

Special Publication No. 10-03

An Overview of the Chitina Subdistrict Personal Use Dip Net Fishery: A Report to the Alaska Board of Fisheries

by

Mark A. Somerville

March 2010

Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries



Symbols and Abbreviations

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Weights and measures (metric)		General		Measures (fisheries)	
centimeter	cm	Alaska Administrative		fork length	FL
deciliter	dL	Code	AAC	mid-eye to fork	MEF
gram	g	all commonly accepted		mid-eye to tail fork	METF
hectare	ha	abbreviations	e.g., Mr., Mrs., AM, PM, etc.	standard length	SL
kilogram	kg			total length	TL
kilometer	km	all commonly accepted			
liter	L	professional titles	e.g., Dr., Ph.D., R.N., etc.		
meter	m	at	@	Mathematics, statistics	
milliliter	mL	compass directions:		<i>all standard mathematical</i>	
millimeter	mm	east	E	<i>signs, symbols and</i>	
		north	N	<i>abbreviations</i>	
		south	S	alternate hypothesis	H _A
		west	W	base of natural logarithm	<i>e</i>
		copyright	©	catch per unit effort	CPUE
		corporate suffixes:		coefficient of variation	CV
		Company	Co.	common test statistics	(F, t, χ^2 , etc.)
		Corporation	Corp.	confidence interval	CI
		Incorporated	Inc.	correlation coefficient	
		Limited	Ltd.	(multiple)	R
		District of Columbia	D.C.	correlation coefficient	
		et alii (and others)	et al.	(simple)	r
		et cetera (and so forth)	etc.	covariance	cov
		exempli gratia	e.g.	degree (angular)	°
		(for example)		degrees of freedom	df
		Federal Information	FIC	expected value	<i>E</i>
		Code		greater than	>
		id est (that is)	i.e.	greater than or equal to	≥
		latitude or longitude	lat. or long.	harvest per unit effort	HPUE
		monetary symbols		less than	<
		(U.S.)	\$, ¢	less than or equal to	≤
		months (tables and		logarithm (natural)	ln
		figures): first three		logarithm (base 10)	log
		letters	Jan, ..., Dec	logarithm (specify base)	log ₂ , etc.
		registered trademark	®	minute (angular)	'
		trademark	™	not significant	NS
		United States		null hypothesis	H ₀
		(adjective)	U.S.	percent	%
		United States of		probability	P
		America (noun)	USA	probability of a type I error	
		U.S.C.	United States	(rejection of the null	
			Code	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
				variance	
				population	Var
				sample	var

Weights and measures (English)

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

Time and temperature

day	d
degrees Celsius	°C
degrees Fahrenheit	°F
degrees kelvin	K
hour	h
minute	min
second	s

Physics and chemistry

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

SPECIAL PUBLICATION NO. 10-03

**AN OVERVIEW OF THE CHITINA SUBDISTRICT PERSONAL USE DIP
NET FISHERY: A REPORT TO THE ALASKA BOARD OF FISHERIES**

by

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ABSTRACT

A history of the status, management, and harvest in the Chitina Subdistrict fishery of the Upper Copper River District is presented. This information is provided as a reference for the Alaska Board of Fisheries (BOF), general public, and other interested parties. The Chitina Subdistrict personal use dip net fishery was established by the BOF in 1984. In 1999, the BOF ruled in favor of a positive customary and traditional use finding for salmon stocks of the Chitina Subdistrict and changed its status to a subsistence fishery. In 2003, the BOF reversed this decision and the Chitina Subdistrict fishery status returned to personal use. From 1999 to 2008, an average of 8,277 permits were issued and 116,431 salmon were harvested in the Chitina Subdistrict fishery. Sockeye salmon comprised over 95% of this harvest. From 2004 to 2008, the majority of permits were issued to residents of Fairbanks (45%), Anchorage (28%), the Mat-Su area (16%), and other communities across the state (10%). Only 1% of permits have been obtained by Copper River Basin residents. Participation in the Chitina Subdistrict fishery is dependent on access, river conditions, and salmon run strength in both Copper River and Cook Inlet drainages.

Key words: Chitina Subdistrict, Copper River, personal use, salmon, subsistence, fishery management, king, sockeye, coho, Alaska Board of Fisheries, dip net.

FISHERY BACKGROUND AND HISTORICAL PERSPECTIVE

There is a long history of salmon harvested for personal needs in the Copper River drainage. Ahtna Natives took salmon, mostly king and sockeye, with funnel traps and spears in clearwater tributaries. Haley Creek was the site of one of many Ahtna traditional fishing camps along the Copper River. By 1920, fish wheels had replaced dip nets as the primary means of capturing salmon in the mainstem Copper River, but weirs and funnel traps were used in clearwater tributaries until the 1940s. The use of dip nets to capture salmon in the Copper River began to increase in the 1940's and 1950's as more residents from outside the Copper River Basin communities participated in the Copper River fisheries.

Historically, the taking of salmon for consumption as food or use as bait in the Copper River drainage has been governed under subsistence regulations (See Appendix A for a historical summary of Chitina Subdistrict regulations). Since 1960, participants in the Copper River subsistence fisheries have been required to have a subsistence fishing permit and record all salmon harvested in the Copper River by species, location, and date. In 1977, due to growth in the subsistence fishery, the Board of Fisheries (BOF) created the Chitina and Glennallen subdistricts. At this time, due to the potential "fishing power" from the large number of participants in the Chitina Subdistrict, fishing time for fish wheels was allowed only 4 days a week; dip nets were allowed 7 days a week. In the Glennallen Subdistrict fish wheels were allowed to operate 7 days a week. In 1978, Alaska passed its first subsistence law. This legislation recognized the "customary and traditional use" of fish and game harvest in Alaska and gave this harvest a priority over other harvests. The BOF adopted the *Copper River Subsistence Salmon Fisheries Management Plan* (5 AAC 01.647) in 1980. Under this plan, subsistence fishers were given one of four classes of permits depending upon their locality to the fishery, income, age, and past use. During times of low escapement, Copper River Basin residents received priority over non-basin residents. The current version of this management plan establishes seasons, open areas, legal gears, permit requirements, and bag limits for a subsistence salmon fishery in the Copper River. The plan also directs the Alaska Department of Fish and Game (department) to manage the Copper River commercial salmon fishery to ensure adequate spawning escapement and that upriver subsistence needs are met.

In 1980, the Alaska National Interest Lands Conservation Act (ANILCA) established a priority subsistence use of fish and game for federally-qualified rural residents on lands and waters for which the federal government asserts jurisdiction. The state of Alaska has also established a priority for subsistence use of fish and game by Alaskan residents (AS 16.05.258) on all lands and waters, but cannot discriminate between rural and urban residents (Alaska State Constitution Article VIII, sections 3 and 15). Because of this difference, the federal government asserted authority to ensure a priority subsistence use of fish and game for rural residents on federal lands and certain adjacent waters. To comply with ANILCA the Joint Boards of Fisheries and Game adopted a regulation in 1982 stating that only "rural" residents had "customary and traditional use" of fish and game and established eight criteria for identifying "customary and traditional uses." This regulation excluded many individuals from participating in Copper River subsistence fisheries, thereby precluding them from harvesting fish for their personal use. This led the BOF to establish personal use fisheries in 1982 (5 AAC 77.001). These fisheries were created to provide Alaskans who became ineligible to harvest fish under new subsistence regulations the opportunity to harvest fish for consumption as food or use as bait. Personal use fisheries, like commercial and sport fisheries, were not given a "priority" in terms of allocation as with subsistence fisheries. In 1989, the McDowell decision reversed the "rural preference" and once again allowed all Alaskan residents to participate in subsistence fisheries under state regulations.

Personal use fisheries differ from sport fisheries in both their objective and management. Both fisheries provide Alaskans the opportunity to harvest fish for personal consumption (in either fishery, fish cannot be sold or bartered), but personal use fisheries are managed to maximize harvest potential whereby sport fisheries are managed to provide diversity of opportunity. Anyone can participate in Alaska's sport fisheries (provided they have a sport fishing license), only Alaska *residents* may participate in personal use fisheries. The Division of Sport Fish manages most of the state's freshwater personal use fisheries, while the Division of Commercial Fisheries manages most of the subsistence fisheries and saltwater personal use fisheries. However, the Glennallen Subdistrict subsistence fishery in the Upper Copper River District is managed by the Division of Sport Fish.

In 1984, based on analyses of the eight-point criteria, the BOF created a personal use salmon fishery in the Copper River drainage under the *Copper River Personal Use Dip Net Salmon Fishery Management Plan* (5 AAC 77.590). At its December 1999 meeting, the BOF ruled in favor of a positive customary and traditional (C&T) determination for the Chitina Subdistrict and this fishery became a subsistence fishery (5 AAC 01.647(k)). Along with classifying the Chitina Subdistrict fishery as subsistence, the annual limit of king salmon was reduced from four king salmon to one king salmon. In February 2003, the BOF reversed its positive C&T determination for the Chitina Subdistrict and reinstated the *Copper River Personal Use Dip Net Salmon Fishery Management Plan* (5 AAC 77.591). The BOF viewed this as a name and allocation priority change only. Management of the fishery continued as it had prior to the 1999 ruling, based upon the number of fish passing the Miles Lake sonar. The king salmon annual limit for the fishery was left at one king salmon.

Harvests in the Copper River subsistence and personal use fisheries are dominated by sockeye salmon, followed by king and coho salmon (**Table 1**). Both subsistence and personal use salmon fisheries in the Copper River drainage have undergone changes since their inception. Currently, all Alaskans are eligible to participate in subsistence fisheries based on the McDowell decision in 1989. The Glennallen Subdistrict Subsistence Salmon Fishery occurs upstream of the Chitina-

McCarthy Bridge to Slana and can be prosecuted with fish wheels or dip nets. The season is open from June 1 through September 30, unless closed by emergency order. Only Alaska residents may participate in this subsistence fishery. A free subsistence permit is required to participate in the fishery. Users must record their harvest on their permit prior to leaving the fishing site and return the permit upon completing fishing for the season. The limits are 30 salmon for a household of one, 60 salmon for a household of two, and 10 salmon for each additional person in a household of more than two people. Individuals may request additional salmon up to a maximum of 200 salmon and households may request up to 500 salmon. For people using dip nets, only five of the salmon may be king salmon. A subsistence fishery for salmon, other than king salmon, is also allowed in a portion of Tanada Creek, near the traditional Ahtna Native fishing site of Batzulnetas, with spears and dip nets.

The Chitina Subdistrict Personal Use Dip Net Salmon Fishery is opened each year by emergency order between May 31 and June 12. The mainstem Copper River between the downstream edge of the Chitina-McCarthy Bridge and a department marker located about 200 yards upstream of Haley Creek (in Wood Canyon) is open to personal use fishing (Figure 1). Both a valid Alaska resident sport fishing license and a free personal use permit are required to participate in the fishery. From 1991 to 1999, a fee of \$10 was attached to the permit and from 2000 to 2003, the permit fee was \$25. A portion of this fee was paid to Ahtna and Chitina Native Corporations for access across their lands. Users must record their harvest on their permit prior to leaving the fishing site and return the permit when they are done fishing for the season or by October 15. The limits are 15 salmon for a single person and 30 salmon for a household of two or more, only one of which may be a king salmon. Only dip nets may be used to harvest salmon in this fishery. The BOF has mandated that a household may not be issued both a Copper River (Glennallen Subdistrict or Copper River District) subsistence salmon fishing permit and a Chitina Subdistrict personal use salmon fishing permit in the same year.

The BOF has authorized the department to manage the commercial salmon fishery to provide the following inriver goals for salmon escapement as measured at the Miles Lake Sonar (in 5 AAC 24.360(b)):

Spawning escapement (sockeye salmon)	300,000
Spawning escapement (other salmon)	17,500
Glennallen Subdistrict Subsistence Fishery	61,000–82,500
Chitina Subdistrict Personal Use Fishery	100,000–150,000
Sport Fishery	15,000
Hatchery brood stock (sockeye salmon)	Estimated annually
Hatchery surplus (sockeye salmon)	Estimated annually
Total	Announced annually

Hatchery brood stock and hatchery surplus are adjusted annually based on the anticipated return of wild and hatchery stocks. Prior to 1997, maximum harvest for the Chitina Subdistrict was 60,000 salmon, with 25% of fish in excess of the inriver goal allocated to the personal use fishery. From 1997-1999, maximum harvest for the Chitina Subdistrict was 100,000 salmon, excluding fish in excess of the inriver goal and not including any salmon harvested after August

31. In 1998, the BOF adopted a proposal that allows permit holders, who have filled their original limit, to take 10 additional sockeye salmon in weeks when a harvestable surplus of 50,000 salmon or greater will be available in the Chitina Subdistrict. This supplemental harvest is exclusive of the maximum harvest level. A supplemental harvest period has occurred at least once during the season in 10 of the 12 years since this provision was adopted (no supplemental periods occurred in 2003 and 2009). In 2000, following the 1999 BOF reclassification of the Chitina Subdistrict as a subsistence fishery, the harvest necessary to meet subsistence needs was determined to be 100,000–150,000 salmon. Based upon coded-wire tag recoveries from the commercial fishery, 85,000–130,000 salmon of this harvest are considered wild salmon.

In 2003, the BOF reversed its 1999 decision and reclassified the Chitina Subdistrict as a personal use fishery. This decision was based on new information provided by ADF&G Division of Subsistence on the use and users in the Chitina and Glennallen subdistricts. The harvest level and bag limits were left unchanged and weekly management of the fishery was still based on Miles Lake sonar counts. A provision that “if the Copper River District commercial salmon fishery is closed for 13 or more consecutive days, the maximum harvest level in the Chitina Subdistrict is reduced to 50,000 salmon” was removed from regulation when the fishery was classified as subsistence and was reinstated with the 2003 reclassification from subsistence to personal use.

All Alaska residents are eligible to participate in the Chitina Subdistrict fishery. A majority of participants come from Fairbanks, Anchorage, and the Mat-Su area (Palmer, Wasilla and surrounding communities) (Table 2). Participation in the Chitina Subdistrict fishery increased from 4,031 permits in 1986 to a peak of 10,006 permits issued in 1998 (Table 3). The total number of permits issued each year from 1999 to 2008 has averaged 8,277. When permits were issued only from the Chitina or Glennallen offices and required to be returned after each fishing trip (prior to 2000), over 90% of those permits were fished. Since 2001, Chitina Subdistrict permits have been issued from ADF&G offices in Glennallen, Delta Junction, Fairbanks, Palmer, and Anchorage and 40 to 50 vendors in Southcentral and Interior Alaska, and are required to be returned only at the end of the season. From 2002 - 2008, the average percentage of Chitina Subdistrict fishery permits actually fished was 64% and was 61% in 2009 (Table 3). Although the total number of permits issued in 2009 was 21% below the peak number of permits issued in 1998, actual participation, as measured by the number of permits actually fished in 2009, has dropped 48% since 1998. Several factors have probably played a role in decreased participation in the Chitina Subdistrict fishery. Since 2002, shore access to the fishery has diminished due to multiple landslides along the Copper River Highway easement. Although a land use fee associated with the permit was discontinued in 2004, conflicts over trespass on private lands has remained and reduced boat access to the fishery, causing some users to avoid the fishery. Finally, reduced fishery performance due to fluctuating Copper River water levels, poor return forecasts for the Copper River, and good fishery performance in Cook Inlet personal use fisheries, as well as increased travel costs have combined to reduce participation in the Chitina Subdistrict fishery in recent years.

FISHERY MANAGEMENT

The *Copper River Personal Use Dip Net Salmon Fishery Management Plan* requires that harvest be distributed from June 1 through August 31, based upon projected sonar counts. The fishery is open by regulation for the month of September. A preseason schedule is established each year that sets weekly fishing periods for the Chitina Subdistrict fishery based on projected inriver

returns. Actual inriver returns are estimated in season by the sonar unit located at Miles Lake. When an escapement of more or less than the projected inriver goal of salmon actually passes the sonar counter, the BOF has mandated the department decrease or increase fishing time by the corresponding percentage. For management purposes, a weekly fishery period is from Monday through Sunday. Based upon previous migration studies, a two-week travel period from the Miles Lake sonar to Wood Canyon is used for management purposes from June through mid-July and a three-week travel period for mid-July until the sonar is removed. Any salmon above the projected daily salmon escapement are considered surplus. Since 1998, when the department determines that a weekly harvestable surplus of 50,000 salmon or more will be present in the Chitina Subdistrict, a supplemental permit for 10 additional fish is available to a permit applicant that has already met their annual limit. Actual fishing time tends to be less in June during the early portion of the salmon run and increases to continuous fishing as the run builds, and participation declines as the season progresses (Table 4).

The *Copper River Personal Use Dip Net Salmon Fishery Management Plan 5 AAC 77.591(f)* stipulates that “the maximum harvest level for the Chitina Subdistrict personal use salmon fishery is 100,000 – 150,000 salmon, not including any salmon in excess of the inriver goal or salmon taken after August 31. If the Copper River District commercial salmon fishery is closed for 13 or more consecutive days, the maximum harvest level in the Chitina Subdistrict is reduced to 50,000 salmon.” This stipulation was first implemented during the 2008 season and led to reduced fishing hours in the Chitina Subdistrict during August of that year (**Table 4**). While the Chitina Subdistrict was designated as a subsistence fishery (2000–2002), this stipulation was repealed. In 2000 and 2002, the Copper River District commercial fishery was closed for over 13 days, but due to the subsistence classification at that time, no reduction in maximum harvest was made for the Chitina Subdistrict fishery.

Sockeye salmon comprise the majority of harvest in the Chitina Subdistrict. Since 1986, approximately 95% of the harvest has been sockeye salmon, 3% king salmon, and 2% coho salmon (**Table 3**). From 1999 to 2008, Chitina Subdistrict fishery participants harvested an average of 111,392 sockeye salmon, 2,819 king salmon, and 2,516 coho salmon. Over the last five years (2004 to 2008), the average harvest has been 112,854 sockeye salmon, 2,404 king salmon, and 2,415 coho salmon. In 2009, a total of 90,852 sockeye salmon, 222 king salmon, and 1,723 coho salmon were harvested which was well below the previous 5-year and 10-year averages. In 2009, retention of king salmon was prohibited in the Chitina Subdistrict personal use fishery after the first week of June due to a poor Copper River king salmon return, resulting in the below average king salmon harvest.

FISHERY OUTLOOK

Participation in the Chitina Subdistrict fishery is expected to remain static at current levels into the foreseeable future. The Department of Transportation has no plans to repair the landslide damage to the Copper River Highway easement and therefore, shore and boat access to the fishery will remain limited. A strong sockeye return could result in an increase in participation in the Chitina Subdistrict especially if Cook Inlet personal use fisheries are restricted in the same season.

TABLES AND FIGURES

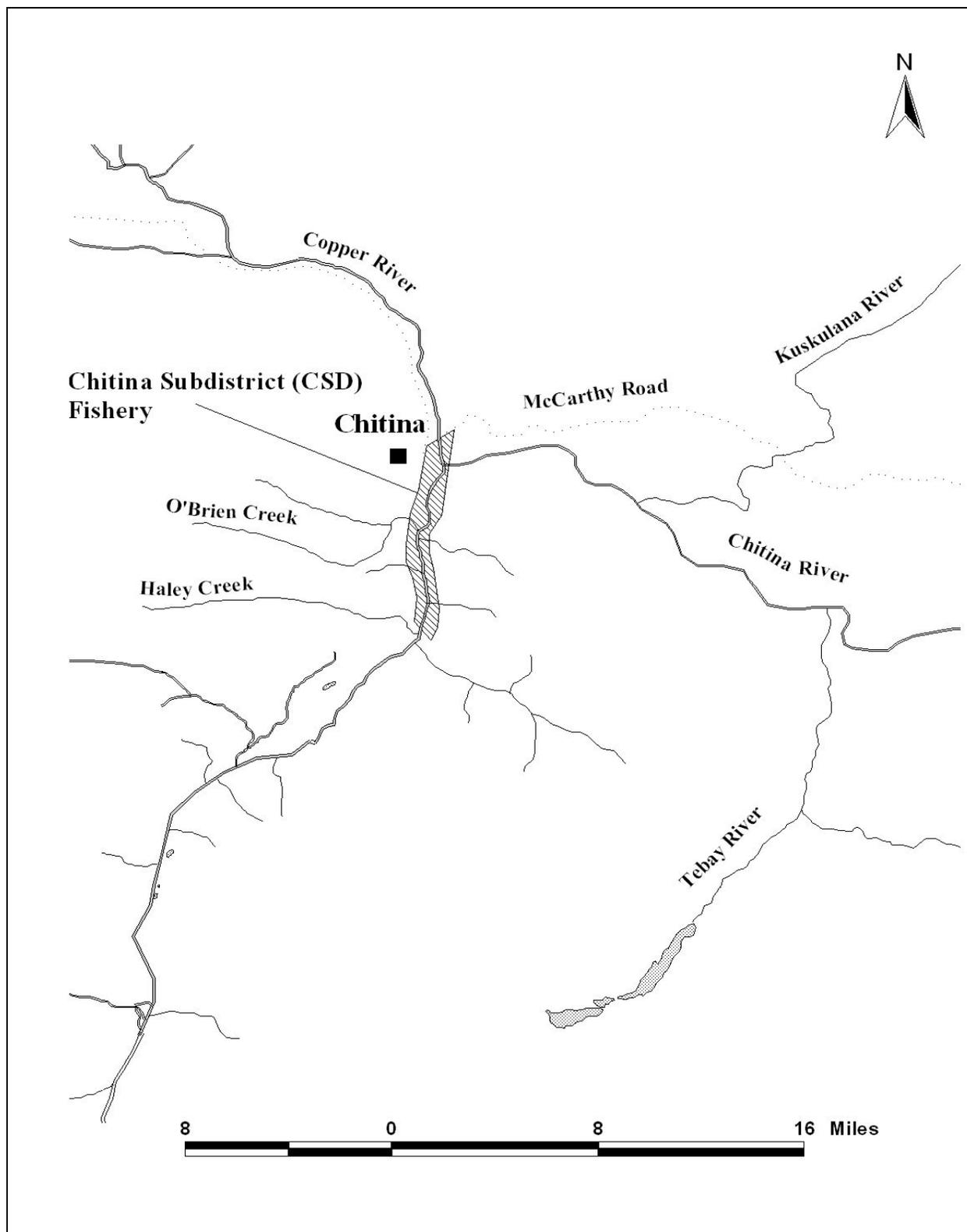


Figure 1.—Map of the Chitina Subdistrict.

Table 1.—Estimated subsistence and personal use (Glennallen and Chitina Subdistricts) harvests of king, sockeye, and coho salmon in the Copper River, 1977–2009.

Year	Salmon Harvest			Total
	King	Sockeye	Coho	
1977	2,555	41,978	523	45,056
1978	2,239	25,783	675	28,697
1979	3,416	33,096	928	37,440
1980	3,035	31,041	822	34,898
1981	2,410	65,168	1,077	68,655
1982	2,764	105,432	1,361	109,557
1983	5,950	110,794	1,855	118,599
1984	2,269	76,177	884	79,330
1985	1,958	61,551	655	64,164
1986	3,053	68,495	829	72,377
1987	3,781	76,598	585	80,964
1988	3,986	71,525	876	76,387
1989	3,038	84,138	926	88,102
1990	3,355	98,197	1,603	103,155
1991	5,384	117,189	3,586	126,159
1992	4,854	131,956	1,867	138,677
1993	4,280	146,724	1,493	152,497
1994	5,732	162,302	2,041	170,075
1995	6,599	131,522	5,752	143,873
1996	5,066	147,059	3,938	156,063
1997	8,030	231,534	347	239,911
1998	8,565	201,624	2,678	212,867
1999	9,191	219,027	3,249	231,467
2000	7,755	167,353	4,189	179,297
2001	6,666	215,895	3,874	226,435
2002 ^a	6,273	145,343	2,545	154,161
2003 ^a	5,013	142,108	3,222	150,343
2004 ^a	6,484	181,741	3,607	191,832
2005 ^b	4,712	208,603	2,210	215,525
2006 ^b	5,910	200,866	2,975	209,751
2007 ^b	6,661	209,492	2,078	218,231
2008 ^b	5,240	139,950	3,533	148,723
2009 ^a	3,209	149,537	1,984	154,730
2004-2008 average	5,801	188,130	2,881	196,812
1999-2008 average	6,391	183,038	3,148	192,577

^a Includes reported federal fishery harvests in the Glennallen and Chitina subdistricts, and Batzulnetas.

^b Includes estimated federal fishery harvests in the Glennallen and Chitina subdistricts

Table 2.–Percentage^a of Chitina Subdistrict permits issued by area, 1988–2009.

Year	CR Basin	Anchorage	Fairbanks	Mat-Su	Other	Permits Issued
1988	1	29	53	8	9	4,251
1989	0	32	50	8	8	4,582
1990	0	34	47	9	9	5,689
1991	1	36	46	11	7	6,222
1992	1	34	46	10	9	6,385
1993	1	37	42	11	8	7,914
1994	1	34	45	11	9	7,061
1995	1	34	44	12	9	6,760
1996	1	34	43	13	9	7,198
1997	1	37	38	15	9	9,086
1998	1	37	38	16	9	10,006
1999	1	35	39	17	9	9,943
2000	1	34	40	17	9	8,151
2001	1	35	39	17	8	9,463
2002	1	30	45	16	9	6,804
2003	1	30	46	15	9	6,441
2004	1	29	43	18	9	8,156
2005	0	26	46	15	13	8,230
2006	1	27	45	16	10	8,497
2007	1	28	46	16	9	8,377
2008	1	29	43	16	11	8,041
2009	1	29	42	18	10	8,020
2004–2008 Average	1	28	45	16	10	8,260
1999–2008 Average	1	30	43	16	10	8,210

^a Percentage based on state issued permits only. Federally qualified residents may hold permits for both the Glennallen and Chitina subdistricts.

Table 3.—Allocation and estimated state and federal harvest of salmon in Chitina Subdistrict fisheries, 1984–2009^a.

Year	Allocation	Permits			King	Sockeye	Coho	Steelhead	Other	Total Harvest	Harvest per Issued Permit
		Issued ^b	Fished	Percent Fished							
1984	60,000	5,415			1,760	48,236	717	0	20	50,734	9
1985	No Data										
1986	60,000	4,031			2,367	41,054	538	0	89	44,047	11
1987	60,000	4,245			2,968	43,492	424	0	24	46,908	11
1988	60,000	4,251			2,994	42,331	504	1	25	45,855	11
1989	60,000	4,582			2,251	55,778	857	25	31	58,941	13
1990	60,000	5,689			2,708	66,432	1,511	24	137	70,812	12
1991	60,000	6,222			4,056	77,590	3,354	12	46	85,059	14
1992	60,000	6,385			3,405	86,724	1,517	31	5	91,683	14
1993	60,000	7,914			2,846	93,472	1,416	14	19	97,767	12
1994	60,000	7,061			3,743	94,024	1,981	36	39	99,822	14
1995	60,000	6,760	6,266	92.7%	4,707	79,006	4,870	21	13	88,617	13
1996	60,000	7,198	6,735	93.6%	3,584	95,007	3,381	90	46	102,108	14
1997	100,000	9,086	8,689	95.6%	5,447	148,727	160	3	12	154,349	17
1998	100,000	10,006	9,492	94.9%	6,723	137,161	2,145	0	46	146,075	15
1999	100,000	9,943	9,271	93.2%	5,913	141,658	2,128	0	34	149,779	15
2000	100 - 150,000	8,151	7,216	88.5%	2,899	107,856	3,657	0	203	108,099	13
2001	100 - 150,000	9,463	6,644	70.2%	3,113	132,108	2,720	0	484	138,425	15
2002	100 - 150,000	6,926	4,480	64.7%	2,056	86,543	1,934	0	317	90,850	13
2003	100 - 150,000	6,541	4,257	65.1%	1,921	81,485	2,603	0	264	86,273	13
2004	100 - 150,000	8,265	4,955	60.0%	2,502	108,527	2,878	0	509	114,416	14
2005	100 - 150,000	8,306	5,330	64.2%	2,094	122,463	1,869	0	478	126,904	15
2006	100 - 150,000	8,572	5,291	61.7%	2,681	124,810	2,735	0	464	130,690	15
2007	100 - 150,000	8,475	5,549	65.5%	2,722	126,154	1,783	0	660	131,319	15
2008	100 - 150,000	8,123	4,803	59.1%	2,022	82,318	2,811	0	407	87,558	11
2009	100 - 150,000	8,088	4,830	60.7%	222	90,852	1,723	0	267	93,064	12
2004-2008^c		8,348	5,186	62.1%	2,404	112,854	2,415	0	504	118,177	14
1999-2008^c		8,277	5,780	69.8%	2,792	111,392	2,512	0	382	116,431	14

^a Harvest numbers from 2002 – 2004 and 2009 include estimated state personal use harvest and reported federal subsistence harvest (not expanded to account for non-respondents) and from 2005-2008 they include estimated state personal use harvest and estimated federal subsistence harvest.

^b Includes both state and federal permits from 2002 – 2009. (The number of federal permits issued in a year ranges from 68-122). The federal government began issuing separate permits beginning in 2002 when federal and state subsistence regulations diverged.

^c Average for years depicted.

Table 4.–Actual hours of fishing time per weekly period in the Chitina Subdistrict dip net fishery, 1997–2009.

Fishing Period ^a	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Average 04-08	Average 99-08
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	32	36	36	12	156	36	112	90	104	56	36	72	156	72	71
3	144	108	36	80	168	156	168	168	168	168	168	168	168	168	145
4	168	168	104	80	168	168	168	168	168	168	168	168	150	168	153
5	168	168	112	112	132	120	168	168	168	168	168	168	168	168	148
6	168	168	168	168	128	84	168	168	168	168	168	168	168	168	156
7	168	168	168	168	168	112	168	168	168	168	168	168	150	168	162
8	168	168	168	168	168	168	136	168	168	168	168	168	150	168	165
9	168	168	168	168	168	168	144	168	168	168	168	168	168	168	166
10	168	168	168	168	168	168	96	168	168	168	168	120	168	158	156
11	168	168	168	168	168	168	96	168	136	168	168	144	168	157	155
12	168	168	168	168	168	168	168	168	168	168	168	132	168	161	164
13	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168
14	168	168	168	168	168	168	168	168	168	168	168	84	168	151	160
15	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168
16	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168
17	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168
18	168	168	96	144	168	168	168	168	168	144	168	144	168	158	154
Total	2,696	2,664	2,400	2,444	2,768	2,524	2,600	2,778	2,760	2,720	2,723	2,544	2,790	2,758	2,657

^a By regulation, salmon may be harvested in the Chitina Subdistrict from June 1 to September 30. Fishing Period 1 represents the first week in June the fishery could open by regulation and often is not a full 7-day week. Similarly, Fishing Period 18 represents the last week in September and is also not necessarily a full 7-day week.

APPENDIX A

CHITINA SUBDISTRICT, PERSONAL USE

The Chitina Subdistrict Personal Use Salmon Fishery was established in 1984.

Regulations as of 1987:

- Salmon could be taken in the personal use fishery only in the Chitina Subdistrict from June 1 through September 30 only during periods established by emergency order.
- Chitina Subdistrict was described as: all waters of the mainstem Copper River from the downstream edge of the Chitina-McCarthy Road Bridge downstream to an east-west line across the Copper River at the upstream side of Haley Creek, as designated by ADF&G markers and also on the east side of the river from the upstream edge of the bridge to an ADF&G marker ¼ mile upstream.
- Lawful gear was by dip net or fish wheel.
- Only one type of gear allowed per permit.
- Dip nets were only allowed in the Chitina Subdistrict downstream from the Chitina-McCarthy Road Bridge.
- Fish wheels were only allowed on the east side, for ¼ mile upstream of Chitina-McCarthy Road Bridge.
- Each personal use fishwheel operator must closely attend the wheel when it is in use.
- A personal use permit was required. Only one permit allowed per household. Must also have Alaska resident sport fishing license. A household which has already been issued a Copper River District subsistence permit may not be issued a Chitina Subdistrict personal use salmon fishing permit.
- Marking of salmon: both lobes of caudal or tail fin must be immediately removed. (Under Statewide Provisions.)
- There was a total annual limit of 15 salmon for a household of one, and 30 for a household of more than one.
- If the Copper River personal use harvest was less than 45,000 by the end of the fifth week, then the above limits were increased to 20 for individual, 40 for a household of two, and 15 salmon for each additional person in a household of more than two.

Management Plan:

- Maximum personal use harvest of 60,000 through August 31.
- The department shall manage the personal use fishery to apportion the 60,000 as follows:

Week 1 10%

Week 2	20%
Week 3	25%
Week 4	20%
Week 5	15%

The remaining 10% may be taken during the rest of the season.

- The escapement goal passing the sonar was 401,000, plus hatchery brood and surplus salmon determined by the department annually.
- When more than the escapement goal passed the sonar counter, then 25% of the excess is allocated to the personal use fishery.
- The opening of the personal use fishery may be delayed up to 10 days, depending upon the strength and timing of the sockeye salmon run.

1989:

- A limit of five king salmon per permit was added to regulation.

1991:

- Chitina Subdistrict upper boundary description was changed to no longer contain any waters upstream of Chitina-McCarthy Road Bridge.
- Lawful gear became exclusively dip nets.
- Sonar escapement goal was increased to 516,000.
- A \$10 fee was required for Chitina Subdistrict personal use permit.

1997:

Management Plan:

- The commissioner shall establish a preseason schedule, June 1 through August 31, based on daily sonar counts. Adjustments shall be made to the schedule based on actual sonar counts compared to projected counts.
- The area within the Chitina Subdistrict open to dipnetting was defined to be from the downstream edge of the Chitina-McCarthy Road Bridge downstream to ADF&G markers approximately 200 yards upstream of Haley Creek.
- Maximum personal use harvest increased to 100,000 salmon, not including any salmon in excess of the inriver goal or salmon taken after August 31.
- Total annual limit was set at 15 for individual and 30 for household of more than one.
- Personal use king salmon limit reduced to four per household permit.
- Rainbow or steelhead trout must be released.
- Marking of salmon was listed under area regulations: both lobes of caudal or tail fin must be immediately removed. (Repealed back to Statewide Provisions after this season.)

1998:

Management Plan: (additions to the existing plan)

- Supplemental permits for 10 additional sockeye shall be available when the department determines that a weekly harvestable surplus of 50,000 salmon or greater will be present in the Chitina Subdistrict. An additional supplemental permit may be issued to a permittee who has met the limits of a previously issued supplemental permit.
- If the Copper River District commercial fishery is closed for 13 or more consecutive days, then the maximum harvest level in the Chitina Subdistrict is reduced to 50,000 (from 100,000).

2000:

- Personal use fishery was repealed as a result of a positive C&T finding (December 1999 BOF) and re-classified as a subsistence fishery.

2003:

- Personal use fishery was re-instated as a result of a negative C&T finding (December 2003 BOF).

2004:

- Permit fee repealed.

CHITINA SUBDISTRICT, SUBSISTENCE

In effect as of 1984:

- The Chitina Subdistrict consisted of all waters of the mainstem Copper River from the downstream edge of the Chitina-McCarthy Road Bridge downstream to an east-west line crossing the Copper River at the confluence of the unnamed stream located approximately 1-1/4 mile below the U.S.G.S. gauging cable across the Copper River, as designated by the ADF&G regulatory markers. (The Upper Copper River District also had this downstream boundary.)
- Salmon could be taken in the Chitina Subdistrict only when that subdistrict was open to personal use salmon fishing.
- Salmon could not be taken under a subsistence permit on the east side of the Copper River from the upstream edge of the Chitina-McCarthy Road Bridge upstream to the ADF&G regulatory marker located 1/4 mile upstream of the bridge.
- Gear was limited to dip net.
- Only one subsistence fishing permit could be issued to each household per year. A household that was already issued an Upper Copper River District subsistence permit could not be issued a Chitina Subdistrict personal use salmon fishing permit.
- Permits had to be returned to the department no later than October 31 or a permit for the following year could be denied.

- Marking of subsistence salmon: dorsal fin had to be immediately removed.
- Participation was limited. A subsistence permit for the Upper Copper River District could be issued only to those persons domiciled in Game Management Units 11, 13-A, 13-B, 13-C, and 13-D, the Jacksina River drainage, and the communities of Tetlin, Northway, Dot Lake, Tanacross, and Tok.
- Total annual possession limit for an Upper Copper River District subsistence salmon fishing permit was 30 salmon for a household of one, 60 for a household of two persons, and 10 salmon for each additional member of the household. Upon request, permits could be issued for additional salmon of no more than a total of 200 salmon for a household of one and no more than 500 salmon for a household of two or more.

1986:

- The Chitina Subdistrict consisted of all waters of the Upper Copper River District downstream of the downstream edge of the Chitina-McCarthy Road Bridge to an east-west line crossing the Copper River approximately 200 yards upstream of Haley Creek as designated by ADF&G regulatory markers and the east side of the Copper River upstream of the upstream edge of the bridge to an ADF&G marker located ¼ mile upstream of the bridge.

1991:

- The Chitina Subdistrict was closed to subsistence fishing. Personal use fishing continued.
- The Chitina Subdistrict no longer contained waters on the east side of the Copper River upstream of the Chitina-McCarthy Road Bridge.

2000 - 2002:

- Personal use fishery was repealed as a result of positive C&T finding (December 1999 BOF) and re-classified as subsistence.
- The commissioner would establish a preseason schedule, June 1 through August 31, based on daily projected sonar counts. Adjustments would be made to the schedule based on actual sonar counts compared to projected counts.
- The area within the Chitina Subdistrict open to dipnetting was defined to be from the downstream edge of the Chitina-McCarthy Road Bridge downstream to the ADF&G markers approximately 200 yards upstream of Haley Creek.
- Maximum harvest was set at 100,000–150,000 salmon, not including any salmon in excess of the inriver goal or salmon taken after August 31.
- Salmon could be taken from June 1 through Sept. 30.
- Total seasonal limit was 15 for individual and 30 for household of more than one.

- A household could not be issued both a Glennallen Subdistrict subsistence salmon fishing permit and a Chitina Subdistrict subsistence salmon fishing permit.
- A \$25 fee was required for a permit.
- King salmon limit was one.
- Marking of subsistence salmon: both tips (lobes) of the tail fin (caudal) must be immediately removed.
- Rainbow or steelhead trout must be released.
- If the department determined that a weekly harvestable surplus of 50,000 salmon or greater was present in the Chitina Subdistrict then supplemental permits for 10 additional sockeye would be available to permit holders that met the seasonal limit. An additional supplemental permit could be issued to a permittee who met the limits of a previously issued supplemental permit.