pike do not occur naturally in Anchorage area waters and have not been stocked as part of any ADF&G program. However, reports of northern pike harvested in Sand, Lower Fire, and Delong lakes have been made to the department. Juvenile and adult northern pike caught in Sand and Lower Fire lakes have been brought into the Anchorage ADF&G office, indicating that spawning populations have been established through illegal introductions. It is thought that these

Table 20.-Anchorage area streams rainbow trout sport fish harvest, 1977-1993.

Year	Stream Total	Campbell Creek	% of Total	Ship Creek	% of Total	Other Creeks	% of Total
1977	549	*		257	47%	292	53%
1978	711	*		711	100%	0	
1979	964	*		482	50%	482	50%
1980	1,205	*		620	51%	585	49%
1981	383	*		182	48%	201	52%
1982	1,373	*		639	47%	734	53%
1983	367	0		63	17%	304	83%
1984	2,506	374	15%	399	16%	1,733	69%
1985	2,393	1,613	67%	277	12%	503	21%
1986	2,525	815	32%	1,307	52%	403	16%
1987	710	408	57%	39	5%	263	37%
1988	2,492	1,637	66%	200	8%	655	26%
1989	1,126	732	65%	9	1%	385	34%
1990	2,158	1,697	79%	0		461	21%
1991	485	199	41%	62	13%	224	46%
1992	609	277	45%	47	8%	285	47%
1993	491	267	54%	47	10%	177	36%

Source: Mills 1979-1994

* Data not broken out by site but included in total

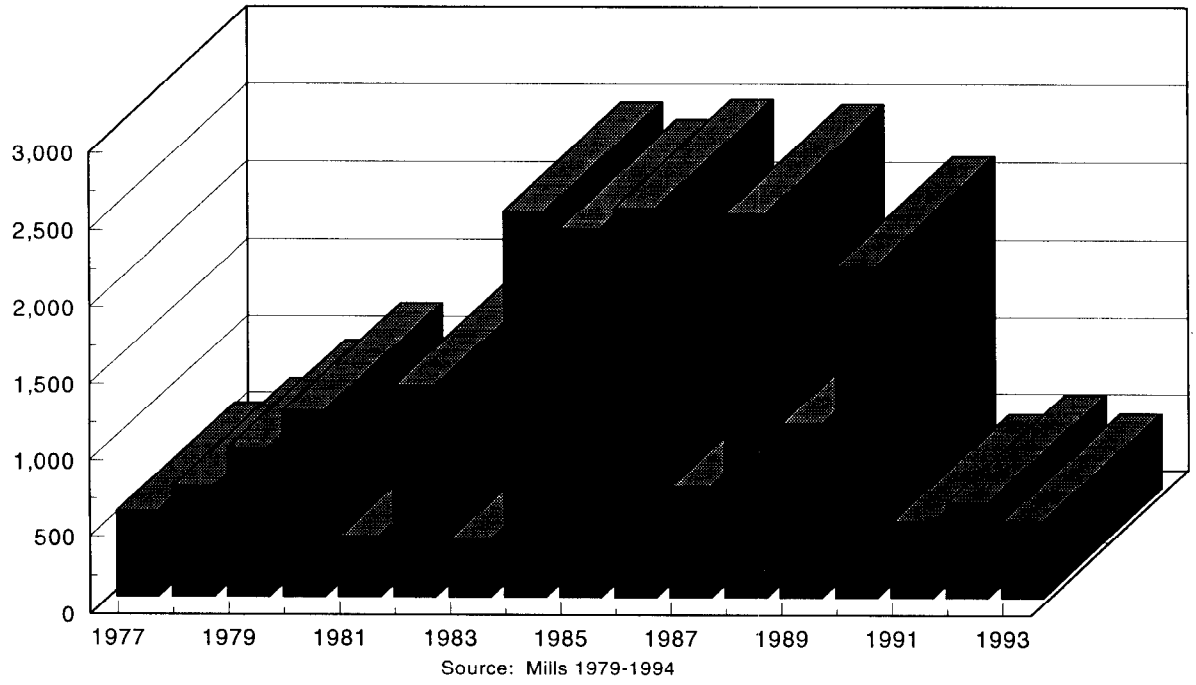


Figure 17.-Anchorage area streams rainbow trout sport fish harvest, 1977-1993.

Table 21.-Anchorage area streams Dolly Varden sport fish harvest, 1977-1993.

Year	Stream Total	Ship Creek	% of Total	Bird Creek	% of Total	Campbell Creek	% of Total	Twentymile River	% of Total	Eagle River	% of Total	Other*	% of Total
1977	4,040	249	6%	676	17%			945	23%	868	21%	1,302	32%
1978	4,221	689	16%	689	16%			1,055	25%	1,357	32%	431	10%
1979	3,718	754	20%	300	8%			473	13%	1,300	35%	891	24%
1980	3,521	275	8%	207	6%			413	12%	818	23%	1,808	51%
1981	5,002	441	9%	125	2%			1,610	32%	1,245	25%	1,581	32%
1982	2,893	210	7%	105	4%			472	16%	1,247	43%	859	30%
1983	2,695	168	6%	220	8%	31	1%	294	11%	1,269	47%	723	27%
1984	6,709	100	1%	449	7%	150	2%	187	3%	5,674	85%	248	4%
1985	2,426	52	2%	121	5%	1,127	46%	607	25%	225	9%	311	13%
1986	2,395	145	6%	134	6%	302	13%	458	19%	983	41%	373	16%
1987	2,065	163	8%	109	5%	181	9%	254	12%	543	26%	815	39%
1988	3,564	146	4%	127	4%	1,564	44%	327	9%	637	18%	836	23%
1989	1,974	75	4%	188	10%	291	15%	300	15%	732	37%	388	20%
1990	1,598	82	5%	33	2%	445	28%	396	25%	330	21%	328	21%
1991	1,741	350	20%	10	1%	107	6%	185	11%	584	34%	524	30%
1992	1,556	33	2%	147	9%	49	3%	311	20%	573	37%	623	40%
1993	916	58	6%	28	3%	195	21%	78	9%	492	54%	75	8%

Source: Mills 1979-1994

* Includes saltwater harvests

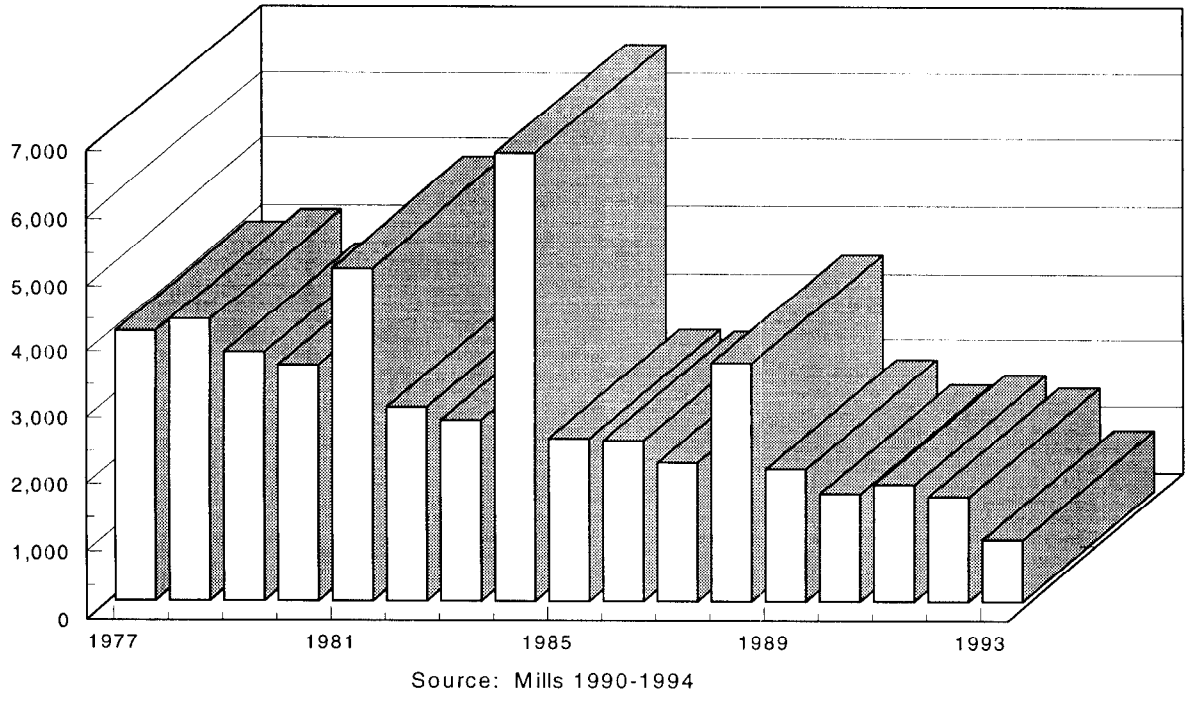


Figure 18.-Anchorage area streams Dolly Varden sport fish harvest, 1977-1993.

Table 22.-Anchorage area Arctic grayling sport fish harvest, 1977-1993.

Year	Area Total	Lakes	% of Total	Streams	% of Total
1977	187	187	100%	0	
1978	0	0		0	
1979	18	9	50%	9	50%
1980	77	77	100%	0	
1981	115	48	42%	67	58%
1982	210	0		210	100%
1983	0	0		0	
1984	262	0		262	100%
1985	0	0		0	
1986	168	0		168	100%
1987	18	0		18	100%
1988	1,001	819	82%	182	18%
1989	66	66	100%	0	
1990	576	527	91%	49	9%
1991	238	188	79%	50	21%
1992	413	413	100%	0	
1993	233	233	100%	0	

Source: Mills 1979-1994

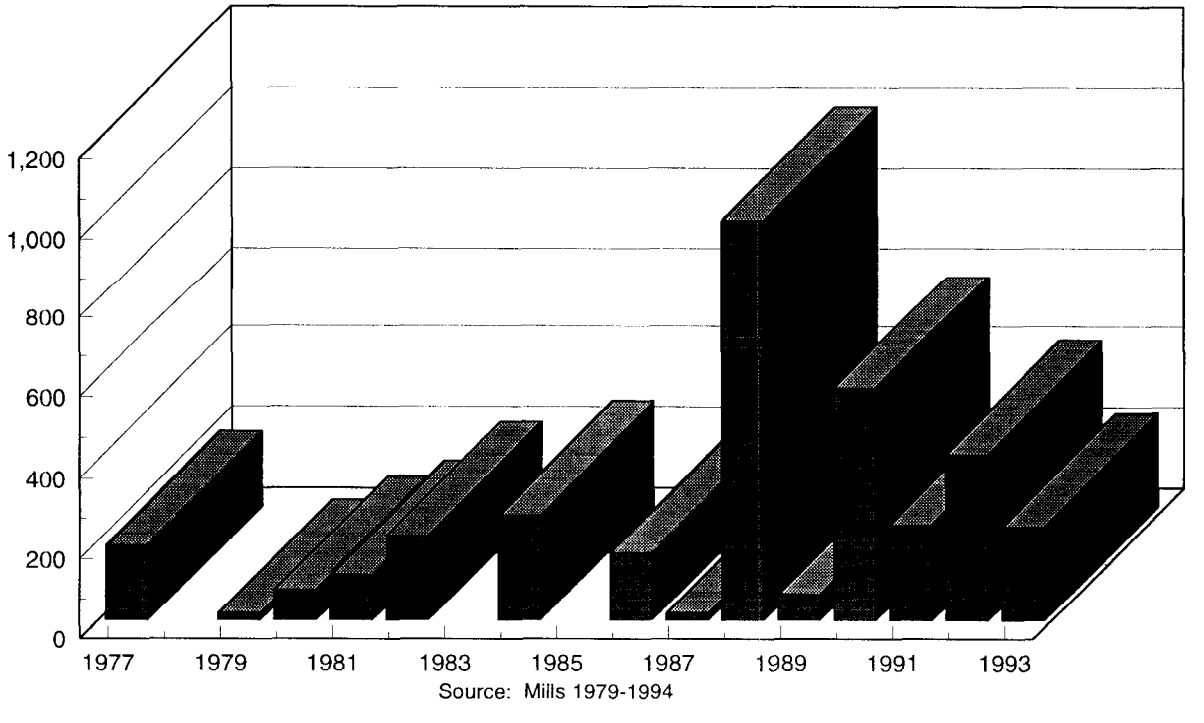


Figure 19.-Anchorage area Arctic grayling sport fish harvest, 1977-1993.

illegal introductions were made by float plane anglers returning from trips to one of the Susitna basin lakes that support northern pike populations. The success of stocking programs for other species may decline as the northern pike populations grow.

Confusion exists over the daily bag and possession limits for northern pike in the Anchorage area. Regulation summaries available to the public do not list northern pike, so it is assumed by the public that they fall under the other category with no daily or possession limit. However, Anchorage is part of the Susitna-West Cook Inlet regulatory area. Northern pike limits set forth in 5 AAC 61.020 are 10 daily and in possession, with no size restrictions. There are no regulations concerning the use of spears for northern pike in Chapter 61 of the codified regulations so Chapter 75, Statewide Provisions, 5 AAC 75.034, allowing the use of spears, applies.

Eulachon

Turnagain Arm supports a large eulachon (hooligan or candlefish) personal use dip net fishery. By regulation, this fishery is limited to residents only, and a valid sport fishing license must be in possession. Dipnetting is allowed in salt water from January 1 through May 31, and in fresh water from January 1 through June 15. The primary fishing sites are in Twentymile River and from rocky beaches along the north side of Turnagain Arm. The fishery occurs from mid-May through June 15. Eulachon have also been reported caught in Bird Creek, Placer River, and Portage Valley streams (Appendix B11). Experienced dippers maintain that a 25 ft tide as measured in Anchorage is the minimum required to bring water, and eulachon, into the east end of Turnagain Arm. The extreme tides and muddy substrate in Turnagain Arm limit the number of sites available to anglers. The reported 1993 harvest was 29,865 (Table 23, Figure 20) most of which were taken out of Twentymile River. Harvest peaked in 1985 (268,135 fish) and has steadily dropped since. As no run size data are available, the status of Turnagain Arm eulachon stocks is unknown. In the SWHS, personal use effort is combined with sport fish effort, so at this time, it is not possible to determine if the stocks are declining or if effort has decreased. Beginning in 1995, personal use dipnetting effort will be separated from sport fishing effort in the SWHS. Staff will also re-analyze past years' data (1977-1994) and separate personal use effort from sport fish effort. The result of these analyses will prove valuable in future management of this fishery.

Table 23.-Anchorage area personal use eulachon harvest, 1977-1993.

Year	Area Total	Saltwater	% of Total	Freshwater	% of Total	Twentymile River	% of Total	Other	% of Total
1977	201,209	*	*	201,209	100%	189,077	94%	12,132	6%
1978	112,352	*	*	112,352	100%	76,380	68%	35,972	32%
1979	107,132	*	*	107,132	100%	91,349	85%	15,783	15%
1980	81,624	*	*	81,624	100%	75,623	93%	6,001	7%
1981	150,329	*	*	150,329	100%	136,869	91%	13,460	9%
1982	116,617	*	*	116,617	100%	106,850	92%	9,767	8%
1983	95,606	35,362	37%	60,244	63%	60,160	63%	84	0%
1984	302,793	103,143	34%	199,650	66%	190,418	63%	9,232	3%
1985	268,135	42,595	16%	225,540	84%	225,540	84%	0	
1986	123,954	22,980	19%	100,974	81%	100,974	81%	0	
1987	131,584	26,932	20%	104,652	80%	101,574	77%	3,078	2%
1988	139,508	35,952	26%	103,556	74%	103,556	74%	0	
1989	103,881	13,923	13%	89,958	87%	88,411	85%	1,547	1%
1990	133,027	7,663	6%	125,364	94%	125,100	94%	264	0%
1991	69,257	4,229	6%	65,028	94%	63,365	91%	1,663	2%
1992	42,964	7,290	17%	35,674	83%	35,674	83%	0	
1993	29,865	5,479	18%	24,386	82%	24,386	82%	0	

Source: Mills 1979-1994

* Data not broken out by site but included in total

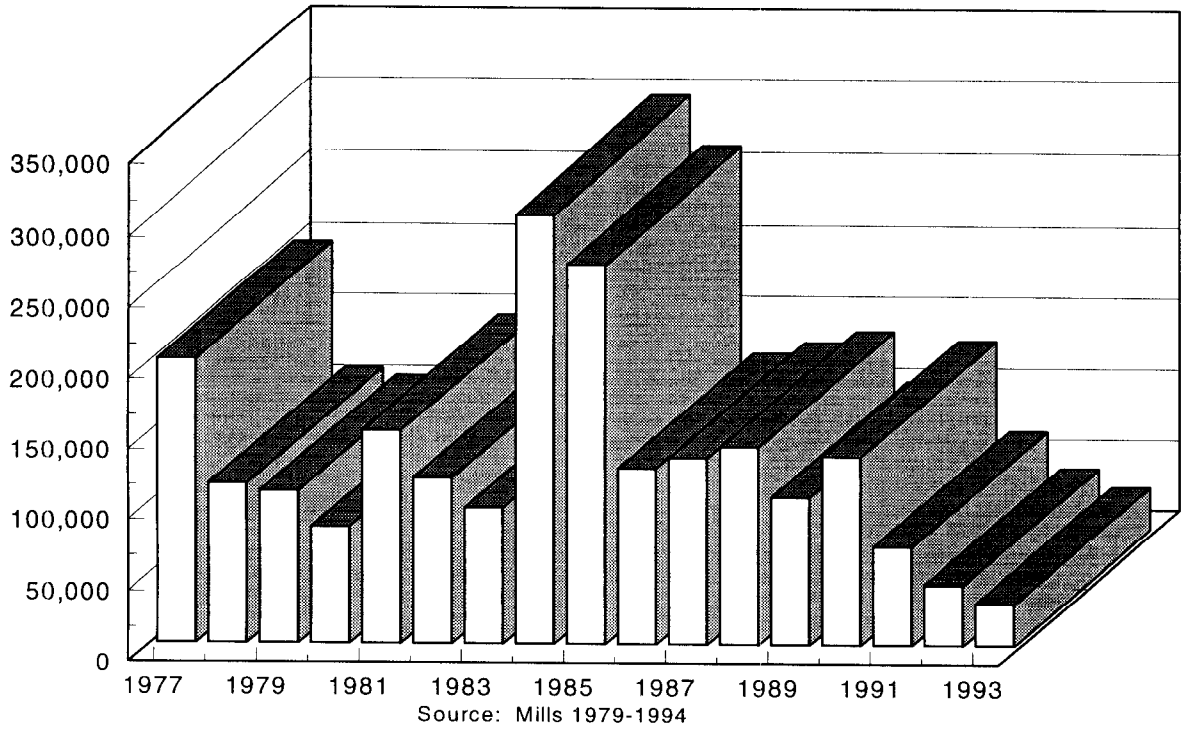


Figure 20.-Anchorage area personal use eulachon harvest, 1977-1993.

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APPENDIX A.-REGULATION SUMMARIES

Appendix A1.-Sport fishing regulations for Ship Creek, 1957-1994.

Year	Sport Fishing Regulations
1957-1959	Closed to sport fishing from 4/01-5/27. Bag limit of 10 trout daily or in possession, only two 20 inches or more in length. No salmon fishing regulations.
1960	Closed to all sport fishing.
1961-1962	Closed to salmon fishing. Closed to sport fishing from 4/01-5/27. Bag limit of 10 trout daily or in possession, only two 20 inches or more in length. Anglers were allowed up to 20 resident fish if the excess were Dolly Varden.
1963	Same as 1961-1962 except closed to sport fishing from 4/01-5/25.
1964-1965	Closed to sport fishing from 4/01 through third Friday in May. Open to salmon fishing (except king salmon) downstream of a marker located 300 feet below the Chugach Power Plant Dam. Bag limit was three chum, sockeye, or pink salmon with an additional three coho salmon allowed.
1966-1967	Same as 1964-1965 except legal gear was single-hook-only with a gap between point and shank of 1/2 inch or less.
1968	Closed to all fishing from 1/01-8/31. Anglers were allowed three salmon. Closed to king salmon fishing. Legal gear was single-hook-only with a gap between point and shank of 1/2 inch or less.
1969	Closed to all fishing from 1/01-8/31. From 9/01-12/31, anglers were allowed three salmon. Closed to king salmon fishing. Legal gear was single-hook-only with a gap between point and shank of 1/2 inch or less. Removed excess Dolly Varden from resident fish bag limit.
1970	Closed to all fishing from 1/01-8/31 except for a king salmon opening from 7/04-7/19. Bag limit of one king salmon per day and two per season. From 9/01-12/31, anglers were allowed three salmon. Legal gear was single-hook-only with a gap between point and shank of 1/2 inch or less.
1971	Closed to all fishing from 1/01-8/31 except for king salmon openings on 6/10-6/11 and 6/17-6/18. A king salmon punch card was required and bag limit was one king salmon per day and two per season. From 9/01-12/31, anglers were allowed three salmon. Legal gear was single-hook-only with a gap between point and shank of 1/2 inch or less.

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Year	Sport Fishing Regulations
1972	Closed to all fishing from 1/01-7/31 except for king salmon openings on 6/10-6/11 and 6/17-6/18. A king salmon punch card was required and bag limit was one king salmon per day and two per season. From 9/01-12/31, anglers were allowed three salmon. Legal gear was single-hook-only with a gap between point and shank of 1/2 inch or less.
1973-1981	Closed to all fishing from 1/01-8/17. Closed to king salmon fishing. From 8/18-12/31, anglers were allowed three salmon. Legal gear was single-hook-only with a gap between point and shank of 1/2 inch or less.
1982-1984	Closed to all fishing from 1/01-8/17. Closed to king salmon fishing. From 8/18-12/31, anglers were allowed three salmon. Legal gear was single-hook-only with a gap between point and shank of 1/2 inch or less. The rainbow trout limit was reduced to five fish, only one 20 inches or more in length.
1985-1986	Closed to all fishing from 1/01-7/31. Single-hook-only restriction lifted. Anglers were allowed three salmon from 8/01-12/31.
1987-1990	The area opened to salmon fishing was downstream of a marker located 100 feet below the Chugach Power Plant Dam. In addition, the creek was open to all fishing (including kings) on Tuesdays and Wednesdays for 5 consecutive weeks commencing the second Tuesday in June. King salmon bag and possession limits were one and two with no seasonal limit.
1991-1992	The area opened to salmon fishing was downstream of a marker located 100 feet below the Chugach Power Plant Dam. King salmon fishing was allowed from 1/01-7/13, daily bag and possession limit was one and two, and no seasonal limit. Fishing for other salmon was allowed year-round with a bag and possession limit of three and three. In addition, fishing for Dolly Varden, rainbow trout, and other species was allowed year-round.
1993	Regulations were the same as those for 1990-1992, with the addition of a seasonal limit of five king salmon in Cook Inlet waters.
1994	Regulations were the same as those for 1993, with the exception of Emergency Order No. 2-KS-2-21-94 which closed all waters of the Ship Creek drainage to all sport fishing from 12:01 a.m. 7/07 through 11:59 p.m. 7/13.

Appendix A2.-Sport fishing regulations for Eagle River, 1957-1994.

Year	Sport Fishing Regulations
1957-1959	Closed to sport fishing from 4/01-5/27. Bag limit was 10 trout daily or in possession, only two 20 inches or more in length. No salmon regulations.
1960	Closed to sport fishing from 4/01-5/27. Closed to salmon fishing upstream of 1/4 mile above Glenn Highway bridge. Bag limits were 10 salmon or trout daily, three could be salmon greater than 16 inches in length, two could be king salmon.
1961-1962	Same as 1960. In addition, anglers were allowed up to 20 resident fish if the excess were Dolly Varden.
1963	Closed season was from 4/01-5/25. Closed to salmon fishing upstream of 1/4 mile above Glenn Highway bridge. Bag limit was six coho salmon; three pink, chum or red salmon; one king salmon. Resident fish bag limits were 10 trout daily, only two over 20 inches. Anglers were allowed up to 20 resident fish if the excess were Dolly Varden.
1964-1967	Closed season was from 4/01 through third Friday in May. Closed to salmon fishing upstream of 1/4 mile above Glenn Highway bridge. Bag limit was six coho, three chum, sockeye, or pink salmon. Closed to king salmon fishing. Resident fish bag limits were the same as in 1963.
1968	No closed season. Closed to salmon fishing upstream of 1/4 mile above Glenn Highway bridge. Bag limit was three salmon 16 inches or greater in length. Closed to king salmon fishing. Resident fish bag limits were the same as in 1963-1967.
1969-1981	Same as 1968 except excess Dolly Varden in bag limit was removed in 1969.
1982-1986	Same as 1969-1981. In addition, rainbow trout bag limit was reduced to five per day, only one 20 inches or greater in length in 1982. Bag limits were 10 for other resident fish.
1987-1991	Same as 1982-1986. In addition, South Fork Eagle River below the falls was closed to all fishing from 6/01-8/14.
1992	Rules and regulations regarding king salmon fishing were defined by emergency order in mid-May. The river was open to king salmon fishing at various sites on Sundays, Tuesdays, and Thursdays from 6:00 a.m. to 10:00 p.m., 5/26-7/12. Bag and possession limits for king salmon were 1 and 1. Sites shore anglers were allowed to fish were noted by department markers at: (1) North Fork trailhead shore angler site: from approximately 100 yards downstream of the confluence of North Fork Eagle River and mainstem Eagle River to approximately 1 mile upstream in both North Fork and mainstem Eagle River. Angling was allowed

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Year	Sport Fishing Regulations
1992(cont)	along both shores of this North Fork portion and north shore only of this mainstem Eagle River portion. (2) Eagle River Briggs Bridge shore angler site: south shore of Eagle River from approximately 250 yards below Briggs Bridge upstream to a department marker adjacent to the downstream edge of the bridge; and (3) Eagle River Campground shore angler site: south shore of Eagle River from the downstream edge of the south bound Glenn Highway bridge upstream to a department marker located approximately 500 yards upstream of the north bound Glenn Highway bridge. Anglers could fish from boats only in waters downstream from and including the North Fork trailhead shore angler site to the Briggs Bridge boat haul-out site. Fishing for other salmon was allowed downstream of the south bound Glenn Highway bridge.
1993-1994	Regulations established by BOF restricted king salmon fishing to a 30-day period commencing the Saturday before Memorial Day. Fishing was restricted to that portion of Eagle River upstream of Bailey Bridge on Fort Richardson to a department marker located approximately adjacent to mile 7.4 of Eagle River Road. The area located approximately 100 yards on either side of the confluence of South Fork Eagle River was closed to fishing from 6/01-8/14. North Fork Eagle River upstream from a department marker located near its confluence with Eagle River was closed to all fishing during the king salmon season. Passes were required to fish on Fort Richardson.

Appendix A3.-Sport fishing regulations for Campbell Creek, 1957-1994.

Year	Sport Fishing Regulations
1957-1959	Closed to sport fishing from 4/01-5/27. Bag limit was 10 trout daily or in possession, only two 20 inches or more in length. No salmon fishing regulations.
1960	Creek was open to salmon fishing, except king salmon, from 8/22-9/23. Bag limits were 10 salmon or trout daily, only three could be salmon greater than 16 inches in length and only two trout over 20 inches in length.
1961-1962	Same as 1960. In addition, anglers were allowed up to 20 resident fish if excess were Dolly Varden.
1963	Closed to sport fishing 4/01-5/25. Bag limit was six coho salmon; three pink, chum or red salmon. Resident fish bag limits were 10, only two over 20 inches. Anglers were allowed up to 20 resident fish if excess were Dolly Varden.
1964-1967	Closed to sport fishing from 4/01 through the third Friday in May. Open to salmon fishing (except king salmon) from 8/01-9/30. Closed to salmon fishing above Seward Highway. Bag limit was six coho, and three chum, sockeye, or pink salmon. Resident fish bag limits were 10 fish, only two over 20 inches. Anglers were allowed up to 20 resident fish if excess were Dolly Varden.
1968	Open to salmon fishing (except king salmon) from 8/01-9/30. Closed to salmon fishing above Seward Highway. Bag limit was three salmon 16 inches or greater in length. No closed season for resident fish. Resident fish bag limits were 10 fish, only two over 20 inches. Anglers were allowed up to 20 resident fish if excess were Dolly Varden.
1969-1970	Same as 1968 except excess Dolly Varden removed from bag limit in 1969.
1971-1981	Closed to fishing above Seward Highway and closed to salmon fishing throughout the drainage. No closed season for resident fish. Resident fish bag limit was 10, only two over 20 inches.
1982-1984	Same as 1971-1981. In addition, rainbow trout bag limit was reduced to five per day, only one 20 inches or greater in length in 1982.
1985	Closed to all fishing above the Forks, and closed to salmon fishing below the Forks. Resident fish bag limit was 10, only two over 20 inches, except rainbow trout bag limit was five per day, only one 20 inches or greater in length.
1986	Entire drainage open to fishing but closed to salmon fishing. Resident fish bag limit was the same as 1985.

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Year	Sport Fishing Regulations
1987-1992	Same as 1986. In addition, only unbaited, artificial lures could be used upstream of the Forks, and rainbow trout could not be kept.
1993-1994	Open to coho salmon fishing from 7/25-10/15, with fishing limited to that portion of Campbell Creek upstream from Dimond Boulevard to a department marker located in the vicinity of Folker Street. Bag and possession limits for coho salmon were 3 and 3. Fishing for all other salmon was closed. Campbell Lake closed to all fishing in 1993. Resident fish bag limits and regulations the same as 1987-1992.

APPENDIX B.-HISTORICAL EFFORT AND HARVEST DATA

Appendix B1.-Anchorage area sport fishing effort (angler-days), 1977-1993.

Area	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
SALTWATER																	
Boat	a	a	a	a	a	a	86	1,422	329	146	980	155	159	321	711	676	452
Shoreline	a	a	a	a	a	a	3,222	4,333	2,774	1,575	607	1,035	1,004	1,865	2,117	2,595	4,961
Saltwater Total	a	a	a	a	a	a	3,308	5,755	3,103	1,721	1,587	1,190	1,163	2,186	2,828	3,271	5,413
FRESHWATER																	
Beach Lake	*	*	*	1,028	1,001	768	913	1,506	381	847	3,857	1,083	3,067	2,407	2,256	4,780	2,650
Campbell Point Lake	3,099	1,077	2,814	2,142	2,902	921	913	1,757	798	1,177	688	2,037	769	2,439	1,854	1,878	1,347
Cheney Lake	*	*	*	b	1,480	1,706	3,446	6,558	9,104	1,468	5,089	6,676	7,523	6,326	4,189	6,594	5,013
Clunie Lake	2,977	1,809	3,490	4,498	4,034	5,254	4,032	6,659	3,000	5,076	6,574	7,185	5,384	6,592	4,379	4,108	4,980
Delong Lake	*	*	*	*	*	*	1,176	1,740	1,231	1,590	2,228	3,583	3,527	3,845	4,300	5,474	3,759
Fish Lake	*	*	*	1,842	2,177	1,365	741	2,175	1,457	4,847	4,890	3,911	3,489	3,440	1,352	1,985	2,569
Green Lake	3,278	1,766	7,136	7,868	4,890	8,223	4,790	7,428	9,572	5,168	5,542	3,220	2,973	3,781	1,899	1,803	2,328
Gwen Lake	837	302	1,588	914	2,336	3,924	3,963	3,998	1,734	3,027	3,785	4,638	3,255	3,120	5,027	2,433	3,407
Hillberg Lake	2,487	1,680	2,814	4,369	4,498	4,828	4,773	6,926	4,474	3,715	2,879	2,874	3,349	2,801	2,580	2,070	1,880
Jewel Lake	5,908	4,157	7,923	8,182	5,819	9,076	9,339	10,289	7,179	4,587	4,908	7,785	9,099	10,235	7,294	8,290	7,412
Lower Fire Lake	3,132	1,508	5,109	4,955	2,118	2,218	3,015	2,995	3,381	2,783	3,531	4,056	3,771	6,326	3,507	3,702	3,446
Mirror Lake	1,808	495	1,053	1,414	2,206	2,167	4,118	4,183	1,717	2,920	5,505	4,002	3,255	5,740	4,993	5,249	4,007
Otter Lake	5,197	2,046	7,687	7,040	5,543	7,421	5,445	13,735	5,150	9,036	13,275	5,402	7,570	9,542	8,076	6,423	7,619
Sand Lake	2,099	1,702	2,295	2,113	2,278	4,043	1,482	2,309	5,237	3,975	2,065	3,693	4,728	4,814	3,697	3,542	2,676
Sixmile Lake	1,473	969	2,688	4,241	3,468	5,016	6,341	11,075	9,069	12,278	12,677	8,822	5,046	6,539	4,446	6,765	5,295
Taku Campbell Lake	*	*	*	1,899	1,059	2,167	465	2,208	1,526	917	869	3,365	3,283	4,196	2,446	1,611	1,023
Triangle Lake	*	*	*	2,199	1,785	1,535	534	1,489	2,653	5,673	4,473	1,330	1,979	2,130	1,709	2,230	2,058
Other Lakes	6,489	6,807	7,105	5,926	5,296	6,073	1,068	1,857	832	1,433	1,609	1,652	2,051	1,442	2,592	2,257	3,528
Lake Total	38,784	24,318	51,702	60,630	52,890	66,705	56,554	88,887	68,495	70,517	84,444	75,314	74,118	85,715	66,596	71,194	64,997
Bird Creek	7,389	1,896	2,971	3,927	2,946	2,081	3,325	6,843	8,497	12,507	5,614	9,532	5,844	9,138	7,551	11,352	12,852
Campbell Creek	*	*	*	*	*	*	1,017	1,824	2,272	2,217	1,485	4,729	1,942	3,983	1,977	1,515	9,073
Eagle River	1,328	646	2,703	2,085	2,060	3,037	2,205	5,387	1,838	2,645	1,684	1,273	2,017	2,002	1,106	4,908	3,396
Ingram Creek	*	*	*	*	*	*	*	*	*	382	181	1,083	647	639	290	373	643
Placer River	*	*	*	*	*	*	624	234	225	138	326	93	333	234	447	886	688
Ship Creek	1,156	1,551	4,150	4,441	2,293	2,695	1,844	3,647	4,890	4,618	11,989	14,115	16,424	15,112	29,768	40,513	40,815
Twentymile River	6,403	2,736	3,899	8,582	7,429	7,489	4,790	6,207	6,676	6,452	5,505	4,820	4,043	4,537	4,178	4,257	3,480
Other Streams	a	a	a	a	a	a	1,929	1,422	989	2,475	2,837	3,850	2,062	3,176	3,776	4,561	3,466
Stream Total	16,276	6,829	13,723	19,035	14,728	15,302	15,734	25,564	25,387	31,434	29,621	39,495	33,312	38,821	49,093	68,365	74,413
Freshwater Total	55,060	31,147	65,425	79,665	67,618	82,007	72,288	114,451	93,882	101,951	114,065	114,809	107,430	124,536	115,689	139,559	139,410
AREA TOTAL	55,060	31,147	65,425	79,665	67,618	82,007	75,596	120,206	96,985	103,672	115,652	115,999	108,593	126,722	118,517	142,830	144,823

[a] Other streams and saltwater combined with other lakes for 1977 to 1982

[b] Cheney Lake combined with Fish Lake in 1980

* Data not site specific but included in totals

Appendix B2.-Anchorage area rainbow trout sport fish harvest, 1977-1993.

Area	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
FRESHWATER																	
Beach Lake	*	*	*	0	1,619	1,142	1,238	1,035	312	882	1,884	637	2,148	2,456	2,430	1,599	1,345
Campbell Point Lake	1,483	1,034	1,618	2,213	4,167	1,320	525	960	347	793	320	1,746	497	1,796	1,520	1,393	576
Cheney Lake	*	*	*	0	0	635	2,413	4,015	2,341	1,028	1,146	4,529	5,919	2,340	2,579	2,367	1,394
Clunie Lake	1,915	4,696	5,118	6,346	4,167	7,074	5,099	4,402	1,855	3,865	4,146	5,566	5,628	7,960	5,968	2,248	3,480
Delong Lake	*	*	*	*	*	*	0	511	902	369	1,068	2,365	4,193	1,829	2,143	2,375	1,608
Fish Lake	*	*	*	0	0	814	451	1,309	642	1,865	2,408	2,638	1,398	972	274	792	864
Green Lake	1,418	2,348	3,981	3,866	1,935	4,747	3,598	3,255	4,803	2,155	1,049	1,401	2,411	1,846	984	443	1,044
Gwen Lake	512	452	2,109	0	3,363	4,328	3,860	2,082	832	2,513	1,651	2,528	2,326	2,208	4,648	1,789	1,344
Hillberg Lake	1,194	1,486	1,991	0	2,759	2,162	3,860	2,457	1,838	1,239	1,107	1,382	1,323	1,763	685	475	425
Jewel Lake	1,547	4,523	4,081	5,209	3,305	7,525	8,654	4,951	6,086	3,429	1,845	6,676	6,754	5,257	4,747	3,863	2,856
Lower Fire Lake	1,618	2,111	5,535	4,073	1,456	1,352	2,192	1,097	2,324	1,687	1,602	4,675	1,989	1,780	1,919	2,224	1,441
Mirror Lake	176	215	164	0	0	0	3,797	3,217	1,196	1,620	2,554	3,038	2,748	3,164	3,053	2,628	2,443
Otter Lake	3,250	5,385	6,072	5,063	4,474	6,445	2,539	9,689	6,017	6,858	6,117	4,056	6,810	11,964	10,118	4,148	4,900
Sand Lake	653	1,960	1,036	2,066	1,638	3,689	692	2,307	4,352	3,608	505	3,820	2,542	3,312	2,143	1,148	1,393
Sixmile Lake	470	344	1,245	0	0	1,499	2,948	2,332	3,485	3,507	3,991	5,366	2,458	2,291	2,405	2,121	1,324
Taku Campbell Lake	*	*	*	0	0	1,735	493	1,023	1,613	592	660	3,838	1,154	1,615	635	1,203	297
Triangle Lake	*	*	*	0	0	1,054	168	599	555	905	1,058	182	1,201	511	237	301	554
Other Lakes	2,948	5,198	5,345	3,100	1,648	2,348	1,784	1,845	1,127	424	1,438	2,929	572	3,213	2,330	1,591	1,333
Lake Total	17,184	29,752	38,295	31,936	30,531	47,869	44,311	47,086	40,627	37,339	34,549	57,372	52,071	56,277	48,818	32,708	28,621
Bird Creek	0	0	0	0	0	0	0	0	87	101	10	36	9	16	12	24	19
Campbell Creek	*	*	*	*	*	*	0	374	1,613	815	408	1,637	732	1,697	199	277	267
Eagle River	292	0	482	585	201	734	283	1,546	260	235	39	0	113	132	0	142	79
Ship Creek	257	711	482	620	182	639	63	399	277	1,307	39	200	9	0	62	47	47
Twentymile River	0	0	0	0	0	0	0	0	52	67	10	0	19	0	187	8	0
Other Streams	a	a	a	a	a	a	21	187	104	0	204	619	244	313	25	111	79
Stream Total	549	711	964	1,205	383	1,373	367	2,506	2,393	2,525	710	2,492	1,126	2,158	485	609	491
AREA TOTAL	17,733	30,463	39,259	33,141	30,914	49,242	44,678	49,592	43,020	39,864	35,259	59,864	53,197	58,435	49,303	33,317	29,112

[a] Other streams combined with other lakes for 1977 to 1982

* Data not site specific but included in totals

Appendix B3.-Anchorage area Dolly Varden/Arctic char sport fish harvest, 1977-1993.

Area	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
SALTWATER																	
Boat	*	*	*	*	*	*	0	37	0	0	0	0	0	0	0	0	0
Shoreline	*	*	*	*	*	*	10	62	17	0	0	73	0	16	19	180	10
Saltwater Total	*	*	*	*	*	*	10	99	17	0	0	73	0	16	19	180	10
FRESHWATER																	
Campbell Point Lake	0	0	0	0	0	0	0	0	0	0	0	0	0	66	49	107	244
Cheney Lake	*	*	*	0	0	0	0	62	0	45	36	36	0	0	0	0	0
Clunie Lake	0	0	0	0	0	0	0	0	0	0	0	0	0	363	418	705	409
Gwen Lake	0	0	0	0	0	0	0	0	0	0	0	0	0	132	39	90	29
Lower Fire Lake	0	0	0	0	0	0	0	12	0	67	0	36	281	0	0	0	0
Mirror Lake	0	0	0	0	0	0	0	0	0	0	0	0	281	0	282	500	156
Otter Lake	0	43	45	86	0	0	315	37	0	56	0	0	122	0	0	0	0
Sixmile Lake	0	0	0	0	0	0	0	62	69	0	0	36	9	49	0	213	0
Other Lakes	0	0	0	0	0	0	0	0	0	0	0	0	38	33	10	0	29
Lake Total	0	43	45	86	0	0	315	173	69	168	36	108	731	643	798	1,615	867
Bird Creek	676	689	300	207	125	105	220	449	121	134	109	127	188	33	10	147	28
Campbell Creek	*	*	*	*	*	*	31	150	1,127	302	181	1,564	291	445	107	49	195
Eagle River	868	1,357	1,300	818	1,245	1,247	1,269	5,674	225	983	543	637	732	330	584	573	492
Ingram Creek	*	*	*	*	*	*	*	*	*	138	0	109	39	0	19	0	0
Placer River	*	*	*	*	*	*	136	0	173	0	290	0	20	49	0	82	0
Ship Creek	249	689	754	275	441	210	168	100	52	145	163	146	75	82	350	33	58
Twentymile River	945	1,055	473	413	1,610	472	294	187	607	458	254	327	300	396	185	311	78
Other Streams	1,302	431	891	1,808	1,581	859	577	149	121	235	525	654	329	263	486	361	65
Stream Total	4,040	4,221	3,718	3,521	5,002	2,893	2,695	6,709	2,426	2,395	2,065	3,564	1,974	1,598	1,741	1,556	916
Freshwater Total	4,040	4,264	3,763	3,607	5,002	2,893	3,010	6,882	2,495	2,563	2,101	3,672	2,705	2,241	2,539	3,171	1,783
AREA TOTAL	4,040	4,264	3,763	3,607	5,002	2,893	3,020	6,981	2,512	2,563	2,101	3,745	2,705	2,257	2,558	3,351	1,793

* Data not site specific but included in totals

Appendix B4.-Anchorage area Arctic grayling sport fish harvest, 1977-1993.

Area	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
FRESHWATER																	
Beach Lake	*	*	*	0	0	0	0	0	0	0	0	0	0	0	89	270	233
Lower Fire Lake	0	0	0	0	0	0	0	0	0	0	0	819	66	511	20	135	0
Mirror Lake	187	0	9	77	48	0	0	0	0	0	0	0	0	0	0	0	0
Other Lakes	0	0	0	0	0	0	0	0	0	0	0	0	0	16	79	8	0
Lake Total	187	0	9	77	48	0	0	0	0	0	0	819	66	527	188	413	233
Eagle River	0	0	0	0	0	0	0	75	0	34	0	0	0	49	30	0	0
Other Streams	0	0	9	0	67	210	0	187	0	134	18	182	0	0	20	0	0
Stream Total	0	0	9	0	67	210	0	262	0	168	18	182	0	49	50	0	0
AREA TOTAL	187	0	18	77	115	210	0	262	0	168	18	1,001	66	576	238	413	233

* Data not site specific but included in totals

Appendix B5.-Anchorage area landlocked salmon (chinook and coho) sport fish harvest, 1977-1993.

Area	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
FRESHWATER																	
Beach Lake	*	*	*	370	115	31	0	0	0	0	0	124	159	33	332	1,385	783
Campbell Point Lake	0	0	0	0	0	0	0	0	0	0	0	186	141	231	83	162	221
Cheney Lake	*	*	*	a	604	220	136	848	0	0	0	309	2,195	428	2,041	1,071	2,426
Clunie Lake	0	0	0	0	0	0	0	0	399	201	380	155	516	511	697	638	783
Delong Lake	*	*	*	*	*	*	0	0	0	22	54	557	1,726	412	630	1,709	1,800
Fish Lake	*	*	*	1,825	1,399	21	0	0	0	0	0	248	188	0	0	54	414
Green Lake	0	0	0	0	0	0	0	0	0	0	0	1,114	206	165	0	281	0
Gwen Lake	0	0	0	1,248	0	0	0	0	0	0	0	0	0	181	133	346	0
Hillberg Lake	0	0	0	5,028	0	0	0	0	0	0	0	0	291	33	0	281	570
Jewel Lake	0	0	0	0	0	0	0	0	0	134	362	62	3,311	1,154	2,688	2,574	3,611
Lower Fire Lake	0	0	0	0	0	0	0	62	0	0	0	0	0	0	0	0	0
Mirror Lake	*	0	0	1,266	1,092	1,593	304	62	0	0	0	0	0	231	265	1,828	1,554
Otter Lake	0	0	0	0	0	0	0	25	0	235	362	681	938	330	1,360	930	3,019
Sand Lake	0	0	0	0	0	0	0	0	0	123	1,105	588	4,690	2,868	2,588	2,153	1,234
Sixmile Lake	19	18	209	2,127	1,390	136	21	0	0	34	0	340	122	198	0	357	794
Taku Campbell Lake	*	*	*	1,765	383	409	63	0	0	0	0	0	0	0	0	0	0
Triangle Lake	*	*	*	1,231	1,542	0	0	0	0	0	0	0	0	0	0	0	0
Other Lakes	110	0	0	714	642	147	0	0	0	0	0	0	0	0	0	216	280
AREA TOTAL	129	18	209	15,574	7,167	2,557	524	997	399	749	2,263	4,364	14,483	6,775	10,817	13,985	17,489

[a] Cheney Lake combined with Fish Lake in 1980

* Data not site specific but included in totals

Appendix B6.-Anchorage area anadromous chinook salmon sport fish harvest, 1977-1993.

Area	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
SALTWATER																	
Boat	*	*	*	*	*	*	0	0	0	11	19	0	11	6	12	31	43
Shoreline	*	*	*	*	*	*	0	25	37	0	0	0	11	6	18	78	28
Saltwater Total	*	*	*	*	*	*	0	25	37	11	19	0	22	12	30	109	71
FRESHWATER																	
Bird Creek	0	0	0	0	0	0	0	12	12	22	29	0	23	0	0	9	10
California Creek	*	*	*	*	*	*	0	0	0	0	0	0	6	0	0	0	0
Campbell Creek	*	*	*	*	*	*	0	12	12	0	0	19	11	0	0	0	41
Eagle River	0	0	0	0	0	0	0	25	0	0	0	0	28	0	6	48	47
Glacier Creek	*	*	*	*	*	*	0	0	0	0	0	0	6	0	0	0	0
Peters Creek	*	*	*	*	*	*	0	0	0	0	0	0	62	0	0	0	0
Ship Creek	52	0	0	0	0	0	0	0	0	0	437	587	792	445	1,127	2,282	2872
Twentymile River	0	0	0	0	0	0	2	0	0	0	0	0	0	0	6	0	0
Other Lakes and Streams	0	0	0	0	0	0	0	0	0	0	0	57	0	0	0	0	0
Stream Total	52	0	0	0	0	0	2	49	24	22	466	663	928	445	1,139	2,339	2,970
AREA TOTAL	52	0	0	0	0	0	2	74	61	33	485	663	950	457	1,169	2,448	3,041

Includes anadromous chinook salmon less than 16 inches in length

* Data not site specific but included in totals

Appendix B7.-Anchorage area anadromous coho salmon sport fish harvest, 1977-1993.

Area	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
SALTWATER																	
Boat	*	*	*	*	*	*	0	187	0	0	54	0	0	0	121	40	17
Shoreline	*	*	*	*	*	*	314	150	535	135	18	0	82	79	13	88	206
Saltwater Total	*	*	*	*	*	*	314	337	535	135	72	0	82	79	134	128	223
FRESHWATER																	
Bird Creek	0	151	0	26	38	31	94	324	373	994	761	1,710	899	535	1,099	785	6,195
California Creek	*	*	*	*	*	*	10	0	0	34	18	0	37	0	0	0	0
Campbell Creek	*	*	*	*	*	*	0	0	0	0	0	0	28	0	25	8	3,942
Eagle River	6	0	0	0	0	10	74	12	0	0	0	73	37	0	0	8	96
Eklutna River	*	*	*	*	*	*	0	0	12	0	0	36	28	0	57	*	29
Fish Creek	*	*	*	*	*	*	0	0	0	0	0	0	28	0	0	0	*
Glacier Creek	*	*	*	*	*	*	0	125	0	11	0	200	147	24	114	130	353
Ingram Creek	*	*	*	*	*	*	0	0	0	0	0	55	64	118	0	24	76
Peters Creek	*	*	*	*	*	*	0	0	0	78	0	0	0	0	216	219	0
Peterson Creek	*	*	*	*	*	*	0	112	0	0	0	0	0	16	0	24	0
Placer Creek	*	*	*	*	*	*	84	*	*	11	54	273	101	24	*	8	143
Placer River	*	*	*	*	*	*	367	75	50	39	181	36	142	47	152	300	650
Portage Valley Streams	*	*	*	*	*	*	156	0	62	257	91	55	55	24	76	24	0
Rabbit Creek	*	*	*	*	*	*	0	0	0	0	18	91	37	0	0	*	0
Ship Creek	125	151	512	301	220	168	94	312	236	89	779	2,128	1,467	818	1,168	1,911	2,579
Twentymile River [a]	996	289	362	439	737	618	712	1,297	709	1,765	1,050	2,055	1,715	787	1,308	1,684	1,986
Other Streams	0	201	100	456	383	744	0	249	75	45	72	18	0	16	44	356	86
Other Lakes	*	*	*	*	96	*	0	0	0	0	0	0	73	0	0	89	29
Freshwater Total	1,127	792	974	1,222	1,474	1,571	1,591	2,506	1,517	3,323	3,024	6,730	4,858	2,409	4,259	5,570	16,164
AREA TOTAL	1,127	792	974	1,222	1,474	1,571	1,905	2,843	2,052	3,458	3,096	6,730	4,940	2,488	4,393	5,698	16,387

* Data not site specific but included in totals

[a] Includes Glacier River

Appendix B8.-Anchorage area pink salmon sport fish harvest, 1977-1993.

Area	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
SALTWATER																	
Boat	*	*	*	*	*	*	42	125	12	0	0	0	0	35	0	9	19
Shoreline	*	*	*	*	*	*	0	362	0	189	0	0	17	105	9	448	284
Saltwater Total	*	*	*	*	*	*	42	487	12	189	0	0	17	140	9	457	303
FRESHWATER																	
Sixmile Lake	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	46	105
Bird Creek	2,797	913	654	2,127	795	1,006	692	2,669	1,717	9,159	1,684	3,256	1,155	3,815	1,513	5,899	1,745
California Creek	*	*	*	*	*	*	0	0	0	34	0	491	50	0	0	0	10
Campbell Creek	*	*	*	*	*	*	0	0	25	0	0	0	0	0	0	0	19
Eagle River	0	0	0	0	0	0	0	0	0	11	0	0	42	0	0	0	0
Eklutna River	*	*	*	*	*	*	0	0	0	45	0	55	0	0	0	*	0
Fish Creek	*	*	*	*	*	*	0	0	0	0	0	0	42	0	0	0	*
Glacier Creek	*	*	*	*	*	*	315	312	25	402	0	36	0	512	46	137	115
Indian Creek	*	*	*	*	*	*	0	0	0	34	127	346	0	0	0	55	115
Ingram Creek	*	*	*	*	*	*	0	0	0	123	0	255	0	291	0	192	192
Peters Creek	*	*	*	*	*	*	0	0	0	0	0	0	0	12	0	9	0
Placer River	*	*	*	*	*	*	0	0	0	13	0	0	0	0	0	18	0
Ship Creek	93	93	91	405	230	0	42	162	25	849	145	564	291	81	353	1,346	163
Twentymile River	0	31	36	43	48	73	31	350	0	491	145	218	17	81	46	73	0
Other Streams	63	139	0	26	220	99	0	12	62	314	181	109	17	0	19	669	0
Freshwater Total	2,953	1,176	781	2,601	1,293	1,178	1,080	3,505	1,854	11,475	2,282	5,330	1,614	4,792	1,977	8,444	2,464
AREA TOTAL	2,953	1,176	781	2,601	1,293	1,178	1,122	3,992	1,866	11,664	2,282	5,330	1,631	4,932	1,986	8,901	2,767

* Data not site specific but included in totals

Appendix B9.-Anchorage area sockeye salmon sport fish harvest, 1977-1993.

Area	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
SALTWATER																	
Boat	*	*	*	*	*	*	55	37	12	0	0	0	0	0	148	41	19
Shoreline	*	*	*	*	*	*	123	25	112	0	0	0	60	49	26	501	1,830
Saltwater Total	*	*	*	*	*	*	178	62	124	0	0	0	60	49	174	542	1,849
FRESHWATER																	
Bird Creek	0	0	0	0	0	0	0	249	261	190	163	236	128	97	78	173	109
Campbell Creek	*	*	*	*	*	*	0	0	0	11	0	0	51	19	0	0	19
Eagle River	0	0	0	0	0	0	0	0	0	0	435	0	0	0	0	16	9
Ingram Creek	*	*	*	*	*	*	*	*	*	0	38	0	0	10	0	33	19
Placer River	*	*	*	*	*	*	14	0	100	6	38	0	0	10	113	99	48
Portage Valley Streams	*	*	*	*	*	*	247	25	12	45	308	0	9	10	9	8	96
Ship Creek	0	0	0	0	0	0	0	100	25	0	0	0	0	0	0	0	0
Sixmile Creek and Lake	0	0	0	0	0	0	0	0	37	0	36	36	111	10	44	230	597
Twentymile River	0	14	204	146	335	178	123	62	62	346	435	200	145	19	331	214	125
Other Lakes and Streams	25	0	0	0	48	94	41	100	100	11	54	0	60	30	0	0	214
Freshwater Total	25	14	204	146	383	272	425	536	597	609	1,507	472	504	205	575	773	1,236
AREA TOTAL	25	14	204	146	383	272	603	598	721	609	1,507	472	564	254	749	1,315	3,085

* Data not site specific but included in totals

Appendix B10.-Anchorage area chum salmon sport fish harvest, 1977-1993.

Area	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
SALTWATER																	
Boat	*	*	*	*	*	*	0	0	12	0	0	0	0	11	16	0	0
Shoreline	*	*	*	*	*	*	0	0	0	22	0	0	18	0	0	8	8
Saltwater Total	*	*	*	*	*	*	0	0	12	22	0	0	18	11	16	8	8
FRESHWATER																	
Bird Creek	0	0	0	34	0	0	0	125	448	681	290	364	613	136	120	129	283
California Creek	*	*	*	*	*	*	0	0	0	0	54	0	89	0	0	0	0
Eagle River	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0
Eklutna River	*	*	*	*	*	*	0	0	0	0	0	0	62	11	24	0	0
Fish Creek	*	*	*	*	*	*	0	0	0	0	0	0	27	0	0	0	*
Glacier Creek	*	*	*	*	*	*	0	0	0	0	0	18	44	11	0	0	46
Indian Creek	*	*	*	*	*	*	0	0	0	22	0	0	0	0	0	0	0
Peters Creek	*	*	*	*	*	*	0	0	0	34	0	0	0	11	40	38	0
Placer River	*	*	*	*	*	*	0	0	0	0	0	0	30	11	24	0	0
Portage Valley Streams	*	*	*	*	*	*	0	0	0	0	0	36	0	0	0	8	0
Ship Creek	0	0	0	9	0	0	0	0	25	89	54	182	44	11	16	61	28
Twentymile River	0	20	0	43	10	10	0	25	0	112	181	91	44	102	120	38	9
Other Lakes and Streams	0	0	0	0	19	0	0	12	149	0	0	0	44	0	0	15	9
Freshwater Total	0	20	0	86	29	10	0	162	622	938	579	691	997	304	344	289	375
AREA TOTAL	0	20	0	86	29	10	0	162	634	960	579	691	1,015	315	360	297	383

* Data not site specific but included in totals

Appendix B11.-Anchorage area personal use eulachon harvest, 1977-1993.

Area	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
SALTWATER																	
Boat	*	*	*	*	*	*	0	0	0	0	0	0	0	989	0	0	0
Shoreline	*	*	*	*	*	*	35,362	103,143	42,595	22,980	26,932	35,952	13,923	6,674	4,229	7,290	5,479
Saltwater Total	*	*	*	*	*	*	35,362	103,143	42,595	22,980	26,932	35,952	13,923	7,663	4,229	7,290	5,479
FRESHWATER																	
Bird Creek	0	0	0	0	0	0	63	2,495	0	0	0	0	0	0	0	0	0
Placer River	*	*	*	*	*	*	0	1,248	0	0	0	0	0	0	0	0	0
Twentymile River	189,077	76,380	91,349	75,623	136,869	106,850	60,160	190,418	225,540	100,974	101,574	103,556	88,411	125,100	63,365	35,674	24,386
Other Streams	12,132	35,972	15,783	6,001	13,460	9,767	21	0	0	0	3,078	0	1,547	264	1,663	0	0
Other Lakes	0	0	0	0	0	0	0	5,489	0	0	0	0	0	0	0	0	0
Freshwater Total	201,209	112,352	107,132	81,624	150,329	116,617	60,244	199,650	225,540	100,974	104,652	103,556	89,958	125,364	65,028	35,674	24,386
AREA TOTAL	201,209	112,352	107,132	81,624	150,329	116,617	95,606	302,793	268,135	123,954	131,584	139,508	103,881	133,027	69,257	42,964	29,865

* Data not site specific but included in totals

APPENDIX C.-HISTORICAL STOCKING RECORDS

Appendix C1.-Stocking records for Bird Creek through 1994.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Coho salmon	Little Susitna	Ft Richardson	5/92	121,416	Smolt
Coho salmon	Little Susitna	Ft Richardson	5/93	140,394	Smolt
Coho salmon	Little Susitna	Ft Richardson	5/94	84,643	Smolt

Appendix C2.-Stocking records for Campbell Creek through 1994.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Arctic grayling	Tolsona Lake	Fire Lake	6/68	5,000	Fry
Steelhead trout	Anchor River	Ft Richardson	6/85	35,196	Smolt
Steelhead trout	Anchor River	Ft Richardson	5/86	44,873	Smolt
Rainbow trout	Big Lake	Clear	7/83	2,517	Catchable
Rainbow trout	Big Lake	Clear	7/84	10,038	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/86	4,073	Catchable
Rainbow trout	Swanson River	Elmendorf	5-6/87	6,269	Catchable
Rainbow trout	Big Lake	Ft Richardson	5-6/88	6,303	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/90	7,277	Catchable
Rainbow trout	Swanson River	Ft Richardson	4-7/91	5,428	Catchable
Rainbow trout	Swanson River	Ft Richardson	4/91	335	Brood
Rainbow trout	Swanson River	Ft Richardson	5/91	2,500	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/91	2,593	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/92	4,108	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/92	3,902	Catchable
Rainbow trout	Swanson River	Ft Richardson	6-7/93	6,071	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/94	6,634	Catchable
Coho salmon	Little Susitna	Ft Richardson	5/92	80,759	Smolt
Coho salmon	Little Susitna	Ft Richardson	5-6/93	140,691	Smolt
Coho salmon	Little Susitna	Ft Richardson	5/94	87,686	Smolt

Appendix C3.-Stocking records for Chester Creek through 1994.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Coho salmon	Bear Lake	Ft Richardson	6/71	60	Fingerling
Rainbow trout	Winthrop NFH	Ft Richardson	6/71	520	Catchable
Rainbow trout	Ennis NFH	Fire Lake	8/72	500	Fingerling
Rainbow trout	Winthrop NFH	Ft Richardson	5/73	1,000	Catchable
Rainbow trout	Big Lake	Ft Richardson	6-7/88	4,390	Catchable
Rainbow trout	Swanson River	Ft Richardson	7-8/88	119	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/88	50,013	Fingerling
Rainbow trout	Swanson River	Ft Richardson	5-7/89	4,467	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/90	5,011	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/91	2,506	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/91	2,458	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/92	7,700	Catchable
Rainbow trout	Big Lake	Ft Richardson	7/92	270	Brood
Rainbow trout	Swanson River	Ft Richardson	5-7/93	4,606	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/94	100	Brood
Rainbow trout	Swanson River	Ft Richardson	6/94	4,641	Catchable

Includes all fish stocked in University/APU Lake

Appendix C4.-Stocking records for Eagle River through 1994.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Chinook salmon	Ship Creek	Elmendorf	5/90	105,000	Smolt
Chinook salmon	Ship Creek	Elmendorf	5/91	102,100	Smolt
Chinook salmon	Ship Creek	Elmendorf	5/92	107,695	Smolt
Chinook salmon	Ship Creek	Elmendorf	6/93	121,066	Smolt
Chinook salmon	Ship Creek	Elmendorf	6/94	109,165	Smolt

Appendix C5.-Stocking records for Ingram Creek through 1994.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Coho salmon	Crooked Creek	Trail Lake	9/85	90,190	Fingerling
Coho salmon	Crooked Creek	Trail Lake	6/86	71,760	Fingerling
Coho salmon	Crooked Creek	Trail Lake	6/87	160,000	Fingerling
Coho salmon	Crooked Creek	Trail Lake	6/88	80,344	Fingerling
Coho salmon	Crooked Creek	Crooked Creek	6/90	80,000	Fingerling
Pink salmon	Tutka Lagoon	Tutka Bay	5/87	259,200	Fry
Pink salmon	Tutka Bay	Tutka Bay	5/88	252,975	Fry
Pink salmon	Tutka Bay	Tutka Bay	6/89	325,380	Fry
Pink salmon	Tutka Creek	Tutka Bay	6/90	311,101	Fry

Appendix C6.-Stocking records for Ship Creek through 1994.

Species	Brood Stock	Hatchery	Stocked Date	Stocked Number	Size At Stocking
Rainbow trout	Winthrop NFH	Ft Richardson	7/69	3,600	Catchable
Chinook salmon	Green River	Ft Richardson	7/66	166,874	Fingerling
Chinook salmon	Green River	Ft Richardson	5-6/67	474,516	Fingerling
Chinook salmon	Crooked Creek	Ft Richardson	5/67	63,840	Smolt
Chinook salmon	Ship Creek	Ft Richardson	5/68	82,400	Smolt
Chinook salmon	Ship Creek	Ft Richardson	5/69	95,900	Smolt
Chinook salmon	Ship Creek	Ft Richardson	5/70	45,700	Smolt
Chinook salmon	Ship Creek	Ft Richardson	5/71	186,700	Smolt
Chinook salmon	Ship Creek	Ft Richardson	5/72	71,814	Smolt
Chinook salmon	Ship Creek	Ft Richardson	6/73	106,413	Smolt
Chinook salmon	Chignik River	Ft Richardson	6/73	53,721	Smolt
Chinook salmon	Ship Creek	Ft Richardson	5/74	204,000	Smolt
Chinook salmon	Ship Creek	Ft Richardson	5-6/75	83,500	Smolt
Chinook salmon	Ship Creek	Ft Richardson	5/76	63,500	Smolt
Chinook salmon	Ship Creek	Ft Richardson	6/77	170,516	Smolt
Chinook salmon	Ship Creek	Elmendorf	5-6/78	274,539	Smolt
Chinook salmon	Ship Creek	Ft Richardson	5/79	146,414	Smolt
Chinook salmon	Crooked Creek	Ft Richardson	5/80	100,191	Smolt
Chinook salmon	Crooked Creek	Elmendorf	5/80	101,067	Smolt
Chinook salmon	Crooked Creek	Elmendorf	3/84	178,318	Fingerling
Chinook salmon	Ship Creek	Elmendorf	6/84	150,000	Smolt
Chinook salmon	Ship Creek	Elmendorf	5/85	118,812	Smolt
Chinook salmon	Crooked Creek	Elmendorf	6/87	53,212	Smolt
Chinook salmon	Ship Creek	Elmendorf	5/88	116,336	Smolt
Chinook salmon	Ship Creek	Elmendorf	6/89	89,986	Smolt
Chinook salmon	Crooked Creek	Elmendorf	6/89	30,684	Smolt
Chinook salmon	Ship Creek	Elmendorf	6/90	102,523	Smolt
Chinook salmon	Ship Creek	Elmendorf	5/91	104,624	Smolt
Chinook salmon	Ship Creek	Elmendorf	6/91	106,644	Smolt
Chinook salmon	Ship Creek	Elmendorf	5/92	176,380	Smolt
Chinook salmon	Ship Creek	Elmendorf	5-6/93	217,557	Smolt
Chinook salmon	Ship Creek	Elmendorf	6/94	216,165	Smolt
Coho salmon	Big Creek	Ft Richardson	4/68	129,300	Smolt
Coho salmon	Eagle Creek	Ft Richardson	5/69	112,400	Smolt
Coho salmon	Bear Lake	Ft Richardson	5/70	177,200	Smolt
Coho salmon	Bear Lake	Ft Richardson	5/71	30,400	Smolt
Coho salmon	Lake Miam	Ft Richardson	5/72	87,700	Smolt
Coho salmon	Ship Creek	Ft Richardson	5/73	77,100	Smolt
Coho salmon	Lake Rose Tea	Ft Richardson	5/74	90,500	Smolt
Coho salmon	Upper Station Lake	Ft Richardson	5/75	106,100	Smolt
Coho salmon	Bear Lake	Ft Richardson	5/76	54,400	Smolt
Coho salmon	Ship Creek	Fire Lake	6/76	67,300	Fry
Coho salmon	Halibut Cove	Elmendorf	6/78	44,701	Smolt

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Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Coho salmon	Seward Lagoon	Elmendorf	6/78	66,353	Smolt
Coho salmon	Ship Creek	Elmendorf	5/87	56,473	Smolt
Coho salmon	Ship Creek	Elmendorf	5/88	58,820	Smolt
Coho salmon	Ship Creek	Elmendorf	5/89	56,841	Smolt
Coho salmon	Ship Creek	Elmendorf	5/90	64,006	Smolt
Coho salmon	Ship Creek	Elmendorf	5/91	57,800	Smolt
Coho salmon	Ship Creek	Elmendorf	5/92	66,752	Smolt
Coho salmon	Ship Creek	Elmendorf	5/93	54,764	Smolt
Coho salmon	Ship Creek	Elmendorf	5/94	75,907	Smolt

Appendix C7.-Stocking records for Alder Pond near Portage through 1994.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Rainbow trout	Swanson River	Ft Richardson	5-7/93	8,410	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/93	10	Brood
Rainbow trout	Swanson River	Ft Richardson	5-6/94	5,098	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/94	20	Brood

Appendix C8.-Stocking records for Beach Lake through 1994.

Species	Brood Stock	Hatchery	Stocked Date	Stocked Number	Size At Stocking
Arctic grayling	Moose Lake	Clear	10/89	4,000	Fingerling
Arctic grayling	Moose Lake	Clear	8/90	4,000	Fingerling
Arctic grayling	Moose Lake	Clear	9/91	4,000	Fingerling
Arctic grayling	Moose Lake	Clear	9/93	7,000	Fingerling
Arctic grayling	Moose Lake	Clear	9/94	4,000	Fingerling
Rainbow trout	Winthrop NFH	Ft Richardson	5/73	5,100	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5/74	3,900	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5/75	4,000	Catchable
Rainbow trout	Ennis NFH	Ft Richardson	6/76	4,000	Catchable
Rainbow trout	Willamette H	Ft Richardson	6/77	5,017	Catchable
Rainbow trout	Alaska-Ennis	Ft Richardson	5/78	612	Catchable
Rainbow trout	Alaska-Ennis	Ft Richardson	6/79	4,026	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/80	8	Brood
Rainbow trout	Swanson River	Ft Richardson	5/81	5,002	Catchable
Rainbow trout	Swanson River	Elmendorf	5/82	2,500	Catchable
Rainbow trout	Swanson River	Elmendorf	5/83	2,114	Catchable
Rainbow trout	Swanson River	Elmendorf	5/84	1,698	Catchable
Rainbow trout	Big Lake	Ft Richardson	5/85	2,540	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/86	2,485	Catchable
Rainbow trout	Swanson River	Elmendorf	5/87	4,810	Catchable
Rainbow trout	Big Lake	Ft Richardson	6-7/88	5,298	Catchable
Rainbow trout	Big Lake	Ft Richardson	8/88	8,890	Fingerling
Rainbow trout	Swanson River	Ft Richardson	7/88	9	Brood
Rainbow trout	Swanson River	Ft Richardson	5-8/89	6,583	Catchable
Rainbow trout	Swanson River	Ft Richardson	8/89	26	Brood
Rainbow trout	Big Lake	Ft Richardson	8/89	7	Brood
Rainbow trout	Swanson River	Ft Richardson	5/90	4,420	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/90	152	Brood
Rainbow trout	Swanson River	Ft Richardson	5/91	2,538	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/91	1,504	Catchable
Rainbow trout	Big Lake	Ft Richardson	7/91	355	Brood
Rainbow trout	Swanson River	Ft Richardson	8/91	100	Brood
Rainbow trout	Swanson River	Ft Richardson	5/92	4,011	Catchable
Rainbow trout	Big Lake	Ft Richardson	7/92	300	Brood
Rainbow trout	Swanson River	Ft Richardson	5-6/93	3,039	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/93	210	Brood
Rainbow trout	Swanson River	Ft Richardson	7/94	13,000	Fingerling
Rainbow trout	Swanson River	Ft Richardson	4/94	4,748	Sub-catch
Rainbow trout	Swanson River	Ft Richardson	5-6/94	4,059	Catchable
Rainbow trout	Swanson River	Ft Richardson	7-8/94	378	Brood
Coho salmon	Seward Lagoon	Ft Richardson	6/80	4,921	Catchable

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Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Chinook salmon	Crooked Creek	Elmendorf	9/88	3,227	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/90	3,104	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/91	3,076	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/92	3,037	Catchable
Chinook salmon	Willow Creek	Ft Richardson	12/93	3,168	Catchable
Chinook salmon	Willow Creek	Ft Richardson	11/94	3,178	Catchable

Appendix C9.-Stocking records for Campbell Point Lake through 1994.

Species	Brood Stock	Hatchery	Stocked Date	Stocked Number	Size At Stocking
Arctic Char	Lake Aleknagik	Clear	10/89	500	Catchable
Arctic Char	Lake Aleknagik	Clear	10/90	1,000	Catchable
Arctic Char	Lake Aleknagik	Clear	9/91	1,000	Sub-catch
Arctic Char	Lake Aleknagik	Clear	10/91	1,000	Sub-catch
Arctic Char	Lake Aleknagik	Clear	10/94	1,250	Catchable
Arctic grayling	Tolsona Lake	Fire Lake	6/67	25,000	Fry
Rainbow trout	Winthrop NFH	Ft Richardson	6/67	520	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	6/69	500	Catchable
Rainbow trout	Roaring River	Fire Lake	6/72	5,000	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5/73	5,000	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5/74	5,000	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5/75	5,000	Catchable
Rainbow trout	Ennis NFH	Ft Richardson	5-7/76	3,800	Catchable
Rainbow trout	Willamette	Ft Richardson	5/77	1,697	Catchable
Rainbow trout	Ennis NFH	Ft Richardson	6/77	13	Brood
Rainbow trout	Ennis NFH	Elmendorf	6/77	24	Brood
Rainbow trout	Alaska-Ennis	Elmendorf	7/77	5,219	Fingerling
Rainbow trout	Alaska-Ennis	Fire Lake	7/77	4,621	Catchable
Rainbow trout	Alaska-Ennis	Ft Richardson	5/78	4,916	Catchable
Rainbow trout	Ennis NFH	Elmendorf	6/78	77	Brood
Rainbow trout	Alaska-Ennis	Ft Richardson	5-6/79	3,223	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/79	762	Catchable
Rainbow trout	Talarik Creek	Ft Richardson	6/80	4,987	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/81	5,356	Catchable
Rainbow trout	Swanson River	Elmendorf	5/82	4,116	Catchable
Rainbow trout	Swanson River	Elmendorf	5/83	4,000	Catchable
Rainbow trout	Swanson River	Elmendorf	9/83	12,148	Fingerling
Rainbow trout	Swanson River	Elmendorf	5/84	3,861	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/86	2,606	Catchable
Rainbow trout	Swanson River	Elmendorf	5-6/87	5,067	Catchable
Rainbow trout	Big Lake	Ft Richardson	5-7/88	4,988	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/88	7	Brood
Rainbow trout	Swanson River	Ft Richardson	5/89	4,998	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/90	5,175	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/91	2,567	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/91	2,527	Catchable
Rainbow trout	Swanson River	Ft Richardson	8/91	100	Brood
Rainbow trout	Swanson River	Ft Richardson	5/92	5,017	Catchable
Rainbow trout	Swanson River	Ft Richardson	5-7/93	3,299	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/94	5,099	Catchable

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Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Chinook salmon	Crooked Creek	Elmendorf	6/85	3,000	Fingerling
Chinook salmon	Willow Creek	Ft Richardson	11/90	1,587	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/91	1,617	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/92	1,986	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/93	1,711	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/94	1,552	Catchable

Appendix C10.-Stocking records for Cheney Lake through 1994.

Species	Brood Stock	Hatchery	Stocked Date	Stocked Number	Size At Stocking
Steelhead trout	Anchor River	Ft Richardson	7/88	4,054	Catchable
Rainbow trout	Swanson River	Elmendorf	5/82	2,528	Catchable
Rainbow trout	Swanson River	Elmendorf	5/83	7,235	Catchable
Rainbow trout	Swanson River	Elmendorf	9/83	17,255	Fingerling
Rainbow trout	Swanson River	Elmendorf	5/84	5,694	Catchable
Rainbow trout	Big Lake	Elmendorf	6/85	5,552	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/85	100	Brood
Rainbow trout	Big Lake	Ft Richardson	6-7/86	5,059	Catchable
Rainbow trout	Swanson River	Elmendorf	5-6/87	10,000	Catchable
Rainbow trout	Big Lake	Ft Richardson	5-7/88	10,152	Catchable
Rainbow trout	Big Lake	Ft Richardson	8/88	2,500	Fingerling
Rainbow trout	Swanson River	Ft Richardson	8/88	3,214	Catchable
Rainbow trout	Swanson River	Ft Richardson	5-8/89	12,352	Catchable
Rainbow trout	Swanson River	Ft Richardson	8/89	50	Brood
Rainbow trout	Big Lake	Ft Richardson	8/89	13	Brood
Rainbow trout	Swanson River	Ft Richardson	5-6/90	10,123	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/90	200	Brood
Rainbow trout	Swanson River	Ft Richardson	5/91	2,525	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/91	2,555	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/91	1,970	Catchable
Rainbow trout	Big Lake	Ft Richardson	7/91	353	Brood
Rainbow trout	Swanson River	Ft Richardson	8/91	100	Brood
Rainbow trout	Swanson River	Ft Richardson	5/92	4,942	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/92	5,064	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/92	301	Brood
Rainbow trout	Swanson River	Ft Richardson	5-7/93	11,068	Catchable
Rainbow trout	Swanson River	Ft Richardson	6,9/93	479	Brood
Rainbow trout	Swanson River	Ft Richardson	5-6/94	10,548	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/94	450	Brood
Coho salmon	Blind Slough	Elmendorf	6/76	20,000	Fingerling
Coho salmon	Seward Lagoon	Fire Lake	7/77	50,000	Fingerling
Coho salmon	Seward Lagoon	Elmendorf	6/78	20,100	Fingerling
Coho salmon	Seward Lagoon	Ft Richardson	5/79	20,100	Fingerling
Coho salmon	Seward Lagoon	Ft Richardson	5/80	5,014	Catchable
Coho salmon	Caswell Creek	Ft Richardson	6/89	50,031	Fingerling
Coho salmon	Little Susitna	Ft Richardson	6/92	30,529	Fingerling
Chinook salmon	Ship Creek	Elmendorf	5/81	20,795	Fingerling
Chinook salmon	Crooked Creek	Elmendorf	9/88	5,340	Catchable
Chinook salmon	Willow Creek	Ft Richardson	9/89	7,540	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/90	3,030	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/91	5,206	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/92	7,398	Catchable
Chinook salmon	Willow Creek	Ft Richardson	11/93	3,029	Catchable
Chinook salmon	Willow Creek	Ft Richardson	11/94	5,489	Catchable

Appendix C11.-Stocking records for Clunie Lake on Fort Richardson through 1994.

Species	Brood Stock	Hatchery	Stocked Date	Stocked Number	Size At Stocking
Arctic Char	Lake Aleknagik	Clear	10/89	1,000	Catchable
Arctic Char	Lake Aleknagik	Clear	10/90	500	Catchable
Arctic Char	Lake Aleknagik	Clear	10/91	1,250	Sub-catch
Arctic Char	Lake Aleknagik	Clear	9/92	2,000	Sub-catch
Arctic Char	Lake Aleknagik	Clear	9/93	1,000	Catchable
Arctic Char	Lake Aleknagik	Clear	10/94	1,250	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5-6/71	2,000	Catchable
Rainbow trout	Ennis NFH	Fire Lake	8/71	2,500	Fingerling
Rainbow trout	Roaring River	Fire Lake	6/72	10,300	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5/73	12,900	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5/74	10,100	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5/75	10,000	Catchable
Rainbow trout	Ennis NFH	Ft Richardson	5-6/76	9,000	Catchable
Rainbow trout	Willamette H	Ft Richardson	5-6/77	5,060	Catchable
Rainbow trout	Alaska-Ennis	Ft Richardson	5/78	9,355	Catchable
Rainbow trout	Alaska-Ennis	Ft Richardson	5-6/79	8,975	Catchable
Rainbow trout	Talarik Creek	Ft Richardson	6/80	10,257	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/81	5,000	Catchable
Rainbow trout	Swanson River	Elmendorf	5/82	9,999	Catchable
Rainbow trout	Swanson River	Elmendorf	5/83	8,348	Catchable
Rainbow trout	Swanson River	Elmendorf	5/84	7,052	Catchable
Rainbow trout	Big Lake	Ft Richardson	6/85	7,961	Catchable
Rainbow trout	Swanson River	Elmendorf	7/85	27,772	Fingerling
Rainbow trout	Swanson River	Ft Richardson	6-7/86	8,928	Catchable
Rainbow trout	Swanson River	Elmendorf	5-6/87	10,357	Catchable
Rainbow trout	Swanson River	Ft Richardson	8/87	20,004	Fingerling
Rainbow trout	Big Lake	Ft Richardson	5-7/88	8,049	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/88	15	Brood
Rainbow trout	Big Lake	Ft Richardson	8/88	6,087	Fingerling
Rainbow trout	Swanson River	Ft Richardson	5-8/89	10,737	Catchable
Rainbow trout	Swanson River	Ft Richardson	8/89	26	Brood
Rainbow trout	Big Lake	Ft Richardson	8/89	61	Brood
Rainbow trout	Swanson River	Ft Richardson	5-8/90	8,239	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/90	51	Brood
Rainbow trout	Swanson River	Ft Richardson	5/91	2,532	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/91	2,544	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/92	8,106	Catchable
Rainbow trout	Swanson River	Ft Richardson	5,7/93	4,809	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/93	109	Brood
Rainbow trout	Swanson River	Ft Richardson	11-12/93	51,367	Fingerling
Rainbow trout	Swanson River	Ft Richardson	7/94	53,555	Fingerling
Rainbow trout	Swanson River	Ft Richardson	4/94	4,539	Sub-catch
Rainbow trout	Swanson River	Ft Richardson	5-6/94	47,093	Catchable

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Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Coho salmon	Big Creek	Ft Richardson	4/68	2,000	Catchable
Coho salmon	Eagle Creek	Ft Richardson	5/69	9,700	Catchable
Coho salmon	Bear Lake	Elmendorf	6/93	17,600	Catchable
Chinook salmon	Crooked Creek	Trail Lake	5/84	10,000	Fingerling
Chinook salmon	Crooked Creek	Elmendorf	9/88	4,756	Catchable
Chinook salmon	Willow Creek	Ft Richardson	9/89	3,891	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/90	4,096	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/91	4,232	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/92	3,937	Catchable
Chinook salmon	Willow Creek	Ft Richardson	12/93	4,320	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/94	4,103	Catchable

Appendix C12.-Stocking records for Connors Lake through 1994.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Arctic grayling	Tolsona Lake	Fire Lake	6/70	29,900	Fry
Arctic grayling	Tolsona Lake	Fire Lake	7/72	20,000	Fry
Arctic grayling	Tolsona Lake	Fire Lake	6/73	20,000	Fry

Appendix C13.-Stocking records for Delong Lake through 1994.

Species	Brood Stock	Hatchery	Stocked Date	Stocked Number	Size At Stocking
Arctic grayling	Tolsona Lake	Fire Lake	6/69	12,000	Fry
Steelhead trout	Anchor River	Ft Richardson	7/88	4,143	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	6/66	750	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	6/67	1,500	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	6/69	2,500	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	6/71	500	Catchable
Rainbow trout	Roaring River	Fire Lake	6/72	5,100	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5/73	5,000	Catchable
Rainbow trout	Ennis NFH	Ft Richardson	5/74	1,000	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5/75	5,100	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/81	2,680	Catchable
Rainbow trout	Swanson River	Elmendorf	5/82	4,985	Catchable
Rainbow trout	Swanson River	Elmendorf	5/83	6,223	Catchable
Rainbow trout	Swanson River	Elmendorf	9/83	10,263	Fingerling
Rainbow trout	Swanson River	Elmendorf	5/84	5,260	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/85	3,306	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/86	5,900	Catchable
Rainbow trout	Swanson River	Elmendorf	5-6/87	7,228	Catchable
Rainbow trout	Big Lake	Ft Richardson	5-7/88	7,446	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/88	9	Brood
Rainbow trout	Big Lake	Ft Richardson	8/88	1,970	Fingerling
Rainbow trout	Swanson River	Ft Richardson	8/88	4,243	Catchable
Rainbow trout	Swanson River	Ft Richardson	5-8/89	12,118	Catchable
Rainbow trout	Swanson River	Ft Richardson	8/89	52	Brood
Rainbow trout	Big Lake	Ft Richardson	8/89	13	Brood
Rainbow trout	Swanson River	Ft Richardson	5-7/90	10,085	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/90	201	Brood
Rainbow trout	Big Lake	Ft Richardson	8/90	151	Brood
Rainbow trout	Swanson River	Ft Richardson	5/91	2,513	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/91	4,916	Catchable
Rainbow trout	Swanson River	Ft Richardson	8/91	201	Brood
Rainbow trout	Big Lake	Ft Richardson	9/91	605	Brood
Rainbow trout	Swanson River	Ft Richardson	5/92	4,972	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/92	5,015	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/92	2,531	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/92	300	Brood
Rainbow trout	Swanson River	Ft Richardson	5-7,9/93	10,417	Catchable
Rainbow trout	Swanson River	Ft Richardson	6,9/93	551	Brood
Rainbow trout	Swanson River	Ft Richardson	5-6/94	10,018	Catchable
Rainbow trout	Swanson River	Ft Richardson	7-8/94	531	Brood

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Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Coho salmon	Seward Lagoon	Ft Richardson	5/80	5,000	Catchable
Coho salmon	Crooked Creek	Ft Richardson	6/91	8,593	Fingerling
Chinook salmon	Crooked Creek	Elmendorf	6/85	3,000	Fingerling
Chinook salmon	Crooked Creek	Elmendorf	9/88	5,036	Catchable
Chinook salmon	Willow Creek	Ft Richardson	9/89	3,081	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/90	5,051	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/91	5,068	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/92	7,626	Catchable
Chinook salmon	Willow Creek	Ft Richardson	12/93	5,066	Catchable
Chinook salmon	Willow Creek	Ft Richardson	11/94	7,431	Catchable

Appendix C14.-Stocking records for Dishno Lake on Fort Richardson through 1994.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Rainbow trout	Swanson River	Elmendorf	5/83	861	Catchable
Rainbow trout	Swanson River	Elmendorf	5/84	620	Catchable
Rainbow trout	Big Lake	Ft Richardson	5/85	1,148	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/86	994	Catchable
Rainbow trout	Swanson River	Elmendorf	5/87	950	Catchable
Rainbow trout	Big Lake	Ft Richardson	5/88	1,000	Catchable
Rainbow trout	Swanson River	Ft Richardson	8/89	1,015	Catchable

Appendix C15.-Stocking records for Eklutna Lake through 1994.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Rainbow trout	Swanson River	Ft Richardson	6/87	920,000	Fry
Rainbow trout	Big Lake	Ft Richardson	7/87	31,726	Fingerling
Rainbow trout	Swanson River	Ft Richardson	8/87	428,588	Fingerling
Rainbow trout	Big Lake	Ft Richardson	6/88	350,000	Fry
Rainbow trout	Swanson River	Ft Richardson	7/88	207,837	Fry
Rainbow trout	Swanson River	Ft Richardson	6/89	770,278	Fry
Rainbow trout	Big Lake	Ft Richardson	6/89	212,000	Fry
Rainbow trout	Big Lake	Ft Richardson	7/89	45,400	Fingerling
Rainbow trout	Swanson River	Ft Richardson	8/89	356,972	Fingerling
Rainbow trout	Swanson River	Ft Richardson	8/90	50,016	Fingerling
Rainbow trout	Big Lake	Ft Richardson	5/91	314,627	Fry
Rainbow trout	Swanson River	Ft Richardson	5/91	175,133	Fry
Rainbow trout	Swanson River	Ft Richardson	6/91	1,637,705	Fry
Rainbow trout	Big Lake	Ft Richardson	6/91	277,951	Fry
Rainbow trout	Big Lake	Ft Richardson	6/92	168,241	Fingerling
Rainbow trout	Swanson/Big L	Ft Richardson	6/92	758,588	Fry
Rainbow trout	Swanson River	Ft Richardson	9/92	59,605	Fingerling
Rainbow trout	Swanson River	Ft Richardson	6/93	496,772	Fry
Rainbow trout	Swanson River	Ft Richardson	8-9/93	112,084	Fingerling
Rainbow trout	Swanson River	Ft Richardson	6/94	210,300	Fry
Rainbow trout	Swanson River	Ft Richardson	7-8/94	166,744	Fingerling

Appendix C16.-Stocking records for Fish Lake on Elmendorf through 1994.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Rainbow trout	Winthrop NFH	Ft Richardson	6/66	2,000	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5/74	2,100	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5-8/75	2,300	Catchable
Rainbow trout	Ennis NFH	Ft Richardson	6/76	2,100	Catchable
Rainbow trout	Willamette	Ft Richardson	6/77	2,004	Catchable
Rainbow trout	Alaska-Ennis	Ft Richardson	5/78	2,002	Catchable
Rainbow trout	Alaska-Ennis	Ft Richardson	5-6/79	2,036	Catchable
Rainbow trout	Swanson River	Elmendorf	5/82	1,037	Catchable
Rainbow trout	Swanson River	Elmendorf	5/83	2,114	Catchable
Rainbow trout	Swanson River	Elmendorf	5/84	1,756	Catchable
Rainbow trout	Big Lake	Elmendorf	5/85	1,044	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/85	100	Brood
Rainbow trout	Swanson River	Ft Richardson	6/86	2,520	Catchable
Rainbow trout	Swanson River	Elmendorf	5/87	500	Catchable
Rainbow trout	Big Lake	Ft Richardson	5/88	768	Catchable
Rainbow trout	Big Lake	Ft Richardson	8/88	420	Fingerling
Rainbow trout	Swanson River	Ft Richardson	8/89	1,108	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/92	1,021	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/93	822	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/94	1,016	Catchable
Coho salmon	Seward Lagoon	Ft Richardson	5/80	2,980	Catchable
Coho salmon	Seward Lagoon	Ft Richardson	6/81	3,500	Fingerling
Coho salmon	Bear Lake	Elmendorf	5/93	4,000	Catchable
Chinook salmon	Crooked Creek	Elmendorf	9/88	604	Catchable

Appendix C17.-Stocking records for Green Lake on Elmendorf through 1994.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Rainbow trout	Winthrop NFH	Ft Richardson	6/69	2,650	Catchable
Rainbow trout	Winthrop NFH	Elmendorf	5/73	5,100	Catchable
Rainbow trout	Ennis NFH	Ft Richardson	5-6/76	5,000	Catchable
Rainbow trout	Ennis NFH	Ft Richardson	1/76	459	Brood
Rainbow trout	Ennis NFH	Elmendorf	6/76	10	Brood
Rainbow trout	Willamette	Ft Richardson	5-6/77	2,385	Catchable
Rainbow trout	Ennis NFH	Elmendorf	6/77	11	Brood
Rainbow trout	Talarik Creek	Elmendorf	11/77	1,172	Brood
Rainbow trout	Alaska-Ennis	Ft Richardson	5/78	5,025	Catchable
Rainbow trout	Alaska-Ennis	Ft Richardson	5-6/79	5,994	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/79	936	Catchable
Rainbow trout	Talarik Creek	Ft Richardson	6/80	5,013	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/81	2,589	Catchable
Rainbow trout	Swanson River	Elmendorf	5/82	5,851	Catchable
Rainbow trout	Swanson River	Elmendorf	5/82	24	Brood
Rainbow trout	Swanson River	Elmendorf	5/83	5,002	Catchable
Rainbow trout	Swanson River	Elmendorf	5/84	4,203	Catchable
Rainbow trout	Big Lake	Elmendorf	6/85	343	Catchable
Rainbow trout	Big Lake	Ft Richardson	6/85	5,254	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/86	995	Catchable
Rainbow trout	Swanson River	Elmendorf	5/87	1,161	Catchable
Rainbow trout	Big Lake	Ft Richardson	5/88	1,600	Catchable
Rainbow trout	Big Lake	Ft Richardson	8/88	1,870	Fingerling
Rainbow trout	Swanson River	Ft Richardson	5/89	1,993	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/90	2,006	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/91	1,014	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/91	1,034	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/92	2,049	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/93	1,600	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/94	1,995	Catchable
Coho salmon	Bear Lake	Elmendorf	5/93	10,180	Catchable
Chinook salmon	Crooked Creek	Elmendorf	9/88	3,580	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/91	1,007	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/92	1,043	Catchable
Chinook salmon	Willow Creek	Ft Richardson	12/93	1,051	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/94	989	Catchable

Appendix C18.-Stocking records for Gwen Lake on Fort Richardson through 1994.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Arctic Char	Lake Aleknagik	Clear	10/89	500	Catchable
Arctic Char	Lake Aleknagik	Clear	10/90	500	Catchable
Arctic Char	Lake Aleknagik	Clear	10/91	1,250	Sub-catch
Arctic Char	Lake Aleknagik	Clear	9/92	1,000	Sub-catch
Steelhead trout	Anchor River	Ft Richardson	7/88	3,169	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	6/69	600	Catchable
Rainbow trout	Roaring River	Ft Richardson	6/72	1,200	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5/73	3,200	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5/74	3,300	Catchable
Rainbow trout	Ennis NFH	Ft Richardson	5/74	700	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5/75	4,000	Catchable
Rainbow trout	Ennis NFH	Ft Richardson	5-6/76	4,000	Catchable
Rainbow trout	Willamette	Ft Richardson	5-6/77	2,000	Catchable
Rainbow trout	Ennis NFH	Elmendorf	6/77	12	Brood
Rainbow trout	Alaska-Ennis	Ft Richardson	5/78	4,015	Catchable
Rainbow trout	Alaska-Ennis	Ft Richardson	5-6/79	4,027	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/81	4,937	Catchable
Rainbow trout	Swanson River	Elmendorf	5/82	5,000	Catchable
Rainbow trout	Swanson River	Elmendorf	5/83	4,342	Catchable
Rainbow trout	Swanson River	Elmendorf	5/84	3,530	Catchable
Rainbow trout	Big Lake	Ft Richardson	6/85	4,076	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/86	3,998	Catchable
Rainbow trout	Swanson River	Elmendorf	5-6/87	4,956	Catchable
Rainbow trout	Big Lake	Ft Richardson	5-7/88	4,089	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/89	4,767	Catchable
Rainbow trout	Swanson River	Ft Richardson	5-7/90	4,776	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/90	51	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/91	2,555	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/92	4,985	Catchable
Rainbow trout	Swanson River	Ft Richardson	5-6/93	3,755	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/93	100	Brood
Rainbow trout	Swanson River	Ft Richardson	5-6/94	4,585	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/94	103	Brood
Coho salmon	Seward Lagoon	Ft Richardson	5/80	7,943	Catchable
Chinook salmon	Crooked Creek	Elmendorf	9/88	2,060	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/90	2,090	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/92	2,004	Catchable

Appendix C19.-Stocking records for Hideaway Lake through 1994.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Rainbow trout	Winthrop NFH	Ft Richardson	6/67	302	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	6/68	300	Catchable

Appendix C20.-Stocking records for Hillberg Lake on Elmendorf through 1994.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Rainbow trout	Winthrop NFH	Ft Richardson	6/69	2,650	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5/74	2,300	Catchable
Rainbow trout	Winthrop NFH	Elmendorf	5/74	2,600	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5-8/75	7,500	Catchable
Rainbow trout	Ennis NFH	Ft Richardson	6-8/75	635	Catchable
Rainbow trout	Ennis NFH	Ft Richardson	5-6/76	5,900	Catchable
Rainbow trout	Willamette	Ft Richardson	5/77	1,418	Catchable
Rainbow trout	Ennis NFH	Elmendorf	6/77	11	Brood
Rainbow trout	Talarik Creek	Elmendorf	11/77	500	Brood
Rainbow trout	Alaska-Ennis	Ft Richardson	5/78	5,010	Catchable
Rainbow trout	Alaska-Ennis	Ft Richardson	5-6/79	3,291	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/81	2,680	Catchable
Rainbow trout	Swanson River	Elmendorf	5/82	2,273	Catchable
Rainbow trout	Swanson River	Elmendorf	5/83	3,826	Catchable
Rainbow trout	Swanson River	Elmendorf	5/84	2,308	Catchable
Rainbow trout	Big Lake	Ft Richardson	6/85	3,121	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/85	200	Brood
Rainbow trout	Swanson River	Ft Richardson	7/86	995	Catchable
Rainbow trout	Swanson River	Elmendorf	5/87	1,199	Catchable
Rainbow trout	Big Lake	Ft Richardson	5/88	1,414	Catchable
Rainbow trout	Big Lake	Ft Richardson	8/88	1,120	Fingerling
Rainbow trout	Swanson River	Ft Richardson	5/89	1,510	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/90	1,500	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/91	786	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/91	771	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/92	1,500	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/93	1,200	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/94	1,502	Catchable
Coho salmon	Seward Lagoon	Ft Richardson	5/80	7,973	Catchable
Coho salmon	Bear Lake	Elmendorf	6/91	6,112	Fingerling
Coho salmon	Bear Lake	Elmendorf	5/93	8,000	Catchable
Chinook salmon	Crooked Creek	Elmendorf	9/88	1,919	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/91	512	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/92	1,071	Catchable
Chinook salmon	Willow Creek	Ft Richardson	12/93	1,156	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/94	899	Catchable

Appendix C21.-Stocking records for Jewel Lake through 1994.

Species	Brood Stock	Hatchery	Stocked Date	Stocked Number	Size At Stocking
Arctic grayling	Tolsona Lake	Fire Lake	6/69	13,000	Fry
Steelhead trout	Anchor River	Ft Richardson	7/88	5,842	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5-7/66	5,301	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	6/67	8,129	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	6/68	2,500	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	6/69	5,100	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	6/71	5,000	Catchable
Rainbow trout	Ennis NFH	Fire Lake	6/71	9,000	Fingerling
Rainbow trout	Roaring River	Fire Lake	5/72	10,000	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	6/73	16,300	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5/74	1,200	Catchable
Rainbow trout	Ennis NFH	Ft Richardson	5/74	5,300	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	7/74	5,000	Fingerling
Rainbow trout	Ennis NFH	Ft Richardson	1/75	600	Brood
Rainbow trout	Winthrop NFH	Ft Richardson	5/75	8,500	Catchable
Rainbow trout	Ennis NFH	Ft Richardson	6/75	400	Catchable
Rainbow trout	Ennis NFH	Ft Richardson	2-6/76	509	Brood
Rainbow trout	Ennis NFH	Ft Richardson	5-6/76	6,600	Catchable
Rainbow trout	Willamette	Ft Richardson	6/77	1,494	Catchable
Rainbow trout	Ennis NFH	Elmendorf	6/77	44	Brood
Rainbow trout	Alaska-Ennis	Ft Richardson	7/77	11,736	Fingerling
Rainbow trout	Talarik Creek	Elmendorf	11/77	700	Brood
Rainbow trout	Alaska-Ennis	Ft Richardson	5/78	8,736	Catchable
Rainbow trout	Ennis NFH	Elmendorf	6/78	78	Brood
Rainbow trout	Alaska-Ennis	Ft Richardson	5/79	3,015	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/79	6,050	Catchable
Rainbow trout	Talarik Creek	Elmendorf	6/80	5,506	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/80	175	Brood
Rainbow trout	Swanson River	Ft Richardson	5-6/81	5,774	Catchable
Rainbow trout	Swanson River	Elmendorf	5/82	10,000	Catchable
Rainbow trout	Swanson River	Elmendorf	5/82	83	Brood
Rainbow trout	Swanson River	Elmendorf	5/83	16,201	Catchable
Rainbow trout	Swanson River	Elmendorf	9/83	15,530	Fingerling
Rainbow trout	Swanson River	Elmendorf	5/84	14,528	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/85	6,786	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/86	7,844	Catchable
Rainbow trout	Swanson River	Elmendorf	5-6/87	9,996	Catchable
Rainbow trout	Big Lake	Ft Richardson	5-6/88	9,430	Catchable
Rainbow trout	Swanson River	Ft Richardson	8/88	4,063	Catchable
Rainbow trout	Big Lake	Ft Richardson	8/88	2,620	Fingerling
Rainbow trout	Swanson River	Ft Richardson	5-8/89	20,485	Catchable

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Species	Brood Stock	Hatchery	Stocked Date	Stocked Number	Size At Stocking
Rainbow trout	Swanson River	Ft Richardson	8/89	49	Brood
Rainbow trout	Big Lake	Ft Richardson	8/89	12	Brood
Rainbow trout	Swanson River	Ft Richardson	5-6/90	14,067	Catchable
Rainbow trout	Swanson River	Ft Richardson	5-7/90	210	Brood
Rainbow trout	Big Lake	Ft Richardson	12/90	20	Brood
Rainbow trout	Swanson River	Ft Richardson	5-7/90	210	Brood
Rainbow trout	Big Lake	Ft Richardson	12/90	2	Brood
Rainbow trout	Swanson River	Ft Richardson	5/91	2,495	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/91	408	Brood
Rainbow trout	Swanson River	Ft Richardson	6/91	1,228	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/91	4,955	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/91	2,855	Catchable
Rainbow trout	Swanson River	Ft Richardson	8/91	174	Brood
Rainbow trout	Swanson River	Ft Richardson	8/91	200	Brood
Rainbow trout	Big Lake	Ft Richardson	9/91	635	Brood
Rainbow trout	Swanson River	Ft Richardson	5/92	10,041	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/92	2,507	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/92	300	Brood
Rainbow trout	Swanson River	Ft Richardson	7/92	4,099	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/92	1,724	Catchable
Rainbow trout	Swanson River	Ft Richardson	5-7,9/93	14,725	Catchable
Rainbow trout	Swanson River	Ft Richardson	6,9/93	557	Brood
Rainbow trout	Swanson River	Ft Richardson	5-6/94	13,014	Catchable
Rainbow trout	Swanson River	Ft Richardson	7-8/94	613	Brood
Coho salmon	Little Susitna	Ft Richardson	2/90	102,000	Fry
Coho salmon	Bear Lake	Elmendorf	6/91	8,593	Fingerling
Coho salmon	Little Susitna	Ft Richardson	1/92	125,000	Fry
Coho salmon	Little Susitna	Ft Richardson	6/92	29,061	Fingerling
Coho salmon	Bear Lake	Elmendorf	6/92	9,472	Fingerling
Chinook salmon	Crooked Creek	Elmendorf	9/86	8,452	Catchable
Chinook salmon	Crooked Creek	Elmendorf	9/88	10,220	Catchable
Chinook salmon	Willow Creek	Ft Richardson	9/89	10,297	Catchable
Chinook salmon	Willow Creek	Ft Richardson	1/90	30,600	Fingerling
Chinook salmon	Willow Creek	Ft Richardson	10/90	7,530	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/91	7,027	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/92	14,939	Catchable
Chinook salmon	Willow Creek	Ft Richardson	12/92	4,939	Catchable
Chinook salmon	Willow Creek	Ft Richardson	12/93,1/94	12,851	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10-11/94	4,760	Catchable

Appendix C22.-Stocking records for Lake Otis through 1994.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Rainbow trout	Swanson River	Ft Richardson	7/86	995	Catchable
Rainbow trout	Swanson River	Elmendorf	5/87	1,683	Catchable
Rainbow trout	Big Lake	Ft Richardson	6/88	1,534	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/89	1,507	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/90	1,500	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/91	1,566	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/92	1,485	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/93	1,307	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/94	1,510	Catchable

Appendix C23.-Stocking records for Lower Explorer Pond near Portage through 1994.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Rainbow trout	Swanson River	Ft Richardson	5/93	2,828	Catchable

Appendix C24.-Stocking records for Lower Fire Lake through 1994.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Arctic grayling	Moose Lake	Clear	8/87	20,000	Fingerling
Arctic grayling	Moose Lake	Clear	10/89	7,000	Fingerling
Arctic grayling	Moose Lake	Clear	8/90	7,000	Fingerling
Arctic grayling	Moose Lake	Clear	9/91	7,000	Fingerling
Arctic grayling	Moose Lake	Clear	9/93	7,000	Fingerling
Arctic grayling	Moose Lake	Clear	94	7,000	Fingerling
Rainbow trout	Winthrop NFH	Fire Lake	8/68	675	Fingerling
Rainbow trout	Winthrop NFH	Fire Lake	9/69	700	Fingerling
Rainbow trout	Winthrop NFH	Fire Lake	10/72	39,900	Fingerling
Rainbow trout	Winthrop NFH	Ft Richardson	5/73	2,800	Catchable
Rainbow trout	Ennis NFH	Fire Lake	7/74	9,600	Fingerling
Rainbow trout	Ennis NFH	Ft Richardson	2/75	249	Brood
Rainbow trout	Winthrop NFH	Ft Richardson	5-6/75	1,700	Catchable
Rainbow trout	Ennis NFH	Ft Richardson	6/75	400	Catchable
Rainbow trout	Ennis NFH	Ft Richardson	3/76	330	Brood
Rainbow trout	Ennis NFH	Ft Richardson	5-7/76	4,000	Catchable
Rainbow trout	Ennis NFH	Elmendorf	6/76	16	Brood
Rainbow trout	Willamette H	Ft Richardson	5/77	1,101	Catchable
Rainbow trout	Alaska-Ennis	Fire Lake	7/77	11,000	Fingerling
Rainbow trout	Talarik Creek	Elmendorf	11/77	226	Brood
Rainbow trout	Talarik Creek	Elmendorf	11/77	2,278	Catchable
Rainbow trout	Alaska-Ennis	Ft Richardson	5/78	5,000	Catchable
Rainbow trout	Alaska-Ennis	Ft Richardson	5-6/79	8,263	Catchable
Rainbow trout	Talarik Creek	Ft Richardson	6/80	5,011	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/81	5,000	Catchable
Rainbow trout	Swanson River	Elmendorf	5/82	1,788	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/82	50	Brood
Rainbow trout	Swanson River	Elmendorf	6/82	205	Brood
Rainbow trout	Swanson River	Elmendorf	5/83	3,719	Catchable
Rainbow trout	Swanson River	Elmendorf	9/83	19,497	Fingerling
Rainbow trout	Swanson River	Elmendorf	5/84	4,140	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/85	4,976	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/86	2,461	Catchable
Rainbow trout	Swanson River	Elmendorf	5-6/87	4,740	Catchable
Rainbow trout	Big Lake	Ft Richardson	5-6/88	5,018	Catchable
Rainbow trout	Big Lake	Ft Richardson	8/88	6,290	Fingerling
Rainbow trout	Swanson River	Ft Richardson	5-8/89	6,618	Catchable
Rainbow trout	Swanson River	Ft Richardson	8/89	35	Brood
Rainbow trout	Big Lake	Ft Richardson	8/89	9	Brood
Rainbow trout	Swanson River	Ft Richardson	5-6/90	5,014	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/90	206	Brood
Rainbow trout	Swanson River	Ft Richardson	5/91	2,500	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/91	2,536	Catchable

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Species	Brood Stock	Hatchery	Stocked Date	Stocked Number	Size At Stocking
Rainbow trout	Big Lake	Ft Richardson	7/91	365	Brood
Rainbow trout	Swanson River	Ft Richardson	8/91	100	Brood
Rainbow trout	Swanson River	Ft Richardson	5/92	5,181	Catchable
Rainbow trout	Big Lake	Ft Richardson	7/92	300	Brood
Rainbow trout	Swanson River	Ft Richardson	5,7/93	5,129	Catchable
Rainbow trout	Swanson Lake	Ft Richardson	6/93	200	Brood
Rainbow trout	Swanson Lake	Ft Richardson	5-6/94	6,502	Catchable
Rainbow trout	Swanson Lake	Ft Richardson	7/94	204	Brood
Coho salmon	Swanson River	Fire Lake	8/66	2,010	Fingerling
Coho salmon	Swanson River	Fire Lake	8/67	11,500	Fingerling
Coho salmon	Eagle Creek H	Ft Richardson	5/69	1,000	Catchable
Coho salmon	Bear Lake	Ft Richardson	8/69	11,500	Fingerling
Chinook salmon	Green River	Fire Lake	6/66	1,500	Fingerling

Appendix C25.-Stocking records for Mirror Lake through 1994.

Species	Brood Stock	Hatchery	Stocked Date	Stocked Number	Size At Stocking
Arctic Char	Lake Aleknagik	Clear	10/89	500	Catchable
Arctic Char	Lake Aleknagik	Clear	10/90	500	Catchable
Arctic Char	Lake Aleknagik	Clear	10/91	1,250	Sub-catch
Arctic Char	Lake Aleknagik	Clear	9/93	1,000	Catchable
Arctic Char	Lake Aleknagik	Clear	10/94	2,500	Catchable
Arctic grayling	Tolsona Lake	Fire Lake	6/74	45,300	Fry
Arctic grayling	Tolsona Lake	Fire Lake	6/75	20,000	Fry
Arctic grayling	Tolsona Lake	Fire Lake	6/76	100,000	Fry
Arctic grayling	Tolsona Lake	Fire Lake	6/77	229,000	Fry
Arctic grayling	Tolsona Lake	Fire Lake	6/78	75,000	Fry
Rainbow trout	Winthrop NFH	Ft Richardson	5-7/66	7,688	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	6/69	15,200	Catchable
Rainbow trout	Roaring River	Fire Lake	6/72	4,100	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5/73	5,000	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	9/74	496	Fingerling
Rainbow trout	Swanson River	Elmendorf	5/83	13,439	Catchable
Rainbow trout	Swanson River	Elmendorf	5/84	7,430	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/85	7,546	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/86	2,985	Catchable
Rainbow trout	Swanson River	Elmendorf	5-6/87	10,151	Catchable
Rainbow trout	Big Lake	Ft Richardson	6-7/88	8,160	Catchable
Rainbow trout	Big Lake	Ft Richardson	8/88	6,820	Fingerling
Rainbow trout	Swanson River	Ft Richardson	7/88	13	Brood
Rainbow trout	Swanson River	Ft Richardson	5/89	2,456	Catchable
Rainbow trout	Swanson River	Ft Richardson	5-6/90	10,072	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/90	201	Brood
Rainbow trout	Swanson River	Ft Richardson	5/91	2,604	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/91	4,787	Catchable
Rainbow trout	Big Lake	Ft Richardson	7/91	350	Brood
Rainbow trout	Swanson River	Ft Richardson	8/91	100	Brood
Rainbow trout	Swanson River	Ft Richardson	5/92	4,964	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/92	5,522	Catchable
Rainbow trout	Big Lake	Ft Richardson	7/92	300	Brood
Rainbow trout	Swanson River	Ft Richardson	5,7,9/93	7,620	Catchable
Rainbow trout	Swanson River	Ft Richardson	6,9/93	517	Brood
Rainbow trout	Swanson River	Ft Richardson	7/94	30,000	Fingerling
Rainbow trout	Swanson River	Ft Richardson	5-6/94	10,052	Catchable
Rainbow trout	Swanson River	Ft Richardson	7-8/94	377	Brood
Coho salmon	Swanson River	Fire Lake	6/67	40,010	Fry
Coho salmon	Bear Creek	Fire Lake	6/68	20,000	Fry
Coho salmon	Seward Lagoon	Ft Richardson	5-7/80	5,897	Catchable
Coho salmon	Seward Lagoon	Ft Richardson	6/81	10,004	Fingerling

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Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Chinook salmon	Willow Creek	Ft Richardson	9/89	5,405	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10-11/90	6,880	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/91	4,981	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/92	10,263	Catchable
Chinook salmon	Willow Creek	Ft Richardson	12/93	7,480	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/94	5,466	Catchable

Appendix C26.-Stocking records for Otter Lake on Fort Richardson through 1994.

Species	Brood Stock	Hatchery	Stocked Date	Stocked Number	Size At Stocking
Arctic grayling	Moose Lake	Clear	3/92	50	Brood
Rainbow trout	Winthrop NFH	Ft Richardson	5-6/66	20,077	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	6-7/67	16,680	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	7/68	11,800	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	6/69	52,500	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5-6/71	11,500	Catchable
Rainbow trout	Ennis NFH	Fire Lake	6/71	5,000	Fingerling
Rainbow trout	Roaring River	Fire Lake	5/72	10,200	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5/73	10,000	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	6/74	7,600	Catchable
Rainbow trout	Ennis NFH	Ft Richardson	6/74	500	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	7/74	25,000	Fingerling
Rainbow trout	Ennis NFH	Ft Richardson	1/75	300	Brood
Rainbow trout	Winthrop NFH	Ft Richardson	5-7/75	9,500	Catchable
Rainbow trout	Ennis NFH	Ft Richardson	7/75	700	Catchable
Rainbow trout	Ennis NFH	Ft Richardson	1/76	493	Brood
Rainbow trout	Ennis NFH	Elmendorf	6/76	10	Brood
Rainbow trout	Ennis NFH	Ft Richardson	5-7/76	11,600	Catchable
Rainbow trout	Willamette	Ft Richardson	5-6/77	6,055	Catchable
Rainbow trout	Ennis NFH	Elmendorf	6/77	12	Brood
Rainbow trout	Talarik Creek	Elmendorf	11/77	200	Brood
Rainbow trout	Alaska-Ennis	Ft Richardson	5/78	12,036	Catchable
Rainbow trout	Ennis NFH	Elmendorf	6/78	80	Brood
Rainbow trout	Alaska-Ennis	Ft Richardson	5/79	4,395	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/79	8,546	Catchable
Rainbow trout	Talarik Creek	Ft Richardson	6/80	10,931	Catchable
Rainbow trout	Talarik Creek	Elmendorf	3/81	53	Brood
Rainbow trout	Swanson River	Ft Richardson	5/81	6,500	Catchable
Rainbow trout	Alaska-Ennis	Ft Richardson	10/81	20	Brood
Rainbow trout	Swanson River	Elmendorf	5/82	9,039	Catchable
Rainbow trout	Swanson River	Elmendorf	5/82	49	Brood
Rainbow trout	Swanson River	Elmendorf	5/83	8,721	Catchable
Rainbow trout	Swanson River	Elmendorf	9/83	11,747	Fingerling
Rainbow trout	Swanson River	Elmendorf	5/84	9,102	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/85	8,279	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/85	200	Brood
Rainbow trout	Swanson River	Ft Richardson	6/86	2,983	Catchable
Rainbow trout	Big Lake	Ft Richardson	7/86	1,245	Catchable
Rainbow trout	Swanson River	Elmendorf	5-6/87	10,059	Catchable
Rainbow trout	Swanson River	Ft Richardson	8/87	20,082	Fingerling
Rainbow trout	Big Lake	Ft Richardson	3-6/88	7,091	Catchable
Rainbow trout	Swanson River	Ft Richardson	8/88	6,171	Catchable
Rainbow trout	Big Lake	Ft Richardson	8/88	6,562	Fingerling

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Species	Brood Stock	Hatchery	Stocked Date	Stocked Number	Size At Stocking
Rainbow trout	Swanson River	Ft Richardson	6/89	500	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/89	25	Brood
Rainbow trout	Swanson River	Ft Richardson	5-8/89	13,093	Catchable
Rainbow trout	Swanson River	Ft Richardson	8-9/89	55,976	Fingerling
Rainbow trout	Swanson River	Ft Richardson	8/89	18	Brood
Rainbow trout	Big Lake	Ft Richardson	8/89	9	Brood
Rainbow trout	Swanson River	Ft Richardson	5-7/90	11,053	Catchable
Rainbow trout	Big Lake	Ft Richardson	7/90	97	Brood
Rainbow trout	Swanson River	Ft Richardson	4/91	694	Brood
Rainbow trout	Big Lake	Ft Richardson	4/91	6	Brood
Rainbow trout	Swanson River	Ft Richardson	5/91	2,511	Brood
Rainbow trout	Swanson River	Ft Richardson	6/91	5,400	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/91	1,995	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/91	351	Brood
Rainbow trout	Swanson River	Ft Richardson	9/91	275	Brood
Rainbow trout	Swanson River	Ft Richardson	4/92	420	Brood
Rainbow trout	Big Lake	Ft Richardson	4/92	24	Brood
Rainbow trout	Swanson River	Ft Richardson	5/92	4,871	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/92	4,149	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/92	470	Brood
Rainbow trout	Swanson River	Ft Richardson	7/92	2,000	Catchable
Rainbow trout	Big Lake	Ft Richardson	7/92	240	Brood
Rainbow trout	Swanson River	Ft Richardson	8/92	280	Brood
Rainbow trout	Swanson River	Ft Richardson	11/92	93,723	Sub-catch
Rainbow trout	Swanson River	Ft Richardson	5,8/93	5,742	Catchable
Rainbow trout	Swanson River	Ft Richardson	6,8/93	397	Brood
Rainbow trout	Swanson River	Ft Richardson	11-12/93	74,209	Fingerling
Rainbow trout	Swanson River	Ft Richardson	7-8/94	70,405	Fingerling
Rainbow trout	Swanson River	Ft Richardson	4-5/94	11,410	Sub-catch
Rainbow trout	Swanson River	Ft Richardson	5-6,8/94	13,100	Catchable
Rainbow trout	Swanson River	Ft Richardson	4,6-7/94	1,488	Brood
Coho salmon	Seward Lagoon	Ft Richardson	10/81	475	Fingerling
Coho salmon	Seward Lagoon	Elmendorf	7/84	10,000	Fry
Coho salmon	Caswell Creek	Ft Richardson	6/89	10,280	Fry
Coho salmon	Fleming Spit	Ft Richardson	6/89	81,673	Fry
Chinook salmon	Crooked Creek	Elmendorf	9/86	7,846	Catchable
Chinook salmon	Crooked Creek	Elmendorf	9/88	39,225	Catchable
Chinook salmon	Willow Creek	Ft Richardson	9/89	5,919	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/90	5,014	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/91	7,314	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/92	15,106	Catchable
Chinook salmon	Willow Creek	Ft Richardson	12/93	5,400	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/94	1,639	Subcatch
Chinook salmon	Willow Creek	Ft Richardson	10/94	5,315	Catchable

Includes all fish stocked in Derby Pond

Appendix C27.-Stocking records for Portage Valley Lakes through 1992.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Rainbow trout	Swanson River	Elmendorf	5-6/87	4,910	Catchable
Rainbow trout	Big Lake	Ft Richardson	6-7/88	5,087	Catchable
Rainbow trout	Swanson River	Ft Richardson	5-7/89	5,181	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/90	5,215	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/91	2,493	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/91	2,491	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/91	515	Catchable
Rainbow trout	Big Lake	Ft Richardson	7/91	71	Brood
Rainbow trout	Swanson River	Ft Richardson	6/92	17	Brood
Rainbow trout	Swanson River	Ft Richardson	6/92	5,213	Catchable

Only Alder and Tangle ponds in Portage Valley were stocked from 1987 through 1992. Stocking records by pond were not kept until 1993.

Appendix C28.-Stocking records for Rabbit Lake through 1994.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Rainbow trout	Swanson River	Ft Richardson	8/90	1,010	Catchable
Rainbow trout	Swanson River	Ft Richardson	8/94	2,000	Catchable

Appendix C29.-Stocking records for Sand Lake through 1994.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Steelhead trout	Anchor River	Ft Richardson	7/88	6,000	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5/75	5,300	Catchable
Rainbow trout	Ennis NFH	Ft Richardson	5-6/76	4,200	Catchable
Rainbow trout	Willamette	Ft Richardson	5/77	1,384	Catchable
Rainbow trout	Alaska-Ennis	Ft Richardson	5/78	5,000	Catchable
Rainbow trout	Alaska-Ennis	Ft Richardson	5/79	1,304	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/79	2,721	Catchable
Rainbow trout	Talarik Creek	Ft Richardson	6/80	5,011	Catchable
Rainbow trout	Swanson River	Ft Richardson	5-7/81	5,255	Catchable
Rainbow trout	Swanson River	Elmendorf	5/82	4,006	Catchable
Rainbow trout	Swanson River	Elmendorf	9/83	24,545	Fingerling
Rainbow trout	Swanson River	Elmendorf	5/84	7,204	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/85	4,936	Catchable
Rainbow trout	Big Lake	Ft Richardson	6/85	9,585	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/86	20,099	Catchable
Rainbow trout	Swanson River	Elmendorf	5/87	5,404	Catchable
Rainbow trout	Big Lake	Ft Richardson	5-7/88	7,080	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/88	21	Brood
Rainbow trout	Big Lake	Ft Richardson	8/88	6,700	Fingerling
Rainbow trout	Swanson River	Ft Richardson	5-8/89	9,767	Catchable
Rainbow trout	Big Lake	Ft Richardson	8/89	14	Brood
Rainbow trout	Swanson River	Ft Richardson	8/89	54	Brood
Rainbow trout	Swanson River	Ft Richardson	5-6/90	7,061	Catchable
Rainbow trout	Big Lake	Ft Richardson	8/90	150	Brood
Rainbow trout	Swanson River	Ft Richardson	5/91	2,473	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/91	2,652	Catchable
Rainbow trout	Swanson River	Ft Richardson	8/91	100	Brood
Rainbow trout	Swanson River	Ft Richardson	5/92	4,844	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/92	2,006	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/92	4,563	Catchable
Rainbow trout	Swanson River	Ft Richardson	5-7/93	6,431	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/93	253	Brood
Rainbow trout	Swanson River	Ft Richardson	5-6/94	7,023	Catchable
Rainbow trout	Swanson River	Ft Richardson	8/94	250	Brood
Coho salmon	Caswell Creek	Elmendorf	6/89	40,444	Fry
Chinook salmon	Crooked Creek	Elmendorf	9/86	8,548	Catchable
Chinook salmon	Crooked Creek	Elmendorf	9/88	14,510	Catchable
Chinook salmon	Willow Creek	Ft Richardson	9/89	9,756	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/90	9,973	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/91	10,014	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/92	15,302	Catchable
Chinook salmon	Willow Creek	Ft Richardson	12/93	9,968	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/94	9,542	Catchable

Appendix C30.-Stocking records for Spring Lake on Elmendorf through 1994.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Rainbow trout	Swanson River	Elmendorf	5/83	1,683	Catchable
Rainbow trout	Swanson River	Elmendorf	5/84	1,464	Catchable
Rainbow trout	Big Lake	Ft Richardson	5/85	1,114	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/86	2,023	Catchable
Rainbow trout	Swanson River	Elmendorf	5/87	713	Catchable
Rainbow trout	Swanson River	Ft Richardson	8/89	1,015	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/92	1,065	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/93	784	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/94	1,000	Catchable
Coho salmon	Bear Lake	Elmendorf	6/91	4,000	Fingerling
Coho salmon	Bear Lake	Elmendorf	5/93	8,000	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/91	516	Catchable
Chinook salmon	Willow Creek	Ft Richardson	12/93	505	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/94	980	Catchable

Appendix C31.-Stocking records for Sundi Lake through 1993.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Rainbow trout	Winthrop NFH	Ft Richardson	6/66	750	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	6/67	1,500	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/89	1,530	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/90	1,508	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/91	1,500	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/92	1,516	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/93	1,283	Catchable

Research failed to locate any practical public access. Stocking canceled in 1994.

Appendix C32.-Stocking records for Taku Campbell Lake through 1994.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Rainbow trout	Swanson River	Elmendorf	5/82	2,500	Catchable
Rainbow trout	Swanson River	Elmendorf	5/83	4,217	Catchable
Rainbow trout	Swanson River	Elmendorf	5/84	4,867	Catchable
Rainbow trout	Big Lake	Elmendorf	6/85	303	Catchable
Rainbow trout	Big Lake	Ft Richardson	6/85	5 095	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/85	100	Brood
Rainbow trout	Swanson River	Ft Richardson	6-7/86	4,948	Catchable
Rainbow trout	Swanson River	Elmendorf	5-6/87	5,065	Catchable
Rainbow trout	Big Lake	Ft Richardson	5-6/88	5,231	Catchable
Rainbow trout	Swanson River	Ft Richardson	8/88	2,391	Catchable
Rainbow trout	Swanson River	Ft Richardson	5-7/89	4,104	Catchable
Rainbow trout	Swanson River	Ft Richardson	8/89	57	Brood
Rainbow trout	Big Lake	Ft Richardson	8/89	14	Brood
Rainbow trout	Swanson River	Ft Richardson	5-7/90	4,043	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/90	203	Brood
Rainbow trout	Swanson River	Ft Richardson	5/91	2,663	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/91	1,476	Catchable
Rainbow trout	Swanson River	Ft Richardson	8/91	103	Brood
Rainbow trout	Swanson River	Ft Richardson	5/92	3,177	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/92	1,059	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/92	300	Brood
Rainbow trout	Big Lake	Ft Richardson	5/93	2,041	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/93	1,341	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/94	4,018	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/94	101	Brood
Coho salmon	Blind Slough	Elmendorf	6/76	20,000	Fingerling
Coho salmon	Seward Lagoon	Fire Lake	7/77	50,000	Fingerling
Coho salmon	Seward Lagoon	Elmendorf	6/78	20,100	Fingerling
Coho salmon	Seward Lagoon	Ft Richardson	5/79	20,100	Fingerling
Coho salmon	Seward Lagoon	Ft Richardson	6/80	5,014	Catchable
Coho salmon	Seward Lagoon	Ft Richardson	6/81	10,000	Fingerling
Coho salmon	Ship Creek	Elmendorf	7/89	15,386	Fingerling
Sockeye salmon	Meadow Creek	Pathology Lab	9/84	200	Postsmolt
Sockeye salmon	Nancy Lake	Pathology Lab	9/84	100	Postsmolt
Sockeye salmon	Pick Creek	Pathology Lab	9/84	150	Postsmolt

Appendix C33.-Stocking records for Tangle Pond near Portage through 1994.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Arctic grayling	Moose Lake	Clear	9/93	2,000	Fingerling

Appendix C34.-Stocking records for Thompson Lake on Fort Richardson through 1993.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Arctic Char	Lake Aleknagik	Clear	10/90	500	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5-6/66	3,500	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	6/67	2,400	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	6/68	5,100	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	6/69	9,600	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5-6/71	1,500	Catchable
Rainbow trout	Ennis NFH	Fire Lake	8/71	1,500	Fingerling
Rainbow trout	Roaring River	Ft Richardson	5-6/72	7,400	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5/73	5,000	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5/74	5,000	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5/75	5,000	Catchable
Rainbow trout	Ennis NFH	Ft Richardson	5-6/76	5,100	Catchable
Rainbow trout	Willamette	Ft Richardson	5/77	1,204	Catchable
Rainbow trout	Alaska-Ennis	Ft Richardson	5/78	5,009	Catchable
Rainbow trout	Alaska-Ennis	Ft Richardson	5-6/79	4,196	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/81	999	Catchable
Rainbow trout	Swanson River	Elmendorf	5/82	1,500	Catchable
Rainbow trout	Swanson River	Elmendorf	5/83	900	Catchable
Rainbow trout	Swanson River	Elmendorf	5/84	758	Catchable
Rainbow trout	Big Lake	Ft Richardson	5/85	1,152	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/86	994	Catchable
Rainbow trout	Swanson River	Elmendorf	5/87	1,915	Catchable
Rainbow trout	Big Lake	Ft Richardson	5/88	1,024	Catchable
Rainbow trout	Swanson River	Ft Richardson	8/89	2,030	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/90	2,019	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/91	2,017	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/92	1,982	Catchable
Rainbow trout	Swanson River	Ft Richardson	6,7/93	1,408	Catchable
Coho salmon	Seward Lagoon	Ft Richardson	5/80	2,537	Catchable

Appendix C35.-Stocking records for Triangle Lake on Elmendorf through 1994.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Rainbow trout	Winthrop NFH	Ft Richardson	5/74	500	Catchable
Rainbow trout	Winthrop NFH	Elmendorf	5/74	1,600	Catchable
Rainbow trout	Winthrop NFH	Ft Richardson	5-8/75	3,300	Catchable
Rainbow trout	Ennis NFH	Ft Richardson	8/75	200	Catchable
Rainbow trout	Ennis NFH	Ft Richardson	5-6/76	2,000	Catchable
Rainbow trout	Willamette	Ft Richardson	5/77	813	Catchable
Rainbow trout	Alaska-Ennis	Ft Richardson	5/78	2,013	Catchable
Rainbow trout	Alaska-Ennis	Ft Richardson	5-6/79	2,104	Catchable
Rainbow trout	Swanson River	Elmendorf	5/82	2,141	Catchable
Rainbow trout	Swanson River	Elmendorf	5/83	1,683	Catchable
Rainbow trout	Swanson River	Elmendorf	5/84	1,387	Catchable
Rainbow trout	Big Lake	Ft Richardson	5/85	964	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/86	1,988	Catchable
Rainbow trout	Swanson River	Elmendorf	5/87	579	Catchable
Rainbow trout	Big Lake	Ft Richardson	5/88	808	Catchable
Rainbow trout	Big Lake	Ft Richardson	8/88	370	Fingerling
Rainbow trout	Swanson River	Ft Richardson	5/89	1,256	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/90	1,028	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/91	514	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/91	470	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/92	1,006	Catchable
Rainbow trout	Big Lake	Ft Richardson	5/93	674	Catchable
Rainbow trout	Big Lake	Ft Richardson	6/94	1,032	Catchable
Coho salmon	Seward Lagoon	Ft Richardson	5/80	2,348	Catchable
Coho salmon	Seward Lagoon	Ft Richardson	6/81	3,500	Fingerling
Coho salmon	Bear Lake	Elmendorf	6/91	6,268	Fingerling
Chinook salmon	Crooked Creek	Elmendorf	9/88	807	Catchable

Appendix C36.-Stocking records for Upper Sixmile Lake on Ft. Richardson through 1994.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Arctic grayling	Tolsona Lake	Fire Lake	6/74	100,300	Fry
Rainbow trout	Elmendorf-SWA	Ft Richardson	9/82	9,980	Fingerling
Rainbow trout	Elmendorf-SWA	Ft Richardson	5/83	2,857	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/84	1,120	Catchable
Rainbow trout	Big Lake	Ft Richardson	6/85	1,979	Catchable
Rainbow trout	Swanson River	Ft Richardson	7/86	1,466	Catchable
Rainbow trout	Swanson River	Ft Richardson	3/87	696	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/87	2,362	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/88	400	Fingerling
Rainbow trout	Swanson River	Ft Richardson	8/88	4,140	Fingerling
Rainbow trout	Swanson River	Ft Richardson	5/89	1,473	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/90	1,498	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/91	696	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/91	800	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/92	1,510	Catchable
Rainbow trout	Swanson River	Ft Richardson	5,6/93	1,272	Catchable
Rainbow trout	Swanson River	Ft Richardson	6/94	1,529	Catchable
Coho salmon	Bear Lake	Elmendorf	7/69	10,000	Fry
Coho salmon	Blind Slough	Elmendorf	6/76	20	Fingerling
Coho salmon	Seward Lagoon	Elmendorf	6/77	10,800	Fingerling
Coho salmon	Seward Lagoon	Elmendorf	7/77	40,800	Catchable
Coho salmon	Seward Lagoon	Elmendorf	6/78	20,100	Fingerling
Coho salmon	Seward Lagoon	Elmendorf	5/79	20,100	Catchable
Coho salmon	Seward Lagoon	Elmendorf	11/79	8,708	Catchable
Coho salmon	Seward Lagoon	Elmendorf	5/80	5,747	Catchable
Coho salmon	Seward Lagoon	Elmendorf	6/81	5,500	Catchable
Chinook salmon	Willow Creek	Ft Richardson	10/92	423	Catchable
Chinook salmon	Willow Creek	Ft Richardson	12/93	522	Catchable

Appendix C37.-Stocking records for Upper Fire Lake through 1994.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Rainbow trout	Swanson River	Ft Richardson	6/85	115	Brood
Rainbow trout	Big Lake	Ft Richardson	5/88	400	Catchable
Coho salmon	Swanson River	Fire Lake	8/66	2,050	Fingerling
Coho salmon	Swanson River	Fire Lake	8/67	5,050	Fingerling
Coho salmon	Eagle Creek	Ft Richardson	5/69	1,000	Catchable
Coho salmon	Bear Lake	Ft Richardson	8/69	5,500	Fingerling
Chinook salmon	Green River	Fire Lake	7/66	1,340	Fingerling

Appendix C38.-Stocking records for Waldon Lake through 1994.

Species	Brood Stock	Hatchery	Stocked		Size At Stocking
			Date	Number	
Arctic grayling	Moose Lake	Clear	9/93	4,000	Fingerling
Rainbow trout	Swanson River	Ft Richardson	6/91	2,016	Catchable
Rainbow trout	Swanson River	Ft Richardson	5/92	4,146	Catchable
Rainbow trout	Swanson River	Ft Richardson	5,6/93	3,348	Catchable
Rainbow trout	Swanson River	Ft Richardson	5-6/94	4,000	Catchable
Coho salmon	Bear Lake	Elmendorf	6/93	5,000	Catchable

APPENDIX D.-ESCAPEMENT COUNTS

Appendix D1.-Salmon escapement counts, Ship Creek, 1960-1994.

Year	Chinook	Coho	Sockeye	Pink	Chum
1960	58				
1961	80				
1962	58				
1963	119				
1964	94				
1965	207				
1966	50				
1967	200				
1968	500				
1969	710	142		211	200
1970	1,746	2,234		448	39
1971	221	1,206			41
1972	121	85		147	165
1973	165	64		14	93
1974	146	250			
1975	120	85			
1976	806				
1977	1,011	436	3	584	472
1978	867	381	3	613	155
1979	124				
1980	256	90	1	99	116
1981	1,000				
1982	665				
1983	[a]				
1984	[a]				
1985	[a]				
1986	1,433				
1987	1,030				
1988	[a]				
1989	238				
1990	761	71			5
1991	318	412			6
1992	789	55	2		
1993	706	338	2	22	
1994	424	654	13	631	89
Average	485	434	4	308	126

[a] No count conducted

Appendix D2.-Salmon escapement counts, Eagle River, 1963-1994.

Year	Chinook	Coho	Sockeye	Pink	Chum
1963	135	200 [a]			
1964	123				
1965	159				
1966	49				
1967	50				
1968	28				
1969	[b]				
1970	81				
1971	[b]				
1972	[b]				
1973	61				
1974	[b]				
1975	[b]				
1976	81				
1977	313				
1978	[b]				
1979	[b]				
1980	[b]				
1981	[b]				
1982	[b]				
1983	[b]				
1984	[b]				
1985	[b]				
1986	222				
1987	[b]				
1988	[b]				
1989	37				
1990	326	2			1
1991	513	3			
1992	336				
1993	378				
1994	440				
Average	196 #	3			1

[a] Meadow Creek estimate (not included in average)

[b] No count conducted

Appendix D3.-Salmon escapement counts, Bird Creek drainage, 1984-1994.

Year	Chinook	Coho	Sockeye	Pink	Chum
1984	21			420	
1985	[a]				
1986		3		500	100
1987	[a]				
1988	[a]				
1989	70			615	184
1990	109	9		[b]	[b]
1991	156	50		[b]	
1992	142	101		[b]	
1993	72	593			60
1994	289	277		401	30
Average	123	172		484	94

[a] No count conducted

[b] Observed but not counted

Appendix D4.-Salmon escapement counts, Campbell Creek, 1958-1994.

Year	Chinook	Coho	Sockeye	Pink	Chum
1958	6			1,000	
1959	[a]				
1960	[a]				
1961	70				
1962	40				
1963	187	22			
1964	116			142	20
1965	119				
1966	15				
1967	300				
1968	125				
1969	[a]				
1970	63				
1971	102				
1972	37				
1973	201				
1974	79				
1975					
1976	210				
1977	349				
1978	[a]				
1979	[a]				
1980	[a]				
1981	[a]				
1982	68				
1983	[a]				
1984	423				
1985	[a]				
1986	733	99	877		
1987	571	132	545		
1988	[a]				
1989	218		51		
1990	458	126	317		2
1991	590	282	844		
1992	931	157	575		
1993	937	2,312	493	13	3
1994	1,076	3,054	756	6	15
Average	309	773	557	290	10

[a] No count conducted

[b] weir count

Appendix D5.-Salmon escapement counts, Sixmile Creek, 1988-1994.

Year	Chinook	Coho	Sockeye	Pink	Chum
1988			2,190	958	
1989			1,321	377	
1990			1,415	1,678	
1991			1,845	597	
1992			711	199	
1993			5,021	1,013	
1994			1,407	243	
Average			1,987	724	