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Overview of Subsistence Salmon Fisheries in the Tyonek Subdistrict and Yentna River, Cook Inlet, Alaska

by

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and

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February 2020

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

Symbols and Abbreviations

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Weights and measures (metric)

centimeter	cm
deciliter	dL
gram	g
hectare	ha
kilogram	kg
kilometer	km
liter	L
meter	m
milliliter	mL
millimeter	mm

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 (negative log of)	pH
parts per million	ppm
parts per thousand	ppt, ‰
volts	V
watts	W

General

all commonly-accepted abbreviations e.g., Mr., Mrs., AM, PM, etc.	
all commonly-accepted professional titles e.g., Dr., Ph.D., R.N., etc.	
Alaska Administrative Code	AAC
at	@
compass directions:	
east	E
north	N
south	S
west	W
copyright	©
corporate suffixes:	
Company	Co.
Corporation	Corp.
Incorporated	Inc.
Limited	Ltd.
District of Columbia	D.C.
et alii (and others)	et al.
et cetera (and so forth)	etc.
exempli gratia (for example)	e.g.
Federal Information Code	FIC
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)
registered trademark	®
trademark	™
United States (adjective)	U.S.
United States of America (noun)	USA
U.S.C.	United States Code
U.S. state	use two-letter abbreviations (e.g., AK, WA)

Measures (fisheries)

fork length	FL
mideye-to-fork	MEF
mideye-to-tail-fork	METF
standard length	SL
total length	TL

Mathematics, statistics

all standard mathematical signs, symbols and abbreviations	
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	CI
correlation coefficient (multiple)	R
correlation coefficient (simple)	r
covariance	cov
degree (angular)	°
degrees of freedom	df
expected value	E
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.
minute (angular)	'
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
variance	
population	Var
sample	var

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OVERVIEW OF SUBSISTENCE SALMON FISHERIES IN THE TYONEK SUBDISTRICT AND YENTNA RIVER, COOK INLET, ALASKA

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ABSTRACT

This report provides background on the subsistence harvest and uses of salmon in the Tyonek Subdistrict and Yentna River, in Upper Cook Inlet, Alaska. Both of these fisheries are important for residents of Tyonek and Skwentna, as well as for subsistence fishers in Cook Inlet in general. This report also provides background for the Alaska Board of Fisheries to review the history of the customary and traditional use findings for these fisheries.

Key words: Subsistence fishing, Tyonek, Skwentna, Yentna River, sockeye salmon, king salmon, Chinook salmon, Board of Fisheries.

INTRODUCTION

This report has been prepared for the Alaska Board of Fisheries (BOF) for reference when considering proposals with implications for subsistence fisheries during its February 2020 meeting, especially proposals 242 and 243.

In order to maintain consistency with regulatory language, "king salmon" is used throughout this report to also mean "Chinook salmon."

This report is divided into three parts. Part One contains a review of the harvest of salmon *Oncorhynchus* in the subsistence fisheries in the Tyonek Subdistrict and in the Yentna River, both in Upper Cook Inlet (UCI), Alaska. For Tyonek and Yentna the most recent finalized harvest assessment data available are for 2018. The Division of Subsistence is still receiving permit returns from the 2019 fishing season; therefore, harvest estimates for 2019 would be premature at this point. However, it should be noted, due to a low preseason king salmon forecast for the 2019 season, the Tyonek and Yenta subsistence fisheries were restricted by emergency order from three days per week to two days per week (Appendix A). This section also includes a brief overview of a 2015 and 2016 subsistence baseline harvest survey conducted by the division in Tyonek. This baseline harvest survey collected household data about salmon harvests and uses, including maps of subsistence salmon harvest locations in the Tyonek Subdistrict fishery.

Part Two of this report contains the customary and traditional (C&T) use worksheet for the Tyonek subsistence salmon fishery previously presented to the BOF in 1992. Part Three contains information about the Yentna subsistence salmon fishery previously presented to the BOF in 1996, 1998, and 2018. Also included in Part Three are selections from the Subsistence and Personal Use Committee report from the February 1998 BOF meetings. The committee report summarizes the committee's discussion of the C&T finding for the Yentna River subsistence fishery. Included next is a selection from the 2011 Special Publication No. BOF 2011-01, *Overview of Subsistence Salmon Fisheries in the Tyonek Subdistrict and Yentna River, Cook Inlet, Alaska*. Finally, the 2018 C&T worksheet which provided information for the BOF in their decision to include Yentna River king salmon in the C&T finding is included this section. Parts Two and Three contain as much original material as possible.

As shown in Figure 1, most of the waters of the Cook Inlet Management Area are within the Anchorage–Matsu–Kenai Nonsubsistence Area as established by the Joint Board (5 AAC 99.015 (3)). Because subsistence fisheries are not authorized within nonsubsistence areas, noncommercial harvesting opportunities occur under sport and personal use fishing regulations. Harvest summaries for the personal use dip net and setnet fisheries of the Kenai Peninsula can be found in annual management reports prepared by the ADF&G divisions of Sport Fish and Commercial Fisheries.

Waters outside the nonsubsistence area include the Tyonek Subdistrict and the western portion of the Susitna River drainage in Upper Cook Inlet, plus those waters north of Point Bede which are west of a line from the easternmost point of Jakolof Bay and north of the westernmost point of Hesketh Island, but including Jakolof Bay, and south of a line west of Hesketh Island, as well as those waters south of Point Bede which are west of the easternmost point of Rocky Bay, in Lower Cook Inlet.

Communities within the areas excluded from the nonsubsistence area include Skwentna (population 35 in 2018), Tyonek (population 168), Beluga (population 19), Seldovia (population 401 in the city and village CDP), Port Graham (population 179), and Nanwalek (formerly called English Bay, population 291). The population of the entire Cook Inlet area in 2018 was 459,579, including the Municipality of Anchorage (population 295,365), the Kenai Peninsula Borough (58,471), and the Matanuska-Susitna Borough (105,743). This represented 62% of the state's total population in 2018.[1]

1. Alaska Department of Labor and Workforce Development (ADLWD), Juneau. n.d. "Research and Analysis Homepage." Accessed October 2019. http://live.laborstats.alaska.gov/pop/index.cfm

PART ONE: SUBSISTENCE SALMON HARVESTS, TYONEK SUBDISTRICT AND YENTNA RIVER

TYONEK SUBDISTRICT SUBSISTENCE SALMON FISHERY

History and Regulations

Subsistence salmon fishing regulations for the Tyonek Subdistrict setnet fishery, in the Northern District of the UCI Management Area, were established by court order in 1980 and subsequently permanently adopted by the BOF following a positive C&T finding in 1981. This setnet fishery is located in the Tyonek subdistrict of the Northern District of Upper Cook Inlet. The subdistrict includes the area from one mile south of the mouth of the Chuitna River south to the easternmost part of Granite Point and from the mean point of high tide to the mean point of lower low tide (Figure 2). The lands adjacent to the Tyonek Subdistrict are owned by the Tyonek Native Corporation, and this feature often raises issues of trespass for those individuals living outside the Tyonek area who do not seek prior permission to land their boats or set their nets on the privately-owned uplands. For a detailed discussion of this fishery and other subsistence uses at Tyonek, see Jones and Koster (2018), Jones et al. (2015), Holen and Fall (2011), Stanek et al. (2007), and Fall et al. (1984) .

In 2011, the BOF modified the Northern District King Salmon Management Plan (5 AAC 21.366). This modification was in response to reduced abundance of king salmon in the Northern District. The sport fishery on the Chuitna River, which is at the northern edge of the Tyonek Subdistrict, was closed, and commercial fishing was closed from a point just south of the community to the Susitna River (Shields and Dupuis 2012:10).

The season in this subsistence fishery operates in two parts. The first part, which focuses on king salmon, is open on Tuesdays, Thursdays, and Fridays from May 15–June 15. The second part is open Saturdays from June 16–October 15. In 2011, the BOF specified the amounts of salmon reasonably necessary for subsistence in the Tyonek Subdistrict as 700–2,700 king salmon and 150–500 other salmon. A permit is required and 5 AAC 01.595 (a)(3) specifies that each permit holder may harvest 70 king salmon in the Tyonek Subdistrict, 25 other salmon for the head of household, and an additional 10 salmon for each dependent of the permit holder.

Allowable gear for the Tyonek Subdistrict subsistence salmon fishery includes set gillnets 10 fathoms in length, no deeper than 45 meshes, and a stretched mesh sized no larger than six inches. When fishing, permit holders are required to be present at the net site and must mark the salmon by removing both lobes of the tail fin. Other standard permit conditions include gear marking requirements, prohibition of fishing within 600 feet of any part of another set gillnet, and prohibition of fishing within 300 feet of a dam, fish ladder, weir, culvert, or other artificial obstruction. No person may operate or assist in the operation of subsistence salmon net gear the same day that person operates or assists in the operation of commercial salmon gear, and gillnets may not be used in fresh waters.

Harvest Assessment Methods

Household permits are issued by ADF&G prior to fishing, and harvests are recorded on the permit. A Division of Subsistence staff person travels to Tyonek each April and issues approximately 40–50 permits within several hours. Permits are also available in the Anchorage ADF&G office or in the Tyonek village office. Prior to 2015, the published Tyonek Subdistrict salmon harvest numbers were based on reported permit data, partly due to the high return rate achieved from 1980–1990 when the fishery was limited to residents of Tyonek. Beginning in 2015, all published salmon harvests are harvest estimates that are based on permit return rates by community. These estimated harvests replace the reported harvests that were previously published.

The 2018 Season

In 2018, 65 permits were issued for the Tyonek Subdistrict subsistence salmon fishery, including 49 permits issued to Tyonek residents (75%) and 16 permits were issued to other Alaska residents, including 12 to residents of Anchorage (18%; Table 1). Residents of Tyonek accounted for 81% of the estimated harvest total (1,308 salmon), including 84% of the estimated king salmon harvest (1,100 king salmon), while residents of Anchorage accounted for 15% of the estimated harvest total (242 salmon) (Table 1).

The 2018 estimated harvest of 1,649 salmon was lower than the 2017 harvest of 2,089 salmon and lower than the historical average of 1,825 salmon. Of the total estimated subsistence salmon harvest in 2018, 1,308 were king salmon (79%), 188 were sockeye salmon (11%), 136 were coho salmon (8%), 10 were chum salmon (1%), and 7 were pink salmon (1%) (Table 2; Figure 3).

Between 1980 and 1988, harvests generally ranged between 2,000 and 3,000 salmon. Corresponding to a decline in Tyonek's population, in the late 1990s, harvests dropped, and ranged between about 1,000 and 1,500 salmon from 1990 to 2018 (Table 2). Through 2018, king salmon comprised about 78% of the historical average total salmon harvest (Table 2). As reported to researchers during fieldwork beginning in 2011, and continuing through research efforts in 2013, 2015, and 2016 in Tyonek during harvest surveys, the participants in the Tyonek fishery are fishing longer and later in the season to meet their harvest goals; this extension of effort also leads to increased harvests of later-running fish, such as sockeye and coho salmon (Jones and Koster 2018). For example, the estimated harvest of 575 coho salmon in 2014 is the highest estimated harvest to date. The estimated 5-year average (2014–2018) harvest of 362 coho salmon is higher than the estimated 10-year average (2009–2018) of 287 coho salmon, and higher than the historical average (1981–2018) of 185 coho salmon (Table 2).The harvest of 505 sockeye salmon in 2015 was the highest estimated harvest to date. The estimated 5-year-average (2014–2018) harvest of 362 sockeye salmon is higher than the estimated 10-year-average (2009–2018) of 302 sockeye salmon, and higher than the historical average (1981–2018) of 197 sockeye salmon (Table 2).

Household Baseline Survey Findings

Results of a household baseline harvest survey conducted by the Division of Subsistence in Tyonek for study years 2015 and 2016 illustrate the continuing significance of king salmon in the overall subsistence harvests by community residents, but also the increased reliance on other salmon species such as coho salmon and sockeye salmon. During the two study years, survey respondents and interview respondents remarked that coho salmon have become an important salmon species due to an inability to obtain enough king salmon during the early fishing season (Jones and Koster 2018: 69). As estimated in numbers of fish, king salmon contributed 42% of the total estimated harvests of salmon for subsistence uses by Tyonek respondents in the 2015 study year; coho salmon contributed 37%, and sockeye salmon contributed 20% (Figure 4). In 2016, king salmon contributed 54% of the total harvests of salmon; coho salmon contributed 27% and sockeye salmon contributed 16%. Chum and pink salmon contributed 1% and less than 1%, respectively, to the total harvest. (Figure 5).

UPPER YENTNA RIVER SUBSISTENCE FISH WHEEL FISHERY

History and Regulations

The BOF first considered proposals to provide subsistence salmon fishing opportunities in a portion of the Yentna or Skwentna rivers in 1988 and made a negative C&T finding[1] which focused on the lack of transmission of traditions about the fishery within multigenerational families and the relative short length of residency in the area by potential participants in the fishery, who were expected to be mostly residents of the Skwentna area. The BOF affirmed this negative finding in 1992 following the passage of the

1. FB-124-88; see the Alaska Board of Fisheries website.

present state subsistence statute (AS 16.05.258). In response to another proposal in 1996, the BOF again affirmed its negative C&T finding but adopted regulations establishing a personal use fish wheel fishery in a portion of the Yentna River. In 1997, in *Payton et al. v. State*, the Alaska Supreme Court ruled that the BOF had erred in requiring transmission of fishing traditions through family lines, in focusing on the short length of time that current local residents had lived in the area, and in requiring that salmon be preserved by methods similar to those used in Alaska Native communities in the Cook Inlet area. The court remanded the issue to the BOF with additional instruction to review information about transmission of knowledge about the fishery across generations (but not necessarily within families who still resided in the area) that had been included in interviews and archival data collected and organized by the Division of Subsistence. During its meeting in February 1998, the BOF reviewed this and other information and made a positive C&T finding for Yentna River salmon stocks. The personal use fish wheel fishery established in 1996 became a subsistence fishery as a result of these BOF actions. In April 2018, the BOF modified the C&T finding for this fishery to include a positive finding for king salmon, thereby allowing the subsistence harvest of king salmon consistent with sustained yield management, beginning in 2018. For detail regarding the C&T worksheet, see (Fall and Wiita 2018). Under AS 16.05.258 (a), the BOF is charged with identifying fish stocks, or portions of stocks, that "are customarily taken or used for subsistence." If a portion of these stocks can be harvested consistent with sustained yield principles, the BOF "shall determine the amount of the harvestable portion that is reasonably necessary for subsistence uses" [AS 16.05.258(b)]. This is called the amount reasonably necessary for subsistence, or an "ANS finding". An ANS determination for king salmon was postponed at the time of the C&T finding due to the lack of subsistence harvest records for this salmon species.

This subsistence fish wheel fishery is located in the mainstem of the Yentna River from its confluence with Martin Creek upstream to its confluence with the Skwentna River (Figure 6). The fishery occurs from June 1-30, July 15-August 7. Fishing periods are from 4:00 am to 8:00 pm Mondays, Wednesdays, and Fridays[2].

Legal gear includes a fish wheel equipped with a live box. Permit holders must be present at the fish wheel while the wheel is fishing. Rainbow/steelhead trout must be returned alive to the water. Seasonal limits for households are 25 salmon, other than king salmon, for the head of a household, and 10 salmon, other than king salmon, for each additional member of the household. Five king salmon may be retained for the head of household, and two king salmon for each additional member of the household. Other standard permit conditions include prohibition of fishing within 300 ft of a dam, fish ladder, weir, culvert, or other artificial obstruction.

Harvest Assessment Methods

A permit issued by ADF&G is required prior to fishing. Permits are available through the Division of Sport Fish offices in Palmer and Anchorage. Permit holders must record their harvests on the permit and return it to ADF&G. Participants must also report their daily harvest of salmon to the Palmer ADF&G office by noon of the day following an open period. In the view of ADF&G, compliance with the permit requirement is high, and harvest estimates for this fishery are very reliable.

The 2018 Season

In 2018, 28 subsistence permits were issued for the Yentna River subsistence fish wheel fishery, and all 28 were returned (Table 3). In 2018, 12 of the 28 permit holders resided in the Skwentna area (43%), with the remaining 16 permits held by residents of other Cook Inlet and Matanuska area communities. Permit

2. As noted above: due to a low preseason king salmon forecast for the 2019 season, the Yenta subsistence fisheries were restricted by Emergency
Order from three days per week to two days per week (Appendix A).

holders living in the community of Skwentna in 2018 harvested 268 of the estimated 623 salmon, or 43% of the harvest (Table 3).

Of the total harvest of 623 salmon estimated for 2018, 419 were sockeye salmon (67%), 170 coho salmon (27%), 16 king salmon (3%), 10 pink salmon (2%), and 8 chum salmon (1%). The 2018 harvest of 623 salmon was lower than the 2017 harvest of 670 salmon. The 2018 harvest was less than the 5-year average (2014–2018) of 678 salmon, but about the same as the 10-year average (2009–2018) of 621 salmon, and more than the historical average of 577 salmon (Table 4).

PART ONE TABLES AND FIGURES

Table 1.–Subsistence salmon harvests by community, Tyonek Subdistrict, 2018.

	Permits		Estimated salmon harvests					
Community	Issued	Returned	King	Sockeye	Coho	Chum	Pink	Total
Anchorage	12	5	166	70	0	0	7	242
Kenai	1	1	39	7	4	0	0	50
Nikiski	2	0	0	0	0	0	0	0
Soldotna	1	1	3	16	0	0	0	19
Tyonek	49	20	1,100	96	132	10	0	1,338
Total	**65**	**27**	**1,308**	**188**	**136**	**10**	**7**	**1,649**

Source ADF&G Division of Subsistence, ASFDB 2018 (ADF&G 2019).

Table 2.–Historical subsistence salmon harvests, Tyonek Subdistrict, 1980–2018.

	Permits		Estimated salmon harvests					
Year	Issued	Returned	King	Sockeye	Coho	Chum	Pink	Total
1980	67	67	1,936	262	0	0	0	2,198
1981	70	70	2,002	269	64	32	15	2,382
1982	69	69	1,590	310	113	4	14	2,031
1983	73	73	2,755	251	78	6	0	3,090
1984	70	70	2,364	310	66	23	3	2,766
1985[a]	176	ND	1,967	163	91	10	0	2,231
1986[a]	101	ND	1,674	198	210	44	45	2,171
1987	64	61	1,689	174	156	25	10	2,055
1988	47	42	1,776	102	283	13	9	2,183
1989	49	47	1,303	89	120	1	0	1,513
1990	42	37	886	75	400	14	23	1,397
1991	57	54	925	20	69	0	0	1,014
1992	57	44	1,170	96	294	24	9	1,594
1993	62	54	1,566	68	88	25	23	1,769
1994	58	49	905	101	122	27	0	1,154
1995	70	55	1,632	54	186	18	0	1,891
1996	73	49	1,615	88	177	9	27	1,917
1997	70	42	1,051	200	241	13	0	1,505
1998	74	49	1,430	251	97	3	2	1,783
1999	77	54	1,620	247	175	20	66	2,127
2000	60	47	1,461	78	103	0	8	1,649
2001	84	58	1,450	254	72	9	6	1,790
2002	101	71	1,609	314	162	6	14	2,106
2003	87	74	1,384	136	54	12	9	1,595
2004	97	75	1,751	121	168	0	0	2,040
2005	78	67	1,183	65	159	2	0	1,409
2006	82	55	1,366	32	23	1	0	1,422
2007	84	67	1,526	249	164	3	4	1,946
2008	94	77	1,492	146	227	11	16	1,892
2009	89	69	817	229	320	2	1	1,369
2010	105	77	1,116	281	223	3	3	1,626
2011	114	63	851	202	34	10	10	1,107
2012	89	69	1,102	223	174	3	5	1,507
2013	82	48	1,352	278	311	0	32	1,973
2014	92	73	896	487	575	15	5	1,978
2015	83	72	1,070	505	568	16	6	2,165
2016	74	64	1,030	188	225	8	12	1,462
2017	74	49	1,304	442	306	31	6	2,089
2018	65	27	1,308	188	136	10	7	1,649
5-year average (2014–2018)	78	57	1,122	362	362	16	7	1,869
10-year average (2009–2018)	87	61	1,085	302	287	10	9	1,693
Historical average (1981–2018)	79	59	1,421	197	185	12	10	1,825

Source ADF&G Division of Subsistence, ASFDB 2018 (ADF&G 2019).

a Harvests were not expanded due to unknown permit returns.

ND = no data

Table 3.–Subsistence salmon harvests by community, Upper Yentna River, 2018.

	Permits		Estimated salmon harvest					
Community	Issued	Returned	King[a]	Sockeye	Coho	Chum	Pink	Total
Anchorage	3	3	0	24	18	0	0	42
Chugiak	1	1	0	50	5	0	0	55
Palmer	1	1	0	0	0	0	0	0
Skwentna	12	12	6	173	83	2	4	268
Wasilla	10	10	10	157	60	4	4	235
Willow	1	1	0	15	4	2	2	23
Total	**28**	**28**	**16**	**419**	**170**	**8**	**10**	**623**

Source ADF&G Division of Subsistence, ASFDB 2019 (ADF&G 2020).

a. Regulations prohibited the retention of king salmon in this fishery until 2018 (5 AAC 01.595).

Table 4.–Historical subsistence and personal use salmon harvests, Upper Yentna River, 1996–2018.

	Permits		Estimated salmon harvest					
Year	Issued	Returned	King[b]	Sockeye	Coho	Chum	Pink	Total
1996[a]	17	17	0	242	46	51	115	454
1997[a]	24	21	0	549	83	10	30	672
1998	21	18	0	495	113	15	30	653
1999	18	16	0	516	48	13	18	595
2000	19	19	0	379	92	7	4	482
2001	16	15	0	545	50	4	10	608
2002	25	22	0	454	133	31	14	632
2003	19	15	0	553	67	8	2	630
2004	21	19	0	441	146	3	36	625
2005	18	17	0	177	42	25	24	268
2006	22	22	0	368	175	26	14	583
2007	22	22	0	367	66	18	17	468
2008	16	16	0	310	57	7	23	397
2009	17	17	0	253	14	6	0	273
2010	32	32	0	642	50	18	38	748
2011	25	25	0	598	90	21	337	1,046
2012	21	21	0	279	24	19	21	343
2013	22	19	0	160	92	32	128	412
2014	20	18	0	328	84	32	17	460
2015	29	27	0	578	151	69	47	845
2016	26	25	0	514	204	37	36	790
2017	26	26	0	454	185	10	21	670
2018	28	28	16	419	170	8	10	623
5-year average (2014–2018)	26	25	3	459	159	31	26	678
10-year average (2009–2018)	25	24	2	423	106	25	65	621
Historical average (1996–2018)	22	21	1	418	95	20	43	577

Source ADF&G Division of Subsistence, ASFDB 2019 (ADF&G 2020).

a. This fishery was classified as personal use in 1996 and 1997; it has been a subsistence fishery since 1998.

b. Regulations prohibited the retention of king salmon in this fishery until 2018 (5 AAC 01.595).

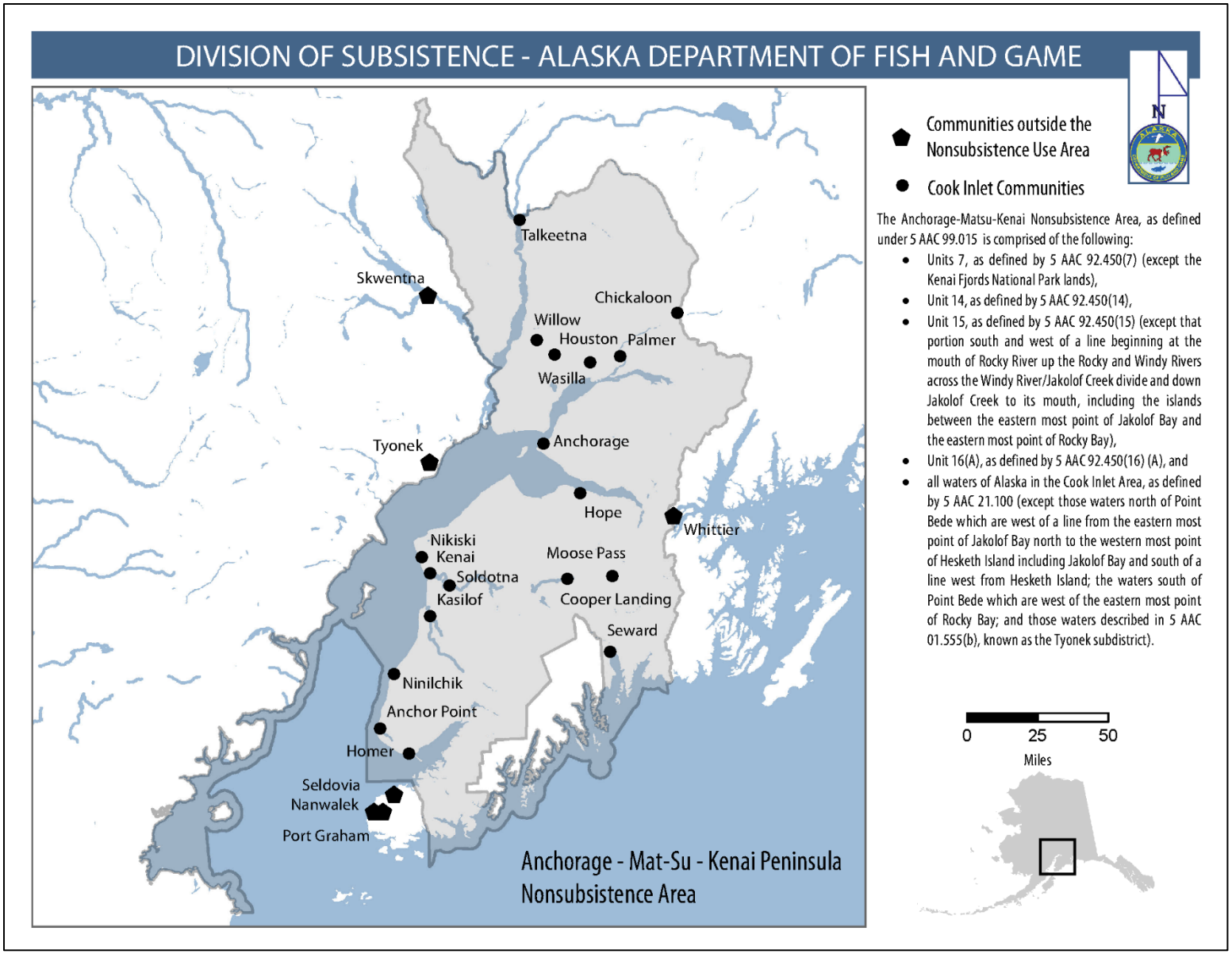

Figure 1.–Map of the Anchorage–Matsu–Kenai Nonsubsistence Area.

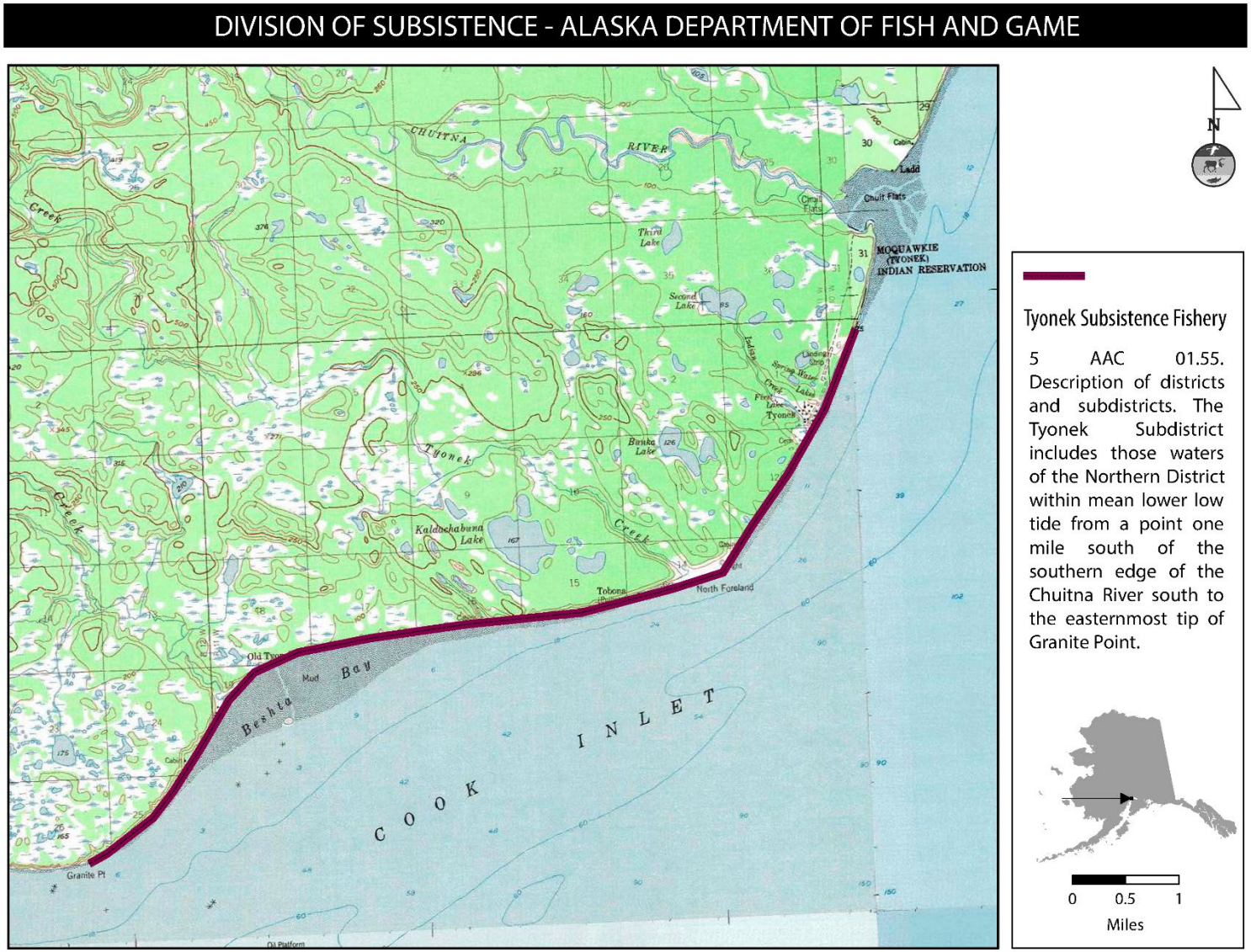

Figure 2.–Tyonek subsistence fishery area.

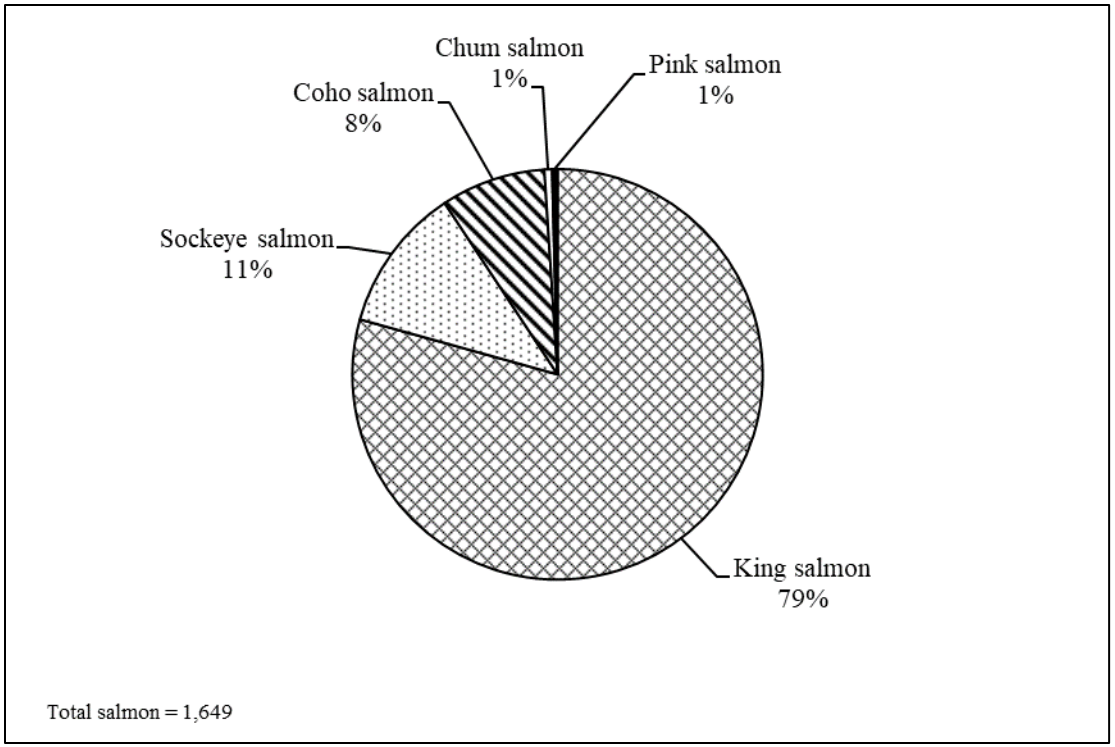

Figure 3.–Species composition of subsistence salmon harvest Tyonek Subdistrict subsistence salmon fishery, 2018.

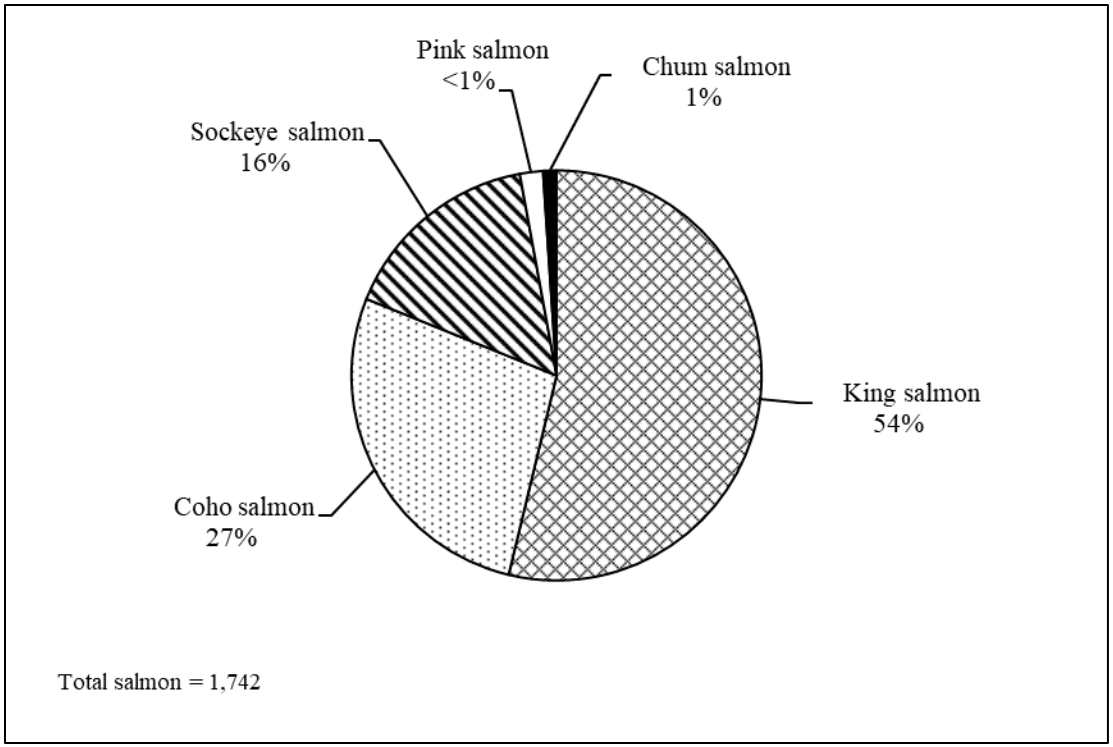

Figure 4.–Composition of salmon harvest in pounds usable weight, Tyonek households, 2016.

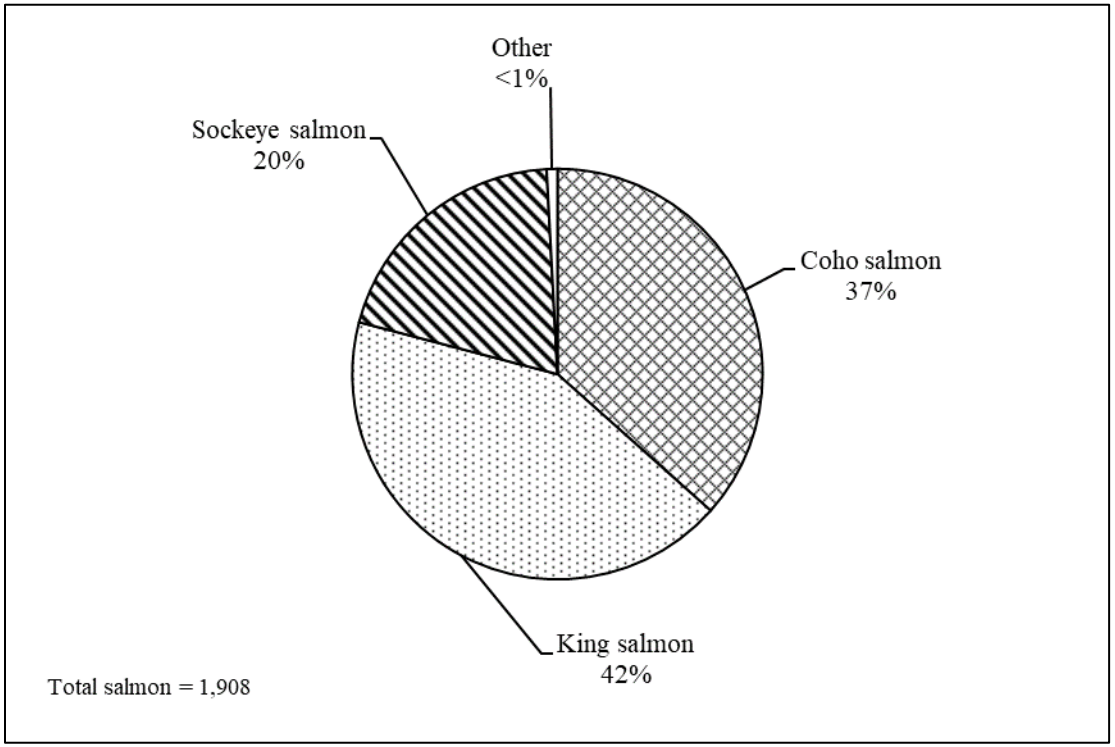

Figure 5.–Composition of salmon harvest in pounds usable weight, Tyonek households, 2015.

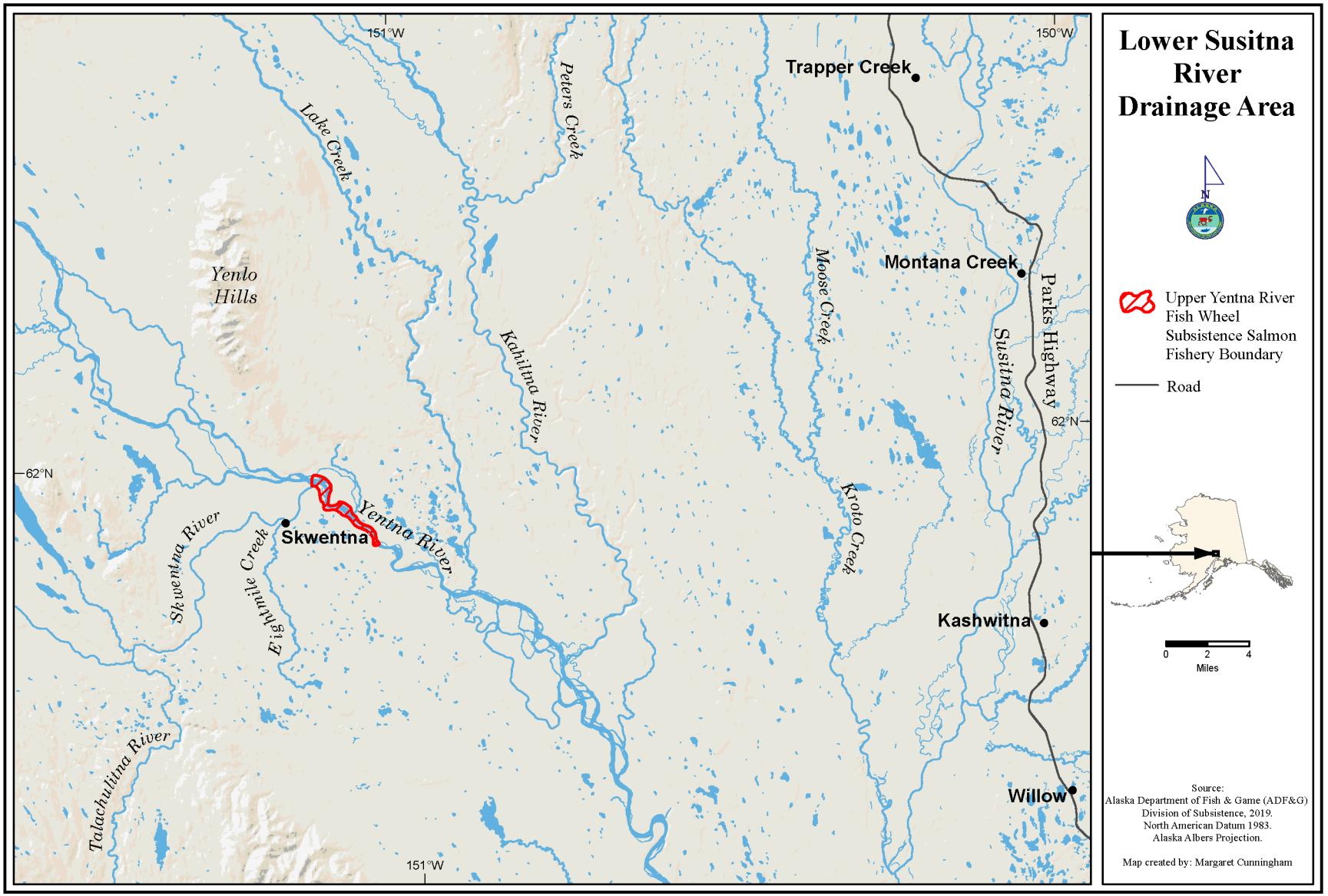

Figure 6.–Total area used by Upper Yentna River Area residents to harvest resources and area used to harvest salmon.

PART TWO: 1992 CUSTOMARY AND TRADITIONAL USE WORKSHEET FOR THE TYONEK SUBDISTRICT PROVIDED TO THE ALASKA BOARD OF FISHERIES

CUSTOMARY AND TRADITIONAL USE WORKSHEET-1

SALMON -- TYONEK SUBDISTRICT

Prepared by the Division of Subsistence
Alaska Department of Fish and Game

November 1992

In 1981, the Board of Fisheries found that there are customary and traditional uses of salmon in the Tyonek subdistrict of the Northern District in Upper Cook Inlet. This worksheet contains background information on the uses of salmon in the Tyonek subdistrict of the Northern District of Upper Cook Inlet. The Board of Fisheries requires this information in order to determine whether there are "Customary and Traditional" (subsistence) uses of salmon in this area under the new state subsistence statute. It is intended that the information in this worksheet be supplemented by written and oral public testimony during the board meeting.

Criterion 1. A long term, consistent pattern of use, excluding interruption by circumstances beyond the user's control such as regulatory prohibitions.

The use of salmon by Upper Cook Inlet Dena'ina Athabaskan people, and Tyonek residents, dates back to times before contacts with European traders and explorers, and is documented by accounts in the ethonographic literature summarized by Fall (1981:182-202). Various other accounts including Osgood (1937:190-194) Townsend (1965), Alexan (1965), and Kari et al. (1982) describe the use of salmon in the 1800s and early 1900s. Descriptions of the harvest and use of salmon in the 1980s is provided in Foster (1981), and Fall et al. (1984:84-121). Since 1980, when the current spring, May 15 through June 15, subsistence salmon fishery was established, harvests have focused on king salmon. In this fishery there is a small incidental catch of red salmon (Table 1). A second late summer and fall subsistence salmon fishery occurring only on Saturdays, harvests mostly silver salmon and incidentally catches chum and pink salmon.

Criterion 2. A use pattern recurring in specific seasons of each year.

Traditionally, salmon were taken along the beaches near Tyonek from the time of their first appearance in the spring through the summer months. In the fall, spawning salmon were taken in streams and lakes throughout the area utilized for hunting and fishing activities by the Upper Inlet Dena'ina people.

In more recent times, seasons for subsistence fishing in saltwater were established in state regulations. Roughly, the seasons corresponded to the timing of salmon migrations through the Tyonek subdistrict beginning in May and June and continuing into September (Figure 1). During the 1960s and 1970s declining runs of king salmon resulted in the closure of portions of the season targeting kings (Yancey and Thorsteinson 1963:1). In 1980, with the increased runs of king salmon returning to the Northern District, the subsistence fishery in the Tyonek subdistrict was broadened to include a period during mid-May to mid-June. A second period from mid-June to mid-October was also established (Fall et al. 1985:84-85). Fishing for silver salmon in the Fall months also occurs in local rivers and streams.

Criterion 3. A use pattern consisting of methods and means of harvest which are characterized by efficiency and economy of effort and cost, and conditioned by local circumstances.

Traditionally, salmon were harvested in the saltwater areas near Tyonek with dipnets from platforms constructed of poles which extended directly into the inlet above the tidal flats. Salmon

were also caught with basket traps and weirs in small streams and lake outlets. This was especially common for the harvesting of silver salmon in late August and September during fall hunts. Most of the summer was spent fishing and preparing a large supply of dry salmon for winter use (Fall et al. 1984:21-22).
During the 1920s through the 1950s, commercial fishing was closed on Sundays and Tyonek residents were allowed the use of 25 fathom nets to catch subsistence salmon during those closed periods (Stanek field notes). After traps were eliminated in the 1960s to the present, 10 fathom set nets were used in saltwater to catch the annual supplies of salmon (Fall et al. 1984:85). Rod and reel gear is used to catch salmon in local rivers and streams.

Criterion 4. Consistent harvest and use of fish or game which is near, or reasonably accessible from, the user's residence.

Fishermen from Tyonek set their nets at sites located between the village (Figure 2) and a point one mile south of the Chuitna River and the tip of Granite Point. Permanent fish camps with cabins and processing facilities such as racks, smokehouses, and freshwater supplies are located along the shoreline from North Foreland southwest to Granite Point. Many of these camps have been in existence since the 1940s (Foster 1982:4-6). River and stream fishing occurs in places such as McArthur River, Chuitna River, Chakachatna River, and Nikolai Creek (Fall et al. 1984:116).

Criterion 5. The means of handling, preparing, preserving, and storing fish and game which have been traditionally used by past generations, but not excluding recent technological advances where appropriate.

Traditional methods of processing and handling salmon included drying, smoking, fermenting, and storing in oil (Osgood 1937). During the 1980s, Tyonek residents used five basic methods, smoking, canning, freezing, salting, and fermenting to preserve their salmon. Pickling in also used occasionally to preserve salmon. Two of these methods, smoking and fermenting, date to before the arrival of Euro-Americans in Cook Inlet. In addition, a variety of portions of the fish were prepared in special ways (Figure 3). For example, the flesh and skin were cut into strips and smoked to produce *balik*; backbones with some flesh left on for *k'iytin*; heads were split and smoked for *k'tsiduggen*; the roe was smoked into *q'innalggeni*; and the flesh was fermented into *chiqilin* (Fall et al. 1984:98-116).

Criterion 6. A use pattern which includes the handing down of knowledge of fishing and hunting skills, values, and lore from generation to generation.

Most of the specialized methods of preparation and preservation discussed above are practiced and passed on from generation to generation by elder family members through a system of kinship ties described in Fall et al. 1984:107-114). Within individual kinship units, specialized work tasks are performed by certain individuals or groups lead by people who were taught by their elders with knowledge passed down from their ancestors (Figure 4).

Criterion 7. A use pattern in which the hunting or fishing effort or the products of that effort are distributed or shared among others within a definable community of persons, including customary trade, barter, or sharing and gift-giving; customary trade may include limited exchanges for cash, but does not include significant commercial enterprises.

As described in Fall et al. (1984:67-83; 92-116), the entire process of catching, processing, and preserving salmon involves a complex network of extended families (Figure 4). Typically, the cabins, equipment, and supplies used in harvesting and preserving salmon are owned by one or several individuals in the group. The labor involved in operating the nets, cleaning, cutting, and perserving the fish generally comes from all the able-bodied individuals in the group. Likewise, the

preserved salmon products are divided among group members usually based on household size. Typically, members of the extended fishing group provide whatever they are able to in the way of supplies such as jars, bags, wrapping paper, salt, fuel, oil, and food for running the fishing operation.

Criterion 8. A use pattern which includes reliance for subsistence purposes upon a wide diversity of the fish and game resources of an area and which provides cultural, social, and nutritional elements of the subsistence user's life.

Research conducted in Tyonek in 1983 found the majority of the edible weight of wild resources harvested there was comprised of salmon (71.0 percent). Another 21.0 percent of the edible weight came from land mammals, almost all moose. A variety of other resources were harvested making the remaining eight percent of the edible weight. In total, there were 49 individual species or groups of resources harvested over a six year period (Table 2) (Fall 1984:51-67)

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1965 How Tyonek People Used to Eat. Alaskan Sportsman 31(1):38-39, 59-60.

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Kari, James, and Priscilla Russell Kari
1982 Dena'Einena: Tanaina Country. Fairbanks: Alaska Native Language Center.

Osgood, Cornelius
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1963 The King Salmon of Cook Inlet, Alaska. U.S. Fish and Wildlife Service, Special Scientific Report, Fisheries No. 440.

Table 1.
TYONEK SUBSISTENCE SALMON HARVESTS 1980 TO 1 @

Year	Number Permits	Chinook Salmon	Sockeye Salmon	Coho Salmon	Pink Salmon	Chum Salmon
1980	67	1,936	262	-	-	-
1981	70	2,002	269	64	32	15
1982	69	1,565	209	-	-	-
1983	75	2,750	185	40	-	2
1984	75	2,354	na	na	na	na
1985	76	1,720	44	8	-	na
1986	65	1,523	198	210	45	44
1987	61/64	1,552	161	149	5	24
1988	42/47	1,474	52	185	6	9
1989	47/49	1,314	67	175	0	1
1990	37/42	797	92	366	124	10
1991	54/57*	1,105	25	80	0	0
1992	44/57*	872	88	161	10	28
	Average =	1,613	127	111	17	10

@ Note: Combines Harvests but not permit numbers for May 15 - June 15 and June 16 - October 15 Seasons. Permit numbers are for early season. 1992 numbers are preliminary.

a Stanek and Foster 1980
b Webster 1982
c Ruesch and Browning 1982
d Ruesch and Browning 1983
e Browning pers. comm., 1984
f Ruesch and Browning 1986
g Division of Subsistence Data Files 1986
h Division of Subsistence Data Files 1987

* Includes 4-5 non-Tyonek fishermen

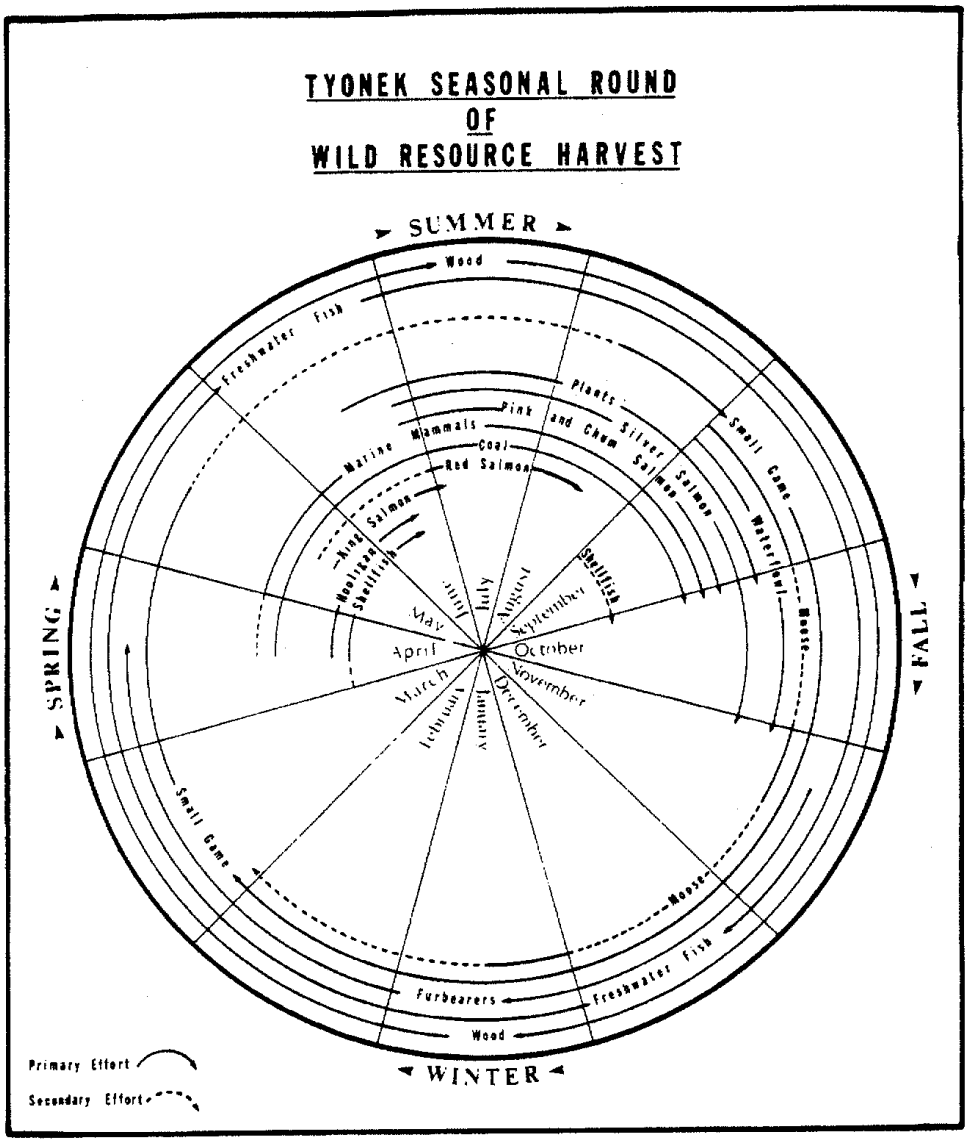

Figure 1 Seasonal round of resource harvest activities, Tyonek, 1978-1984.

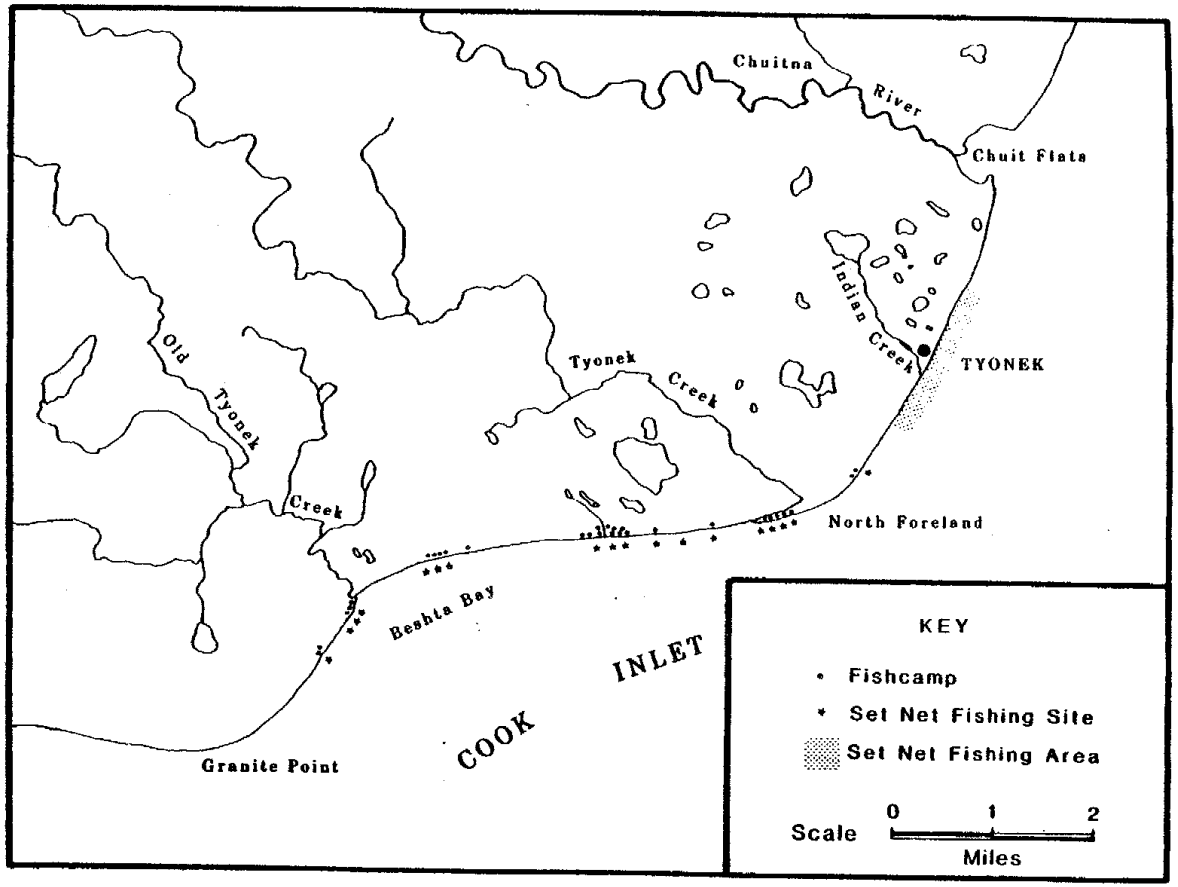

Figure 2 Fishcamp locations and set net fishing sites, Tyonek.

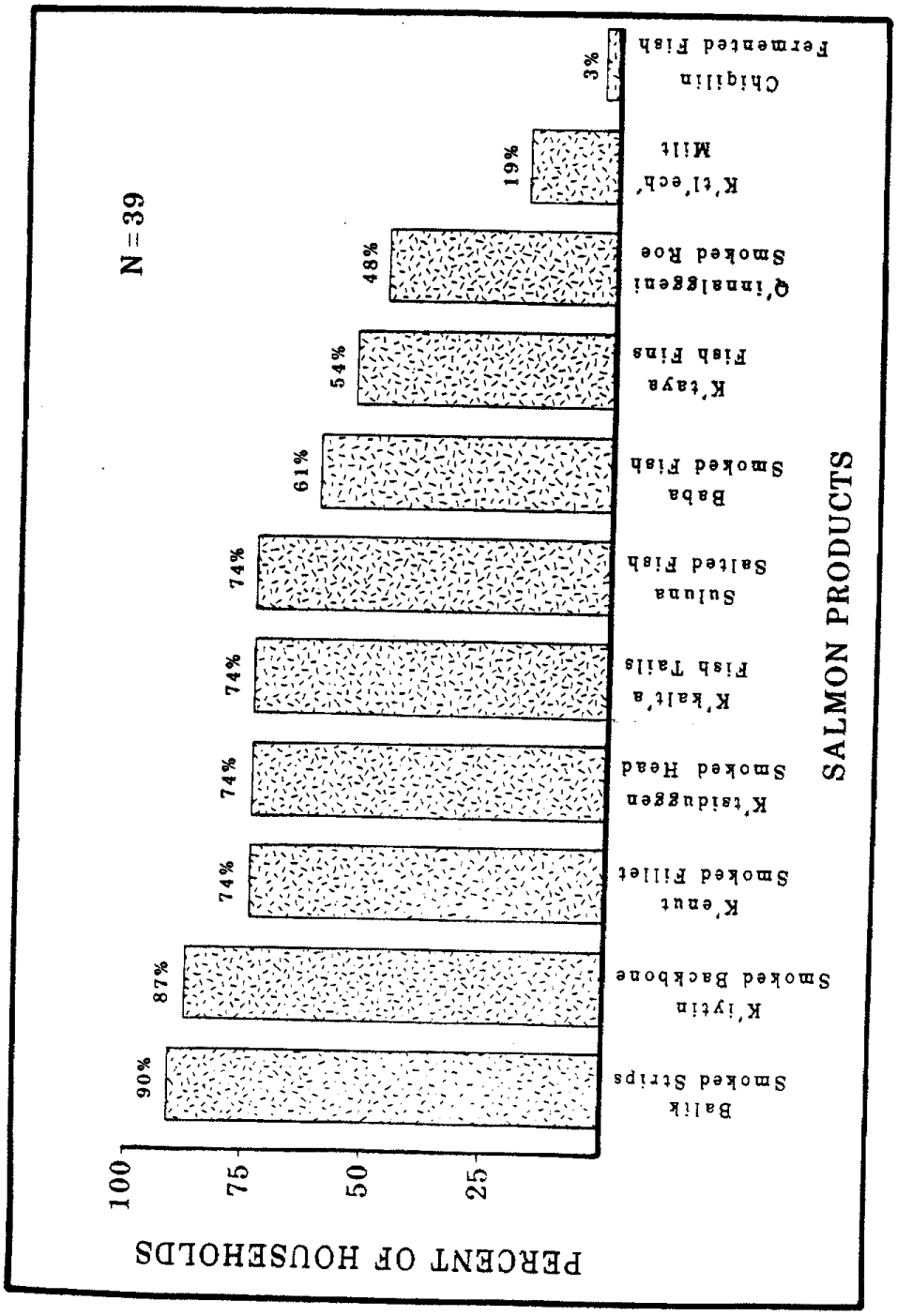

Figure 3 The percentage of Tyonek households preparing traditional salmon products, 1982.

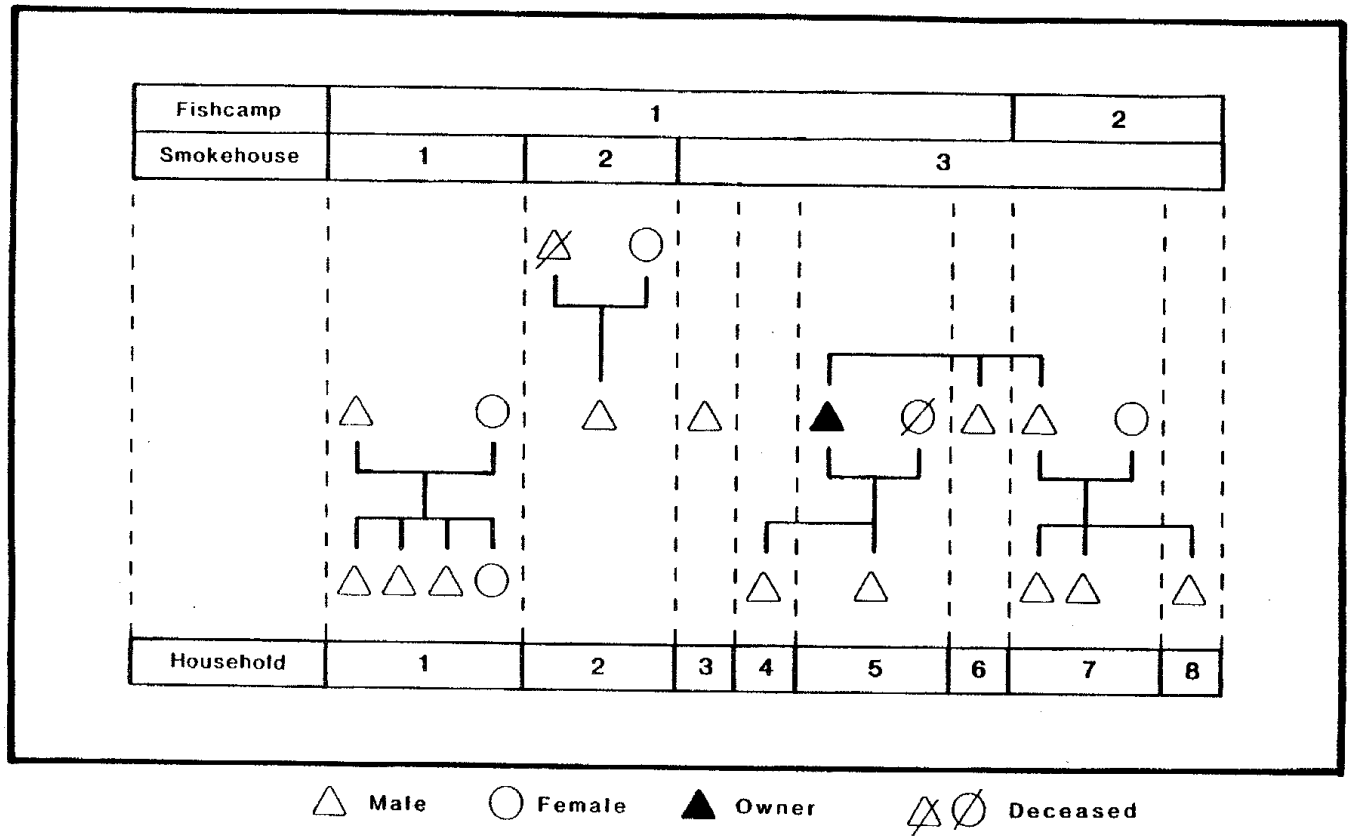

Figure 4 Multiple unrelated households comprising work units at fishcamp (#1) and smokehouse (#3). The head of household number 5 owns fishcamp (#1) and smokehouse (#3). Households 1 and 2 used owner's fishcamp (#1) but not his smokehouse. They each used their own smokehouse. Households 3, 4, 5, and 6 used both fishcamp (#1) and smokehouse (#3). Households 7 and 8 used owner's smokehouse (#3) but a different fishcamp.

TABLE 2. WILD RESOURCES USED BY TYONEK RESIDENTS, 1978-1984

Big Game Mammals

Moose
Black bear

Marine Mammals

Belukha
Harbor seal

Furbearers

Mink
Weasel (ermine)
Marten
Land otter
Red fox
Beaver

Small Game

Porcupine
Snowshoe hare
Ptarmigan
Spruce grouse

Waterfowl

Mallard
Pintail
American widgeon
Common goldeneye
Canada goose

Salmon

King salmon (chinook)
Red salmon (sockeye)
Pink salmon (humpback)
Chum salmon (dog)
Silver salmon (coho)

Hooligan (Eulachon)

Other Fish

Dolly Varden
Grayling
Rainbow trout
Tomcod
Whitefish

Shellfish

Pacific razor clam
Cockle
Alaskan surf clam

Plants

High-bush cranberry
Low-bush cranberry
High-bush blueberry
Low-bush blueberry
Salmonberry
Crowberry
Rosehips
White spruce
Paper birch
Cottonwood
Alder
Shelf fungus
Wild celery
Labrador tea
Other medicinal plants

Coal

PART THREE: HISTORICAL BACKGROUND INFORMATION FOR CUSTOMARY AND TRADITIONAL USE DETERMINATION FOR THE YENTNA RIVER FISHERY

1998 ORIGINAL MATERIAL PROVIDED TO THE ALASKA BOARD OF FISHERIES

Introduction

At its February 1998 meeting, the Alaska Board of Fisheries will reconsider an earlier board finding of no customary and traditional use of salmon stocks near Skwentna in the Yentna River of the Upper Cook Inlet Management Area. This reconsideration is the result of an Alaska Supreme Court remand in the case *Payton, et al. v. State of Alaska and Frank Rue, Commissioner of Fish and Game*. This staff report provides background information to assist the board in this reconsideration.

In addition to copies of the Joint Board procedures for identifying customary and traditional uses and statutory definitions of "subsistence uses" and "customary and traditional," this packet contains copies of the customary and traditional use worksheet prepared by Division of Subsistence staff when this issue was last before the board in February 1996. Also included in the original customary and traditional use worksheet prepared for the first board discussion of this topic in 1988. These documents contain copies of the findings of fact adopted by the board in December 1988.

The Division of Subsistence has conducted no new research in this area since these worksheets were prepared. They are provided here as they were presented for the earlier board deliberations.

In the introduction to the staff report in 1992, we noted that additional information was available from taped interviews with Skwentna area residents pertaining to "intergenerational transmission of knowledge" that was not included in the 1987/88 worksheet. As noted by the court (p. 19), the board did not review this information at the 1992 meeting. In its remand to the board, the court (p. 23) stated that "the Board should reevaluate the Paytons' subsistence fishery Proposal 362 in a manner consistent with this opinion, in light of the evidence in the record and the taped interviews that it failed to review in 1992." Included in this report is an index of these tapes with a short list of potentially relevant topics on each. Very detailed notes on the contents of these tapes are also available for review, as are the tapes themselves It should also be noted that a limited amount of information from these tapes was included in the 1996 worksheet under Criterion 1 and Criterion 6.

CUSTOMARY AND TRADITIONAL USE WORKSHEET

SALMON, UPPER COOK INLET, YENTNA RIVER

Alaska Board of Fisheries
February 1996

Prepared by:

Division of Subsistence
Alaska Department of Fish and Game

Proposals 150, 521, and 522 request that the Board of Fisheries adopt regulations allowing subsistence fishing for salmon in a portion of the Yentna River with fish wheels and/or dipnets. For the purposes of this fishery, Proposal 150 defines the "Skwentna Subdistrict" as the mainstream of the Yentna River from the Skwentna River down to an ADF&G marker approximately one mile below Marten Creek. This area is outside the Matsu Nonsubsistence Area (Fig. 1) (ADF&G 1995).

Prior to adopting regulations allowing the subsistence harvest of salmon, the Board of Fisheries must identify the salmon stocks that are customarily and traditionally used for subsistence purposes, using the eight criteria defined in 5 AAC 99.010(b), the Joint Boards of Fisheries and Game Subsistence Procedures (a "C&T finding"). This worksheet provides background information on uses of salmon in the Yentna River area organized according to these eight criteria. It is intended to be supplemented by other staff reports and by public testimony at the Board meeting.

Subsistence salmon fishing in the Yentna River was open prior to 1960 but has been closed since statehood (Table 1). Since that time, fishing for salmon in the area has been restricted to rod and reel gear under sport fishing regulations. In March 1988, in response to Proposal No. 405 to establish regulations for a subsistence salmon fishery in the Yentna River, the Board of Fisheries found that there is no customary and traditional use of salmon in the area. A very similar proposal, No. 7, was submitted to the Board and discussed in its December 1988 meeting. The board reaffirmed its earlier decision that there were no customary and traditional uses of salmon stocks in the Skwentna area. The Board prepared written findings which explained the reasons for this action. These are attached to this worksheet as Appendix A. In both of these earlier discussions, the Board focused entirely on uses by residents of the area itself, because at the time only rural Alaska residents would be eligible to participate in the subsistence fishery. In November 1992, Proposal No. 362 was submitted which again asked that subsistence salmon fishing be opened in a portion of the Yentna River. Citing its previous findings, the Board determined that no new information was available and rejected this proposal.

Following the McDowell decision (December 1989), which removed the limitation on subsistence eligibility to rural residents only, the board determined that eight stocks of salmon in the Upper Cook Inlet Area supported customary and traditional uses (5 AAC 01.566 (6)). The uses by all communities of the Cook Inlet area were considered in these determinations. These stocks were early and late run chinook salmon, early and late run sockeye salmon, chum salmon, pink salmon, and early and late run coho salmon. Regulations adopted by the board to provide reasonable subsistence fishing opportunities for these stocks did not allow subsistence fishing in freshwater (5 AAC 01.592). With the creation of nonsubsistence areas, these subsistence regulations and their supporting customary and traditional use finding were repealed (in June 1995). This left salmon stocks taken in the Tyonek Subdistrict as the only salmon stocks in Upper Cook Inlet with standing customary and traditional use findings. It will be necessary for the Board to reconsider if customary and traditional uses of salmon occur in other portions of the Cook Inlet area outside the nonsubsistence area before authorizing a subsistence salmon fishery as described in this proposal.

Note: This worksheet incorporates information from a worksheet on Yentna River salmon prepared for the Board of Fisheries in March 1988, and also reviewed by the board in December 1988.[1] The original worksheet was also provided to the board in November 1992, during its review of standing subsistence regulations for conformance with the 1992 subsistence law. This worksheet also incorporates information from a C&T worksheet on moose in this same general area prepared for the Alaska Board of Game in January 1993. A subsistence moose hunt occurs in this area (Game Management Unit 16B), based on a positive C&T finding for moose by the Board of Game dating back to 1983.

Criterion 1. A long-term consistent pattern of noncommercial taking, use, and reliance on the fish stock or game population that has been established over a reasonable period of time of not less than one generation, excluding interruption by circumstances beyond the user's control, such as unavailability of the fish or game caused by migratory patterns.

[This and following sections will focus on uses of salmon by people whose primary place of residence is in or near the proposed subsistence fishery (Study Area A in Fig. 1). Brief notes on uses by non-local residents appear at the end of discussion on selected criteria.]

Salmon from the Yentna River drainage have been harvested and used for food as long as this area has been populated by human settlements. The subsistence activities of the several Dena'ina (Tanaina) Athabaskan Indian villages along the Yentna and Skwentna rivers, which were occupied in the 19th century and before, focused on salmon, other fish, and caribou. After being abandoned as village sites, these places were used as seasonal camps for fishing and hunting by Susitna Station and Kroto Creek Dena'ina until at least the 1930s. Former Dena'ina residents of Susitna River drainage villages, who later lived in Tyonek and other Cook Inlet communities, used this area for hunting, trapping, and fishing into the 1960s.

After the American purchase of Alaska in 1867, salmon were used by resident Euro-American trappers, miners, and homesteaders who settled in the area and developed trail systems (Fig. 2) (Stanek 1987:18). A fur trading post was established at Susitna Station. Before the 1900s, the numbers of area residents were small. At precontact, the area's Dena'ina probably numbered no more than a few hundred people; the federal census counted 90 people in 1880 at Susitna Station and 142 in 1890, which are partial counts for the western Susitna drainage area. In 1928, the District Superintendent for the Alaska road system listed at least 15 resident households in the area who hunted and trapped for a living, and 1 household that also prospected. During this time, some Euro-American trappers purchased traplines from Dena'ina, who moved closer to Cook Inlet. The federal census counted 52 people living at Susitna in 1930 and 42 in 1960 (these are partial counts for the total population of the western Susitna Basin).

The settlers during this period of 1925 - 1962 supplemented their wild resource harvests with staple food items (flour, sugar, tea, coffee) from stores at Knik, Talkeetna, and Anchorage. Settlers developed a pattern of hunting and trapping during winter along traplines, and moving down river to Cook Inlet in spring to trade fur and to earn money in the commercial fisheries. People who fished commercially also dried and smoked large quantities of salmon for use by themselves and their dog teams in the following winter (Stanek 1987a:66, Stanek 1987b:14).

The following account summarizes salmon fishing related activities of Bill Link, a single trapper who lived at Fish Creek Lakes in 1935, based upon his personal diary (Stanek 1987a:66-68). He caught and preserved salmon for his own use and to feed his dogs and the mink he was raising.

> Link first set a fish net on May 24. . . He caught his first salmon on June 10 when he recorded 14 fish (species not noted). All June and July were spent catching salmon, drying and smoking them, building several fish caches, growing a garden, and hauling lumber. . . By July 31st he

[1] A note on sources. Information on uses of wild resources by residents of the western Susitna River area, including the Yentna River drainage, in this worksheet is based largely on research by the Division of Subsistence conducted in 1982 to 1985 (Fall et. al. 1983, Stanek 1987a). Although that research focused on moose hunting and furbearer trapping, overall resource use patterns and the history of the area were also investigated. The division has not conducted systematic research in this area since that time.

> had caught and put up 700 salmon. . . In August, . . . salmon fishing continued. . . Because of rainy weather he was careful to turn and check his fish regularly. . . By the end of August he had caught approximately 970 salmon.

Use of wild resources, including salmon, by residents of this area has continued from the 1960s to the present. During this period, state land disposal programs led to additional people coming into the area. The Upper Yentna area's population was about 145 by 1984, as estimated by ADF&G surveys (with another 44 living in the Alexander Creek Area), and 125 people in 47 households in the Skwentna and Alexander Creek Census Designated Areas, as estimated by the 1990 federal census. The Matanuska - Susitna Borough provided an estimate of 173 people for the Skwentna area in 1994 (Matanuska-Susitna Borough Planning Department 1996).

Table 2 summarizes salmon harvests by all methods by the Upper Yentna area's residents in 1982 and 1984. Specific harvests by gear type are not available, but it is likely that most of these harvests were with rod and reel (the only legal gear). Most area residents harvested salmon for home use: 85.3 percent in 1982 and 78.1 percent in 1984. In 1982, coho salmon (70.1 percent harvesting), sockeye salmon (61.8 percent), and chinook salmon (44.1 percent) were the most frequently harvested species and made up most of the take. The average household caught about 32 salmon in 1982, for 191 pounds, usable weight, about 56 pounds per person. In 1984, chinook salmon (68.8 percent harvest), coho (62.5 percent), and sockeyes (43.8 percent) made up most of the harvest. In 1984, on average, households caught about 18 salmon, for about 111 pounds per household, 38 pounds per person. Expanded to the total number of households living in the area at the time, the estimated harvest was 1,351 salmon in 1982 and 654 salmon in 1984 (Table 2).

The western Susitna Basin and western Cook Inlet, including the drainage of the Yentna River, is the site of important sport fisheries for salmon. As reported in Table 3, for the period 1984 through 1994, an annual average of about 38,400 anglers participated in these sport fisheries. The estimated average annual sport harvest of salmon for that period was 45,710, with chinook and coho dominating the harvest. Table 4 reports sport harvests of salmon by species for the years 1989 through 1994 for the Yentna River drainage. The sport harvest for this period averaged about 12,000 salmon annually, with about half of that chinook salmon and most of the rest cohos. In 1993, sport fishermen in the western Susitna/Cook Inlet area released about 69.8 of their chinook catch, 44.1 percent of the coho catch, 60.6 percent of sockeyes, 93.6 percent of pinks, and 95.9 percent of chums (Whitmore et al. 1995:29).

Criterion 2. A pattern of taking or use recurring in specific seasons of each year.

Upper Yentna Area residents harvest each salmon species as it becomes available locally. King salmon are taken in early June into July, accompanied by sockeye salmon. Pinks are harvested in July and August, and chums at about the same time. Silvers are harvested in late July, August, and September (Fig. 3). In the seasonal round of trappers in the 1930s through 1960s, salmon were dried and smoked from June into September (see Criterion 1, above) and canned in late August and September (Stanek 1987a:64).

Criterion 3. A pattern of taking or use consisting of methods and means of harvest that are characterized by efficiency and economy of effort and cost.

The Athabaskan inhabitants of the region used fish traps, dip nets, spears, and weirs to harvest salmon until the early part of the 20th century (Osgood 1937). Until the 1950s, residents of the area fished for salmon with wire traps and gill nets. Several families operated a fish wheel near the mouth of Eight Mile Creek until the mid 1950s. Since statehood, regulations have closed subsistence fishing in all freshwater areas of the Susitna River drainage (except for a portion of the Susitna River itself in 1959 and 1960). Residents of this area fished with rod and reel gear in the 1970s and 1980s. Some have reportedly used dip nets also. Table 1 provides a history of subsistence salmon fishing regulations for this area.

Criterion 4. The area in which the noncommercial, long-term, and consistent pattern of taking, use, and reliance upon the fish stock or game population has been established.

At the time of Division of Subsistence studies in the 1980s, a few residents of this area fished commercially for salmon in Cook Inlet and obtained some fish from their commercial catches. However, most people fished in rivers, streams, and lakes near their homes (Fig. 4). In the 1980s, the nearest noncommerical net fisheries for upper Yentna residents were on the Kenai Peninsula near Kenai, Kasilof, and Homer. Generally, Upper Yentna residents did not participate in these fisheries because of the long distance involved and the expense of travel. In the 1990s, subsistence and/or personal use fisheries were open along much of the shore of upper Cook Inlet, although these areas were still distant and costly to access for year-round residents of the Yentna River area.

Criterion 5. A means of handling, preparing, preserving, and storing fish or game that has been traditionally used by past generations, but not excluding recent technological advances where appropriate.

Historically, the Tanaina dried, smoked, and fermented salmon for winter use. Preservation methods for salmon used by non-native inhabitants of the area in the 1920s through the 1950s included drying, smoking, salting, canning, and jarring. Much of the fish and game harvests of area residents in the 1980s were preserved by methods not requiring electricity, including smoking, canning, jarring, and freezing out of doors in the winter.

Although 76 percent of the Upper Yentna households sampled in 1983 owned an electric generator, usually a small portable type, these were not generally used for long term storage of food. Nine interviewed households (26 percent) reported having freezers in their homes, and three had access to freezers in Anchorage.

Criterion 6. A pattern of taking or use that includes the handing down of knowledge of fishing or hunting skills, values and lore from generation to generation.

As reviewed under Criterion 1, people have continuously lived in the lower Susitna/Yentna River area from before historic contact to the present. During this period, knowledge about subsistence activities, including salmon fishing and salmon fishing areas was passed between relatives, hunting and trapping partners, and neighbors. Dena'ina fishers and Euro-American settlers co-mingled during the late 19th century and early 20th century and hunted and fished as neighbors. As in many other areas of Alaska, fishing methods and knowledge were shared between people. In this area, Dena'ina adopted certain fishing methods, such as fish wheels, metal hooks, and cotton nets, from the Euro-Americans, and Euro-American settlers acquired certain things from the Dena'ina, such as names of major rivers in the area (such as Kahiltna, Skwentna, Yentna, and Susitna) and fishing locations. Some families spanned generations in the area while other people and families moved in and out over time (see Stanek 1987b). However, the division does not have systematic information on family histories. Based on interviews conducted in 1983 and 1984, settlers in the area since state land disposal programs have continued the local pattern of fishing for and using salmon, and salmon continues to be a valued food resource for many resident households.

In the 1980s, there was a core of long-term resident households in the area who had lived there for 20 years or more. Several others of this group had retired and left the area prior to the 1982 - 1984 study period. The average number of years living in the area for the 1982 sample was 7.9, with a range of 0.5 to 33 years. Of the 38 households interviewed for 1982, 33 (87 percent) had lived in the area for 10 years or less. For 44 households in the Upper Yentna and Alexander Creek area sampled in 1984, 63.6 percent had lived in the area less than 10 years, 16 percent had been in area 10 to 19 years, and the rest, about 20 percent for more than 20 years. The population included families and school-aged children.

Criterion 7. A pattern of taking, use, and reliance where the harvest effort or products of that harvest are distributed or shared, including customary trade, barter, and gift giving.

Study findings from the 1980s showed that sharing and distribution of wild resources in the Upper Yentna area most commonly occurred at the subcommunity level; for example, among residents concentrated at Lake Creek (eight to ten households), Skwentna (eight households), or Johnson Creek and Donkey Lake (five or six households). Of the 34 households interviewed in 1982, 33 (97 percent) shared wild resources with from one to sixteen other households. When large quantities of a resource (such as moose) were harvested, sharing extended more widely, with partially processed products sometimes transported 15 to 25 miles between households, weather and travel conditions permitting. Fish, especially salmon, were the second most widely shared food item after moose. In 1982, 68.4 percent of the households gave fish to other households. Sharing of salmon most often occurred at the subcommunity level. The most typical pattern was for a fishermen to share a portion of a daily catch with another family.

Criterion 8. A pattern that includes taking, use, and reliance for subsistence purposes upon a wide diversity of fish and game resources and that provides substantial economic, cultural, social, and nutritional elements of the subsistence way of life.

In 1982, a sample of 38 households living in the Upper Yentna area (and a portion of the Alexander Creek Area) took a per capita harvest of 258 pounds of wild foods. Moose was the most widely used resource, but overall, wildlife harvests were diverse that year, with 74 percent of the households harvesting at least 11 kinds of wild foods. Salmon composed about 22 percent of the 1982 harvest as measured in pounds edible weight. In 1984, a sample of 44 western Susitna households harvested 212 pounds of wild resources per capita, with moose again the major species. Five salmon species made up 24.9 percent of this harvest. (The 32 households in the upper Yentna Area itself harvested 175 pounds per person.) These are substantial harvests. The family in the United States purchases annually about 222 pounds per person of meat, fish, and poultry (US Department of Agriculture 1983).

Division of Subsistence research has found that wild resource harvests in the Upper Yentna area in the 1980s were among the highest in Southcentral Alaska (Fig. 5[2]). This level of harvest was about the same as the 1983 harvest by residents of Tyonek (260 pounds), a long-established village on upper Cook Inlet.

In the 1980s, cash employment opportunities in this area were limited, often part-time, and mostly seasonal. Examples included hunting and fishing guides, local construction, trapping, and lodge work. The few full time jobs included the school teacher, postmaster, and weather recorder.

Incomes for the Skwentna area were relatively low in the 1980s: average incomes per income tax return were $12,101 (1982), $10,449 (1983), and $14,108 (1984), compared with incomes of Anchorage residents which were $23,590 (1982), $24,393 (1983), and $25,406 (1984). According to US Census data, the per capita income in the Skwentna area was $7,457 in 1989, compared to $17,610 per capita for the state overall (Bureau of the Census 1992). For many resident households, fishing and hunting for food was part of a yearly cycle of activities, including seasonal employment and trapping, which together provided a livelihood but individually could not, as described in Fall et al. (1983) and Stanek (1987a).

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[2] The source for most of the data summarized in Figure 5 is Scott et al. (1995), which contains the results of Division of Subsistence systematic household surveys. The exception is Anchorage and Palmer/Wasilla, the source for which are permits and sport fish harvest surveys summarized in ADF&G (1992). For both these communities, the "salmon" category includes all finfish.

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EIGHT CRITERIA WORKSHEET, BOARD OF FISH 1987 [1988]

[Note 11/92: this worksheet was prepared for the March 1988 meeting of the Alaska Board of Fisheries, and also reviewed by the Board in December 1988.]

PROPOSAL NO. 405 [Note 11/88: proposal Number 405 was discussed in March 1988; Number 7 addressed this area in the December 1988 meeting.]
AREA Cook Inlet
SPECIES Salmon

RURAL COMMUNITIES USING THE SPECIES

Residents of portions of Game Management Unit 16B, the drainage area of the Yentna River above its confluence with the Kahiltna River use the area described in the proposal for salmon fishing. See Figure 1, Study Area "A."

The population of this area is mostly dispersed along rivers and lakes, with small population clusters at Lake Creek, Skwentna, and near Hewitt and Whiskey lakes. There are no incorporated communities in the area, but it is within the Matanuska-Susitna Borough. The area is not connected by road to Alaska's highway system; local transportation in summer is mainly by skiff and ORV, and in winter by snowmachine.

The area's year round population in 1984 was about 107 in 37 households. Estimates for 1987 range between 150 and 200 residents.

1. LENGTH AND CONSISTENCY OF USE (long-term, consistent, excluding interruptions by circumstances beyond the user's control)

Salmon have been a major component of local resource harvests as long as this area has been populated by human settlements. The several Tanaina villages occupied in the 19th century focused on salmon, other fish, and caribou. These sites were used as seasonal camps for fishing and hunting by Susitna Station Tanaina until about 1934.

Beginning in the early 20th century, the area has had a small, non-native population that focused on trapping, hunting, and fishing. Table 1 summarizes the population history of the area. These settlers harvested salmon locally or near Susitna Station during the summer for use as human food and for dog food to feed their teams throughout the winter. As reported by long term residents, until prohibited by federal regulations in the 1950s, most of these harvests were with fishwheels or gill nets. Evidently, until snowmachines replaced dog teams for use on trap lines in the early 1960s, local residents continued to gill net salmon for winter use.

Since statehood, subsistence salmon fishing in the Yentna drainage has been prohibited. Also since that time, the population of this area has grown as land became available through various state programs. Research by the Division of Subsistence in 1982 and 1984 with samples of year-round households in the area documented continued harvest and use of

salmon in the local area. Because of the regulatory prohibition against subsistence fishing, most of this harvest probably occurs with rod and reel gear, although some use of dip nets has also been reported.

Table 2 summarizes salmon harvests by all methods by area residents in 1982 and 1984. Specific harvests by gear type are not available. Most area households harvest salmon; 85.3 percent of the 1982 sample did so, and 78.1 percent harvested at least one species in 1984. In 1982, coho salmon (70.1 percent harvesting), red salmon (61.8 percent), and king salmon (44.1 percent) were the most frequently harvested species and made up most of the take. The average household caught about 32 salmon in 1982, for 191 pounds, edible weight, about 56 pounds per person. In 1984, king salmon (68.8 percent harvesting), coho (62.5 percent harvesting), and sockeyes (43.8 percent harvesting) made up most of the harvest. On average, households caught about 18 salmon in 1984, for about 111 pounds edible weight per household, 38 pounds per person.

2. SEASONALITY (recurring in specific seasons of each year)

As shown in Fig. 2, area residents take each salmon species as it becomes available locally. King salmon are taken in early June into July, accompanied by sockeye salmon. Silvers are harvested in late July, August, and September.

3. MEANS AND METHODS OF HARVEST (efficient, economic, conditioned by local circumstances)

Original Athapaskan inhabitants of the region used fish traps and weirs to take salmon until the early part of the 20th century. Until the 1950s, residents of the area fished for salmon with wire traps and gill nets. Several families operated a fishwheel near the mouth of Eight Mile Creek until the mid 1950s. Since statehood, regulations have closed subsistence fishing in all freshwater areas of Cook Inlet. Residents of this area fished with rod and reel gear in the 1970s and 1980s. Some have reportedly used dip nets also.

Table 3 provides a history of subsistence fishing regulations for this area.

4. GEOGRAPHIC AREAS (near or reasonably accessible from the user's residence)

A few residents of this area fish commercially for salmon in Cook Inlet and obtain some fish from their commercial catches. But most people fish in rivers, streams, and lakes near their homes (see Fig. 3). In the 1980s, the nearest non-commercial net fisheries for upper Yentna residents have been on the Kenai Peninsula near Kenai, Kasilof, and Homer. Upper Yentna residents do not participate in these fisheries because of the long distance involved and the expense of travel.

5. MEANS OF HANDLING, PREPARING, PRESERVING, AND STORING (traditionally used by past generations, buy not excluding recent technological advances)

Historically, the Tanaina dried, smoked, and fermented salmon for winter use. Preservation methods used by non-native inhabitants of the area in the 1920s through the 1950s included drying, smoking, salting, canning, and jarring.

Much of the fish and game harvests of area residents in the 1980s are preserved by methods not requiring electricity, including smoking, canning, jarring, and freezing out of doors.

Although 76 percent of the Upper Yentna households sampled in 1983 owned an electric generator, usually a small portable type, these were not generally used for long term storage of food. Nine households (26 percent) reported having freezers in their homes, and three had access to freezers in Anchorage.

6. INTERGENERATIONAL TRANSMISSION OF KNOWLEDGE, SKILLS, VALUES, AND LORE (handed down between generations)

There is a core of long term resident households in the area who have lived there for 20 years or more, although several others of this group have retired and left the area in recent years. The average number of years living in the area for the 1982 sample was 7.9 years, with a range of .5 to 33 years. Of the 38 interviewed households in 1982, 33 (87 percent) had lived in the area for 10 years or less.

For 44 households in the Upper Yentna and Alexander Creek area sampled in 1984, 63.6 percent had lived in the area less than 10 years, 16 percent had been in the area 10 to 19 years, and the rest, about 20 percent for more than 20 years. This present population includes families and school-aged children, most of whom attend school in Skwentna.

7. DISTRIBUTION AND EXCHANGE (customary trade, barter, sharing, and gift-giving within a definable community of persons)

Sharing and distribution of wild resources in the Upper Yentna area most commonly occur at the subcommunity level; for example, among residents concentrated at Lake Creek (8-10 households), Skwentna (8 households), or Johnson Creek and Donkey Lake (5-6 households). Of the 34 households interviewed in 1982, 33 (97 percent) shared wild resources with from one to 16 other households. When large quantities of a moose are taken, however, partially processed products are sometimes transported 15 to 25 miles between households, weather and travel conditions permitting. Moose and other game is the most commonly shared resource category in the area.

Fish, especially salmon, is the second most widely shared food item. In 1982, 68.4 percent of the households gave fish to other households. Sharing occurs primarily at the subcommunity level. The most typical

pattern is for a fisherman to share a portion of a daily catch with another family.

8. DIVERSITY OF RESOURCES IN AN AREA: ECONOMIC, CULTURAL, SOCIAL, AND NUTRITIONAL ELEMENTS (wide diversity, substantial elements in a subsistence user's life)

In 1982, a sample of 38 households took a per capita harvest of 258 pounds of wild foods. Moose was the most widely used resource, but overall, wildlife harvests were diverse that year, with 74 percent of the households harvesting at least 11 kinds of wild foods. Salmon composed about 22 percent of the 1982 harvest as measured in pounds edible weight.

In 1984, the Upper Yentna sample of 32 households harvested 212 pounds of wild resources per capita, with moose again the major species. Five salmon species made up 24.9 percent of this harvest (Table 4, Fig. 4).

Division of Subsistence research has found that wild resource harvests in the Upper Yentna area are among the highest in southcentral Alaska.

Cash employment opportunities in this area are limited, often part-time, and mostly seasonal. Examples include hunting and fishing guides, local construction, trapping, and lodge work. The few full time jobs include the school teacher, postmaster, and weather recorder.

9. INFORMATION SOURCES:

Technical Paper No. 74, "The Use of Moose and Other Wild Resources in the Tyonek and Upper Yentna Areas: a Background Report," by Fall, Foster, and Stanek. 1983.

Technical Paper No. 134, "Historical and Contemporary Trapping in the Western Susitna Basin, 1986," by Stanek. 1987

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Substitute Language -- Court Remand (Payton et al. vs. State of Alaska)

Submitted by
Subsistence Personal Use Committee

Chapter 01. Subsistence Finfish Fishing

Article 11
Cook Inlet Area

5 AAC 01.566. **CUSTOMARY AND TRADITIONAL USES OF FISH STOCKS**. The Alaska Board of Fisheries finds that the following stocks are customarily and traditionally taken or used for subsistence

(1) salmon in . . . , and in the Yentna River drainage outside the Anchorage-Matsu-Kenai Nonsubsistence Area as defined in 5 AAC 99.015(3).

Table 1. Summary of Subsistence Salmon Fishing Regulations, Cook Inlet Freshwater Systems (1951 – 1964)

Year	Regulation
1942 - 1950	No mention of subsistence fishing in Cook Inlet section of commercial fisheries regulations.
1951	Notification of intent to take salmon for "personal use" required for the first time, including statement of type of gear to be used, area, time, number of fish to be taken, and intended disposition of harvest. Fish, Ship, Campbell, and Cottonwood creeks closed to subsistence fishing.
1952	No intent notification required. More streams closed to subsistence fishing, including all tributaries to Knik Arm, Willow Creek, Campbell Creek and all streams and lakes of Kenai Peninsula tributary to Cook Inlet. This closure did not apply to "fishing with rod, hook and line, for "personal use." This was evidently the first time that many Cook Inlet streams were closed to use of nets for personal use or subsistence fishing.
1953	Same as 1952; snagging prohibited for the first time. Personal use fishing prohibited within 500 yards of all other streams or lakes except with hand rod, hook and line. Bag limit of two per day per person. Fishing subject to laws regulating commercial fishing 48 hours before and continuing 48 hours after each fishing period, except for fall season and places greater than 25 miles from waters open to commercial fishing.
1954	Same as 1953 with additions that commercial gear could be used for personal fishing during any fall season, and fishing was allowed more than five (5) miles upstream from tidewater on all streams and lakes of Cook Inlet drainage south and west of the Susitna River.
1955	Same as 1954.
1956	Same as 1954, except rod and line fishermen restricted to two salmon over 16 inches per person per day.

1957	Same as 1954.
1958	Same as 1954, with addition of series of regulations designed to try to stop snagging, including limiting size of hooks and making illegal the use of weights with multiple hooks.
1959	Personal use fishing allowed in the main stem of the Susitna River above Alexander, with nets less than 30 feet long and more than 100 yards from other set nets and tributary streams. Personal use fishing had to be done in conformance with commercial fishing regulations (closed Knik and Turnagain arms). Many Kenai Peninsula streams closed above markers placed from 3 to 5 miles up from the mouth. Closed Cooper Creek, Little Willow Creek, and Montana Creek.
1960	Personal use fishing allowed on Northwest shore of Knik Arm; otherwise, same as 1959
1961	Susitna River closed to personal use (subsistence) fishing. Other freshwater subsistence fishing for salmon: could only be done under the authority of a permit issued by the department "for such areas and at times . . . warranted." No written record of the issuance of any such permits exists.
1962	Permit requirement added
1963	Same as 1962
1964	Except for portions of Knik Arm, subsistence fishing for salmon open in areas only open to commercial fishing.

Source: Alaska Department of Fish and Game, Division of Commercial Fisheries, "Cook Inlet Management Area Subsistence Fishery Report, 1972." Report to the Board of Fisheries, 1972.

Table 2. Reported Salmon Harvests by upper Yentna Households, 1982 and 1984

	Study Year 1982						Study Year 1984					
	Chinook Salmon	Sockeye Salmon	Chum Salmon	Pink Salmon	Coho Salmon	All Salmon	Chinook Salmon	Sockeye Salmon	Chum Salmon	Pink Salmon	Coho Salmon	All Salmon
Number of Households Harvesting and Percentage	15 44.1%	21 61.8%	5 14.7%	12 35.3%	24 70.1%	29 85.3%	22 68.8%	14 43.8%	6 18.8%	7 21.9%	20 62.5%	25 78.1%
Total Reported Harvest, Numbers of Salmon	125	336	111	205	304	1,081	66	201	27	60	212	566
Estimated Total Harvest, Number of Salmon	156	420	139	256	380	1,351	76	232	31	69	245	654
Total Reported Harvest, Pounds of Salmon	2,250	1,344	666	410	1,824	6,494	1,188	804	162	120	1,272	3,546
Average Household Harvest, Number of Salmon	3.7	9.9	3.3	6.0	8.9	31.8	2.1	6.3	0.8	1.9	6.6	17.7
Average Household Harvest, Pounds of Salmon	66.2	39.5	19.6	12.1	53.7	191.0	37.1	25.1	5.1	3.8	39.8	110.8
Per Capita Harvest, Number of Salmon	1.1	2.9	1.0	1.8	2.6	9.4	0.7	2.2	0.3	0.6	2.3	6.1
Per Capita Harvest, Pounds of Salmon	19.6	11.7	5.8	3.6	15.9	56.5	12.8	8.6	1.7	1.3	13.7	38.1

[1] The 1982 sample included 34 households (about 80 percent of all households in the area) with 115 members (79.3 percent of the total population).

[2] The 1984 sample included 32 households (86.5 percent) with 93 members (87 percent of the total population).

Sources: Fall, Foster, and Stanek 1983; Stanek 1987; Files, Division of Subsistence, ADF&G, Anchorage.

Table 3. Number of Anglers and Sport Harvests of Sea-run Salmon, West Cook Inlet - West Susitna River Drainages

Year	Number of Anglers	Sport Harvests of Sea-run Salmon
1984	29,418	34,031
1985	35,824	37,591
1986	37,522	42,559
1987	36,043	38,546
1988	41,862	49,540
1989	39,187	53,873
1990	41,005	44,000
1991	41,440	57,015
1992	39,564	49,052
1993	40,641	55,547
1994	39,463	41,053
Average	38,361	45,710

Source: Howe et al. 1995:19,31

Table 4. Angler Days of Sport Fishing Effort and Harvest of Salmon, Yentna River Drainage

Year	Number of Angler Days	Chinook Salmon	Coho Salmon	Sockeye Salmon	Pink Salmon	Chum Salmon	Total Salmon
1989	32,250	5,374	3,247	806	362	253	10,042
1990	28,804	5,050	4,408	656	560	82	10,756
1991	26,682	4,521	6,848	1,048	164	113	12,694
1992	28,680	5,644	3,887	616	257	159	10,563
1993	40,290	9,101	4,400	1,175	304	25	15,005
1994	46,197	5,807	4,420	1,046	380	108	11,761
Average	33,817	5,916	4,535	891	338	123	11,804

Includes Lake Creek, Fish Lake Creek and Fish Lakes, Talachulitna River, Yentna River, Judd Lake, Hewitt Lake

.Source: Whitmore et al. 1995:14,142,147,152,157,162; Howe et al. 1995:90-91

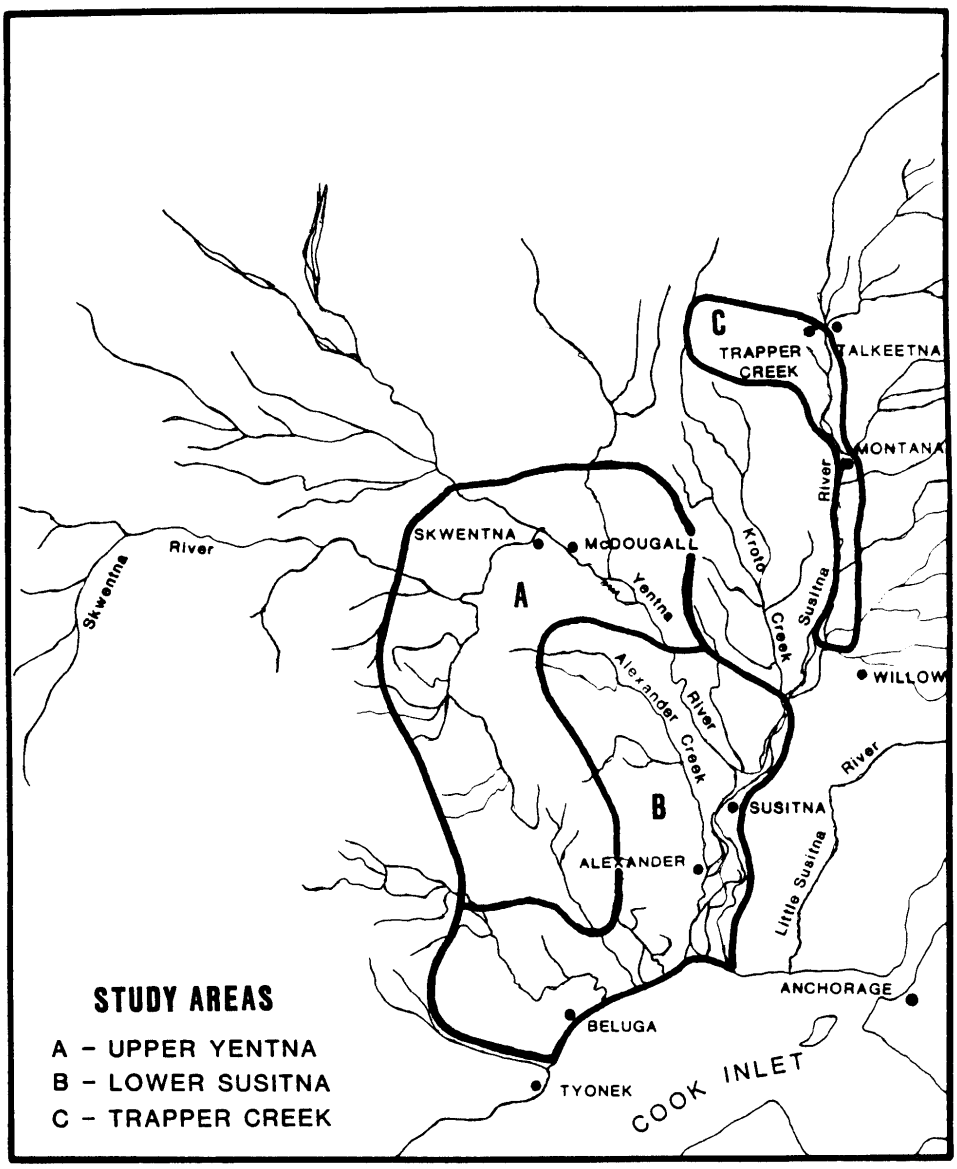


Figure 1. Western Susitna Basin Study Areas.

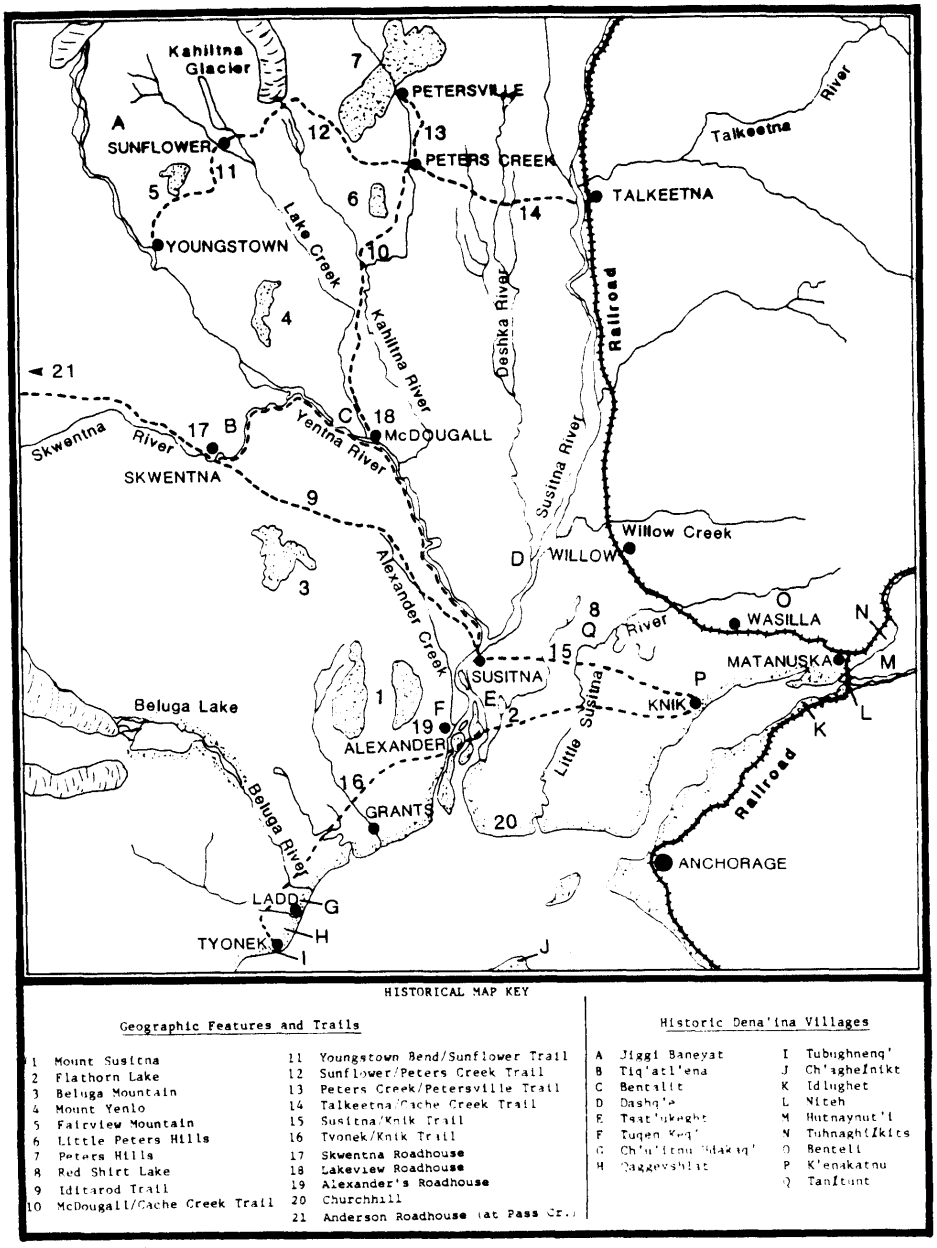
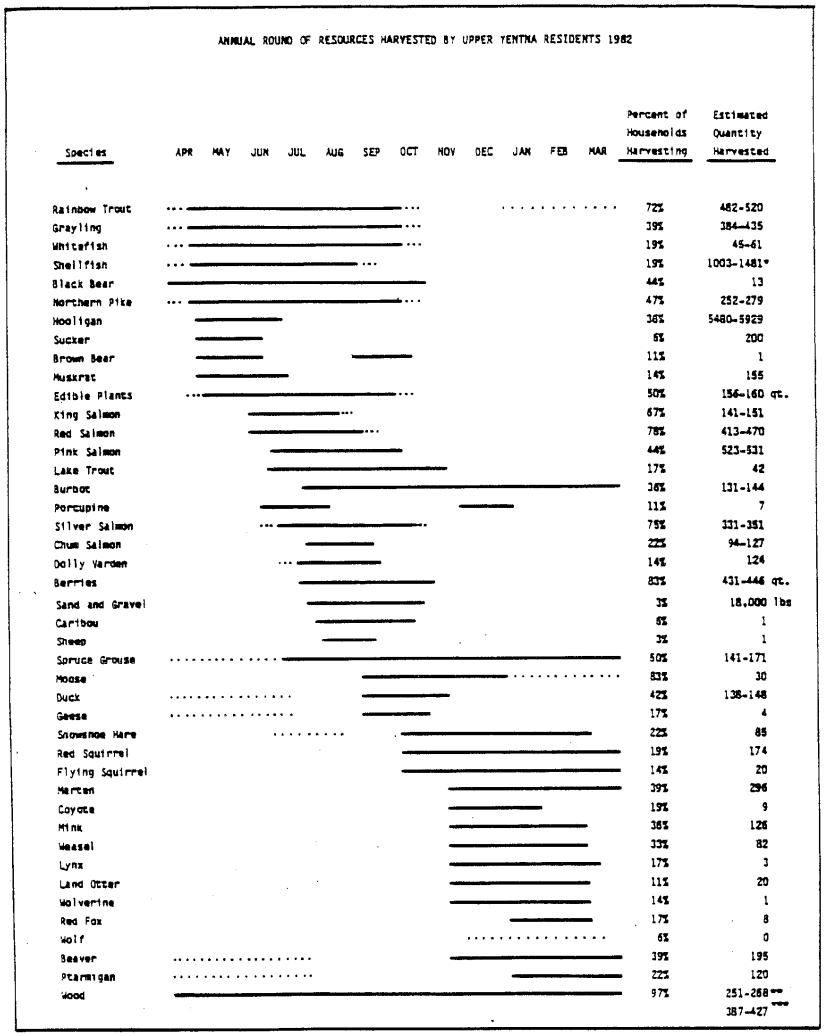


Figure 3. Historic Travel Routes, Roadhouses, and Population Centers of the Western Susitna Basin (after USDA 1983).



Key: _____ Usual period of harvest effort; ..... Occasional period of harvest effort. *Razor, steamer, fresh water clams. ** Cords of birch, spruce, and cottonwood used as firewood for heating and cooking. *** Number trees of spruce and some birch used in construction of homes, outbuildings and furniture.

Figure 2. The annual round of resources harvested, percentage of households harvesting and estimated quanities harvested by Upper Yentna residents in 1982

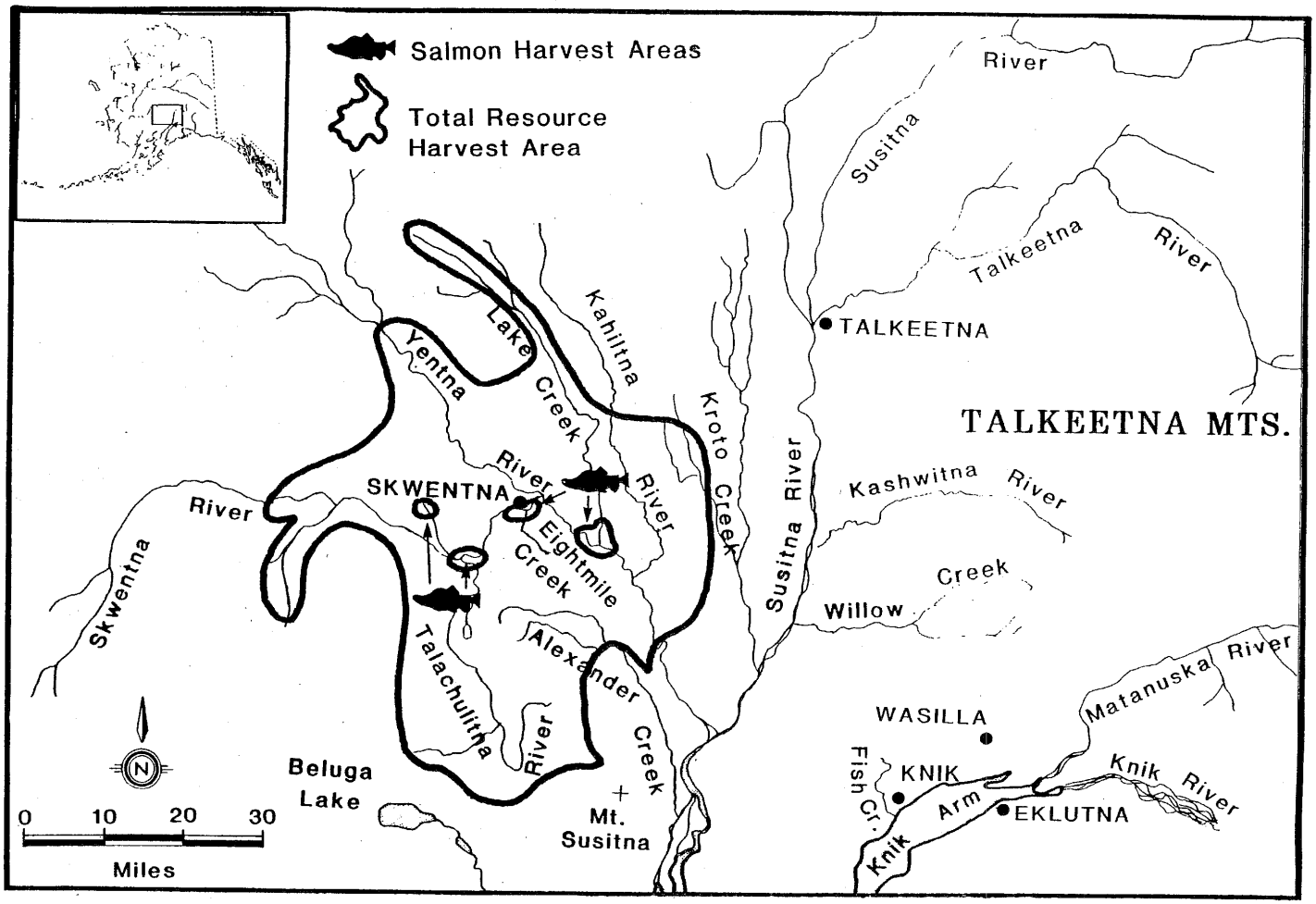
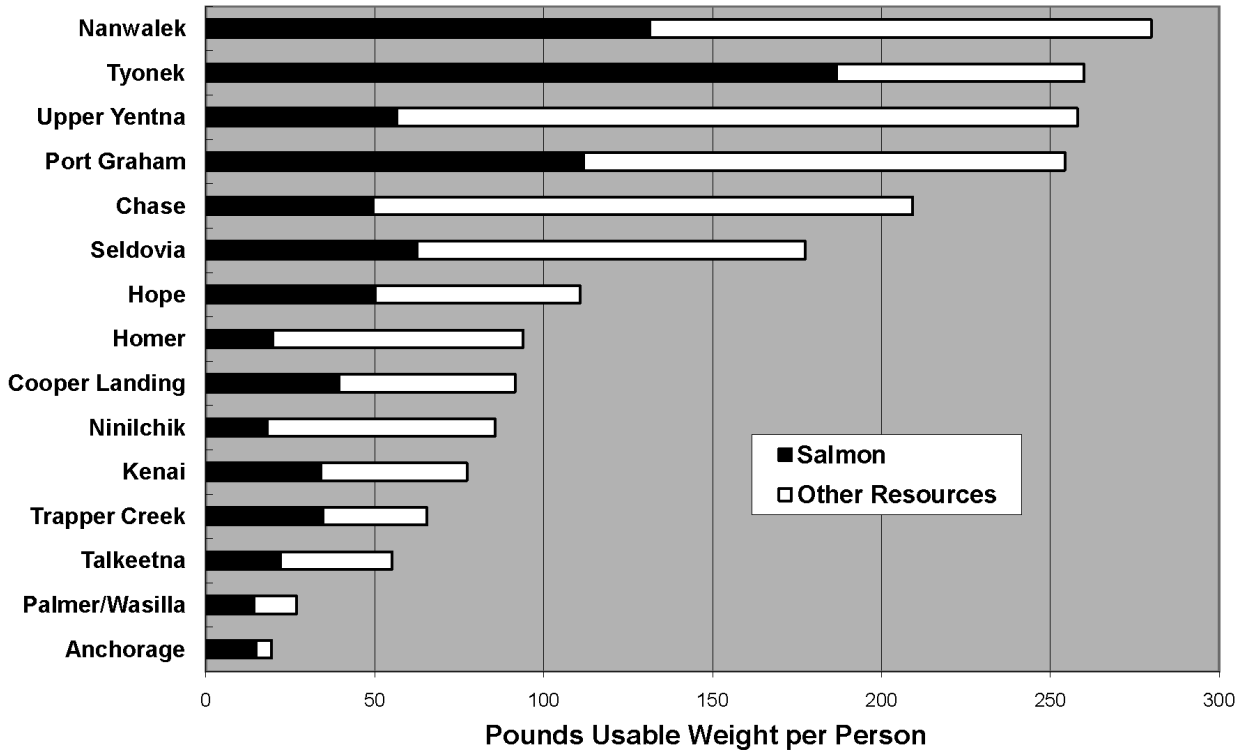


Figure 3. Total Area Used by Upper Yentna River Area Residents to Harvest Resources, and Areas Used to Harvest Salmon.

Figure 5. Noncommercial Harvests of Salmon and Other Resources, Cook Inlet Communities



Index of Upper Yentna/Skwentna Oral History Tapes from Research conducted by the Division of Subsistence, ADF&G

Name	Dates	Length	When active in area?	Transcription/Notes?	Relevant Topics
Vernon & Sylvia Ross (1)	1/21/1986	90 minutes	1930s - 1960s	Detailed notes	Operated fishwheel in creek; learned of early run of salmon under ice via oral tradition; use of fish trap
Vernon & Sylvia Ross (2)	1/21/1986	90 minutes		Detailed notes	Use of fish trap; fish for dog food, mink ranching
Ken Fenwick	4/4/1985	60 minutes	1950s - present	Detailed notes	Trap line locations; p. 5 fishing locations; transmission of trap lines; Indians at Susitna Station; place name knowledge
Joe Delia	8/12/83 (1)	90 minutes	Late 1940s to present	Detailed notes	How he learned from Shellabargers and others; K. Sorenson had canoe built by Shem Pete (Dena'ina); fish are fresher at SS. Hefner had fish business at SS, had Natives working for him, putting up dry fish; learning of place names from Natives;
	8/12/83 (2)	45 minutes (side 2 blank)		Detailed notes	Discussion of fishwheel and nets; how put up fish; more info he learned from Shellabargers
	8/19/1983	90 minutes		Detailed notes	History of trap lines; Shem Pete (Dena'ina person) built canvas canoe that Ken Clark had
Joe Delia	3/31/85: Side 1	45 mintues		Detailed notes	Stories about Nick Barbeau (Indian at SS); carried dry salmon on trap line; shows newcomers where nobody trapping; stories about learning trapping methods; Ross fishing for king salmon with nets (p. 9); learning to trap from partner. Max Shellabarger
	4/5/85: Side 2	45 minutes		Detailed notes	Shared first fish each year; use of hooligan; less sharing in 1980s then in past due to regulations; trap line histories
Cliff Forsberg	4/18/1985	60 minutes	1950s - 1990s	Notes	"informal" sale of traplines; p. 2 reference to N. Barbeau, Indian; left dogs with oldtimers at Susitna Station in the summer, who fed them with fish; gave up on dog team with these oldtimers died (late 1950s?); p. 11: fish trap operated with Ross

Interviews with detailed notes but no tape available

Name	Dates	Length	When active in area?	Transcription/Notes?	Relevant Topics
Tom Krause	Jun-83 Aug-83		1925 - 1960s or 1970s	Notes Notes	Indian/non-Native overlap in area, 1920s Detail on transmission of traplines; Recalls Indians going down Yentna in moosehide boats; p. 2 took salmon for dogs from nets at Susitna, Sucker Lake, Wolverine Creek; fish for dogs sold too
Belle Shellabarger	Jun-83		1923 - 1980s	Notes	Fished at Susistna Station in summer; operated fish wheel at Eight Mile Creek; used from late 1920s until "outlawed" in 1950s, then used nets; fished for food and for dogs.
Ethel Ross Oliver	Jan-86		1925 - 1930s	Notes	History of traplines; lived summers at Susitna, put up fish there caught "in the whirlpool;" most people came to SS in summer, except Shellabarger; knew Natives

Compiled January 1998; Division of Subsistence, ADF&G, Anchorage

RC _____

Excerpts from Oral History Interviews with Residents of the Upper Yentna/Skwentna Area, conducted by the Division of Subsistence, Alaska Department of Fish and Game , 1983 - 1986

Alaska Board of Fisheries, February 1998

Background: From 1983 - 1986, the Division of Subsistence conducted research on patterns of resource use in the western Susitna Basin area. Several interviews were conducted with long-term residents of the area to document its history. The primary focus of the research was furbearer trapping, so much of these interviews had to do with trapline acquisition and trapping methods. However, the interviews explored many other topics, including settlement patterns, oral traditions, place names, biographies, hunting methods, and fishing. There are about 10 hours of recorded interviews, some additional unrecorded notes from these interviews, and three additional interviews which were not taped but for which detailed notes are available. Additionally, researchers had access to a diary kept by a trapper in 1935.

The purpose of these excerpts is to illustrate the contents of the interviews as they might relate to customary and traditional uses of salmon in this area, such as subsistence fishing patterns, intergenerational transmission of knowledge, and oral traditions associated with fishing and other resource uses.

Immediately below is a brief index which highlights some of the most relevant contents of these excerpts.

A. Person Interviewed: Joe Delia. Has lived in the area from the late 1940s until the present

Date of interview: 4/15/85

P 6. Nick Barbeau, Susitna Station Dena'ina, overlap of use areas between Native and non-native trappers

p 7 Arrival of Shellabargers in the area in 1920s; example of early oral traditions about trapline transmission

p 24 - 25 Discussion of families in the area, seasonal round of activities, based in part on Link Diary (see below), 1920s to 1940s, overlap of families in the area during that time period

p 27 women trappers (trapping muskrats), trap line boundaries

B. Joe Delia Interview of 3/31/85

p 1-2 Story of "Old Nick Barbeau" a Dena'ina living at Susitna Station until the early 1960s; his traplines

p 4 sharing salmon; showing newcomers where they could trap -- example of local social control, knowledge of resources and local use patterns, 1950s

p 19 - 22 how he acquired trapline and knowledge beginning in 1949 from his partner, who had arrived in the 1920s, and how his trapline was transmitted/shared with others; state land disposal programs

C. Joe Delia, continued

Date of interview: 8/12/83 .

p 1-3 Overlap of Native people and Shellabargers (early non-native settlers) in the area; Delia learning from Shellabargers and others who were there before him
p 4 acquisition of canoe from Indians from Susitna Station
p 4 discussion of Susitna Station
p 5 running of fish business at Susitna Station, hiring of Native people to put up dry fish for use at roadhouses
p 6 founding of Skwentna post office
p 6 knowledge of native place names
p 7 - 8 Operation of fishwheel near Skwentna until 1950s; kinds of fish used; "their security was in the smokehouse"; later use of nets
p 9 Story of Ernest Ross: early trapper, early history
p 10 Native to non-Native transition in the area

D. Person Interviewed: Ethel Ross Oliver; lived in the area in the 1920s and 1930s

General account of life in the western Susitna Basin, 1920s; summered at Susitna Station, where they put up fish for human and dog food, caught "in the whirlpool above the station." Others put up fish at Susitna, then relaxed in Anchorage until time to head back upriver for trapping again. Interactions with Native and non-Native people at Susitna

E. Person Interviewed: Cliff Forsberg; lived in area in 1950s to 1990s

p 2 - 3. examples of acquisition of traplines
p 5 trappers leaving dogs in summer at Susitna Station with "old timers," who fed them with fish

F. Persons Interviewed: Vernon and Sylvia Ross; lived in area 1930s to 1960s

General contents: use of fishwheel, took fish to feed mink; Native people trapping in the area, raising children, seasonal movements; oral traditions about salmon runs

G. Vernon and Sylvia Ross. Notes from unrecorded interview, January 1986

General information on use of the area by Dena'ina Athabaskans in 1920s and 1930s; activities at Susitna Station, population, putting up fish in spring and summer.

H. Person Interviewed: Tom Krause. Lived in area 1925 to 1960s/1980s

p 1 -2 history of the area
p 3 Indians using moose hide boats on Yentna River

I. Person Interviewed: Ken Fenwick. Has lived in the area from the 1950s to the present

p 5. Fishing locations, transmission of trap lines

J. Person Interviewed: Belle Shellabarger. Lived in area 1920s to 1980s

Arrival in the area in 1920s, use of fishwheel at Skwentna, 1920s to 1950s, later use of nets, etc. Raising children at Skwentna.

K. Bill Link Diary: 1935.

Trapper Case Study, synopsis from Division of Subsistence Technical Paper No. 134 (1987)

Seasonal round of activities. Putting up fish in summer for winter use, use of net, drying fish

1997 SUPREME COURT OF ALASKA: *PAYTON VS STATE OF ALASKA*

Supreme Court of Alaska.
Tom and Diane **PAYTON**, on behalf of themselves and others similarly situated, Appellants,
v.
STATE of Alaska and Frank Rue, in his official capacity as Commissioner of Fish and Game, Appellees.

No. S-7557.
June 13, 1997.

Local residents appealed decision of Board of Fisheries denying their repeated proposals for subsistence fishery. The Superior Court, Third Judicial District, Anchorage, Milton M. Souter, J., granted summary judgment for Board, and residents appealed. The Supreme Court, Fabe, J., held that: (1) Board's creation of new personal use fishery in area did not moot appeal from Board's denial of proposed subsistence fishery; (2) Board's construction of "customary and traditional" language in regulation on subsistence fisheries was prejudicial error; and (3) Board erred in failing to explain why statutory exception to customary and traditional uses of salmon for subsistence fishery did not justify current area residents' failure to dry salmon.

Reversed and remanded.

West Headnotes

[1] KeyCite Citing References for this Headnote

30 Appeal and Error
30XVI Review
30XVI(F) Trial De Novo
30k892 Trial De Novo
30k893 Cases Triable in Appellate Court
30k893(1) k. In General. Most Cited Cases

Supreme Court reviews superior court's grant of summary judgment de novo.

[2] KeyCite Citing References for this Headnote

176 Fish
176k8 k. Power to Protect and Regulate. Most Cited Cases

Supreme Court reviews Board of Fisheries' interpretation of its own regulation under reasonable basis standard.

[3] KeyCite Citing References for this Headnote

176 Fish
176k10 Licenses
176k10(2) k. Fishing Locations. Most Cited Cases

Board of Fisheries' creation of new personal use fishery in area did not render appeal from Board's denial of proposal for subsistence fishery moot, where personal use fishery was not entitled to subsistence preference that petitioners were seeking. AS 16.05.940(24), 16.05.940(32).

[4] KeyCite Citing References for this Headnote

30 Appeal and Error
30XVI Review
30XVI(A) Scope, Standards, and Extent, in General
30k838 Questions Considered
30k843 Matters Not Necessary to Decision on Review
30k843(1) k. In General. Most Cited Cases

Supreme Court will not decide questions where facts have rendered legal issues moot.

[5] KeyCite Citing References for this Headnote

176 Fish
176k10 Licenses
176k10(2) k. Fishing Locations. Most Cited Cases

Although presence of successive generations of salmon users was considered by Board of Fisheries in deciding whether to approve proposed subsistence fishery, current users of salmon did not have to be related to past generations of users for approval of their proposed subsistence fishery; "customary and traditional" referred to "uses" rather than "users." AS 16.05.258; Alaska Admin. Code title 5, § 99.010(b).

[6] KeyCite Citing References for this Headnote

176 Fish
176k10 Licenses
176k10(2) k. Fishing Locations. Most Cited Cases

Focus in determining whether current uses of fish in area were customary and traditional for purposes of deciding proposal for subsistence fishery is whether use has occurred consistently for extended period of time, not whether current users are related by blood to past generations who used fished in essentially same way. AS 16.05.258(a), 16.05.940(7).

[7] KeyCite Citing References for this Headnote

176 Fish
176k10 Licenses
176k10(2) k. Fishing Locations. Most Cited Cases

Board of Fisheries' construction of "customary and traditional" language in regulation on subsistence fisheries to require current users of salmon in area to be related to prior generations of users in area, rather than focusing on whether fish stocks were customarily and traditionally taken or used for subsistence, was prejudicial error, where there was evidence that petitioners learned subsistence skills, values, and lore from long-time, albeit unrelated, residents of area, and new information from taped interviews with area residents regarding intergenerational transmission of knowledge, which Board did not consider.Alaska Admin. Code title 5, § 99.010(b)(6).

[8] KeyCite Citing References for this Headnote

176 Fish
176k10 Licenses
176k10(2) k. Fishing Locations. Most Cited Cases

Board of Fisheries erred in failing to explain why statutory exception to customary and traditional uses of fish for subsistence fishery, permitting residents to stop using certain methods based upon technological advances when appropriate, did not justify current area residents' failure to dry salmon. Alaska Admin. Code title 5, § 99.010(b)(5).

[9] KeyCite Citing References for this Headnote

176 Fish
176k10 Licenses
176k10(2) k. Fishing Locations. Most Cited Cases

Decisions by Joint Boards of Fisheries and Games and Board of Game that area was within subsistence area for hunting and that it was excluded from "nonsubsistence area" did not affect decision of Board of Fisheries on proposal for subsistence fishery.

***1037** William E. Caldwell, Alaska Legal Services Corporation, Fairbanks, for Appellants.

Kevin M. Saxby, Assistant Attorney General, Anchorage, and Bruce M. Botelho, Attorney General, Juneau, for Appellees.

Before COMPTON, C.J., and RABINOWITZ, MATTHEWS, EASTAUGH and FABE, JJ.

OPINION

FABE, Justice.

I. *INTRODUCTION*

Tom and Diane **Payton** seek to have a subsistence fishery created in the upper Yentna River area. The Board of Fisheries (Board) denied the **Paytons**' repeated proposals for such a fishery, and the **Paytons** appealed to the superior court. The superior court granted summary judgment against the **Paytons**, concluding that (1) the Board correctly interpreted statutory and regulatory provisions relating to subsistence and (2) there was ample evidentiary support for the Board's finding that current uses of salmon in the upper Yentna River area were not sufficiently customary and traditional to qualify as subsistence uses. On appeal, the **Paytons** challenge both of these conclusions. We reverse the superior court's decision with directions to remand this case to the Board for further proceedings.

II. *FACTS AND PROCEEDINGS*

The **Paytons** moved to Skwentna near the upper Yentna River in 1975. Since then, they have submitted to the Board several proposed regulations that would establish a subsistence fishery in the upper Yentna River area.

The Board considered the **Paytons**' first proposal, Proposal 405, at its March 1988 meeting. During its deliberations, the Board recognized that to consider Proposal 405, it had to determine whether current uses of salmon in the upper Yentna River area were ***1038** "customary and traditional." [FN1] Therefore, it proceeded to apply the criteria for identifying customary and traditional subsistence uses set forth in a regulation of the Joint Boards of Fisheries and Game.[FN2] The Board heard reports and statements from several individuals. Near the end of this testimony, Board members expressed particular interest in how long residents of the Skwentna area had been taking salmon and whether current residents' methods of handling, preparing, and sharing salmon reflected knowledge that had been handed down by prior generations.

FN1. In 1988, the applicable subsistence statute required the Board to "identify the fish stocks ... or portions of stocks ... that are customarily and traditionally used for subsistence." Former AS 16.05.258(a) (1987).

FN2. That regulation provided in part:(b) Customary and traditional subsistence uses by rural Alaska residents will be identified by use of the following criteria:

(1) a long-term, consistent pattern of use, excluding interruption by circumstances beyond the user's control such as regulatory prohibitions;

(2) a use pattern recurring in specific seasons of each year;

(3) a use pattern consisting of methods and means of harvest which are characterized by efficiency and economy of effort and cost, and conditioned by local circumstances;

(4) the consistent harvest and use of fish or game which is near, or reasonably accessible from, the user's residence;

(5) the means of handling, preparing, preserving, and storing fish or game which has been traditionally used by past generations, but not excluding recent technological advances where appropriate;

(6) a use pattern which includes the handing down of knowledge of fishing or hunting skills, values and lore from generation to generation;

(7) a use pattern in which the hunting or fishing effort or the products of that effort are distributed or shared among others within a definable community of persons, including customary trade, barter, sharing, and gift-giving; customary trade may include limited exchanges for cash, but does not include significant commercial enterprises; a

community may include specific villages or towns, with a historical preponderance of subsistence users, and encompasses individuals, families, or groups who in fact meet the criteria described in this subsection; and

(8) a use pattern which includes reliance for subsistence purposes upon a wide diversity of the fish and game resources of an area, and which provides substantial economic, cultural, social, and nutritional elements of the subsistence user's life.

5 Alaska Administrative Code (AAC) 99.010(b)(1982). The current version of this regulation reflects several amendments. *See* 5 AAC 99.010.

The Board learned that the population of the upper Yentna River area had fluctuated radically throughout history. During the 19th century "several hundred" Alaska Natives occupied villages in the area. However, following the departure of many residents and the onslaught of a devastating influenza epidemic, the population dwindled. The area continued to experience extreme population swings until the 1980s, when the population steadily rose to approximately 150-200 persons in 1987.

Due to this fluctuation, research presented to the Board by the Division of Subsistence indicated that 20% of the population of the upper Yentna River area had been there for more than twenty years, while 63.6% had been there less than ten years. The research also showed that the average length of residency in the area was about eight years. However, testimony revealed that this population study did not reflect "a number of households" that had been there since the 1920s and 1930s but whose members had died or moved away just prior to the study.

The Board also learned that historically the Alaska Native residents of the area dried, smoked, and fermented salmon and that "much of the fish and game harvest taking place in the area today [is] preserved by methods not requiring electricity such as smoking, canning, jarring, [and] freezing out of doors." Upon specific inquiry by the Board, the division compared preservation methods in the upper Yentna River area to those in Tyonek, English Bay, and Port Graham, where the Board had already established subsistence fisheries. It explained that people in those villages smoke, dry, and can salmon as well as freeze it in electric freezers.

The Board received little testimony about the extent to which upper Yentna River area residents shared salmon. The division reported that "we know that sharing and distribution of resources is common, mostly at the ***1039*** sub-community level." The division explained that several households in the upper Yentna River area share salmon with each other. However, it apparently did not have sufficient information to respond to the Board's questions about whether the pattern of sharing in Tyonek, English Bay, and Port Graham was significantly different.

Based upon this testimony, the Board concluded that there was insufficient evidence that current uses of upper Yentna River area salmon were customary and traditional. Although the Board did not make written findings in March 1988, some members orally expressed why they voted the way they did. The Chair, Gary Slaven, explained:

I don't hear any talk of traditional fish camps, smoke house areas, traditional fishing areas. I note that many of these communities from the information we've been given are land lottery communities which aren't even the same communities that people lived in prior to the 1950's. I note that the population dynamics of the area seem to be very mobile and it seems to be a transient population that comes and goes so I can't-I can't find anywhere in the information I've been given or in the public testimony that-that there's any sort of large proportion of people who've lived here for long enough to even have established a generation to generation customary and traditional use, and for those reasons and for the reasons that the population is increasing dramatically there since 1980 ... I just can't vote to find that there are customary and traditional use of the fish stocks by the people....

Other members appeared to agree with Slaven, and all of them voted against a motion to find that the uses were customary and traditional.[FN3]

FN3. One member stated that "unless some of the things that other Board members come up with here now can get me onto a different train of thought or somehow change my mind, I'm going to support the motion to declare that they do have long term historical use." Something must have changed this member's mind, because he voted against the motion.

After the Board rejected Proposal 405, the **Paytons** submitted a second proposal, Proposal 7, which the Board considered in December 1988. The first individual to testify, Dr. Jim Fall of the Division of Subsistence, indicated that Proposal 7 was "virtually identical" to Proposal 405. He stated that the division possessed no research or data that had not already been presented to the Board during the March 1988 hearings relating to Proposal 405.

The Board agreed that Proposal 7 was substantially similar to Proposal 405 and rejected the proposal for the same reasons. The Board subsequently drafted written findings to record its basis for rejecting the proposals. These written findings contained eight items, each of which related to one of the eight criteria for determining whether uses of salmon are "customary and traditional." Of particular relevance to this case, the Board found that

(1) although there was evidence that the area in question had a long-term use pattern by a variety of people, that pattern has been significantly interrupted as different groups of people moved in and out of the area....

....

(5) public testimony and information from the Subsistence Division indicated that most people can, smoke, or freeze salmon. There is no evidence that local fishermen split or dry salmon, a common practice in other subsistence fisheries in the Cook Inlet region. The practice of splitting and drying salmon is one that is handed down from one generation to another in this region....

(6) there was also no information to indicate that current area residents developed use patterns based on knowledge of fishing skills, values, and lore which was handed down from generation to generation since the families in the area have not been in the area for successive generations. Although the area has been continuously populated by a small number of year-round residents since the 1920's, there is no evidence that families remained in the area for more than one generation.... This pattern is in direct contrast to the pattern in other Cook Inlet subsistence communities such as Tyonek, English Bay, and Port ***1040** Graham where the younger generations have continued to reside in the same communities as their parents and grandparents;

(7) although the information presented did indicate that people in the area may share salmon with neighbors, they do not appear to have developed a systematic pattern of sharing based on kinship ties of historical practices; and finally

(8) the use pattern established in the current community does not demonstrate that the community substantially relies on the salmon resource for its economic, cultural, social and nutritional needs in the same way that other customary and traditional users in this region do (Tyonek, Port Graham, and English Bay). Although the information the board received does indicate that local harvests of fish and game are diverse and that salmon constitute approximately 25% of the total resource harvests, there is no long term, consistent pattern of ties to the area and to the dependence on the area's resources.

After the Board rejected Proposal 7, the **Paytons** filed a lawsuit in superior court to challenge the Board's actions. The superior court granted summary judgment against the **Paytons**, who appealed to this court. While the **Paytons**' appeal was pending, we issued our decision in *McDowell v. State*, 785 P.2d 1 (Alaska 1989). We subsequently concluded that *McDowell* had mooted the **Paytons**' appeal.[FN4]

FN4. *McDowell* invalidated language in the 1986 subsistence legislation that made subsistence preferences available only to residents domiciled in a rural area of the state. *McDowell*, 785 P.2d at 12. We determined that this significant change in the law made it impossible to review the**Paytons**' appeal in a meaningful way.

A few months later, on March 23, 1992, the **Paytons** filed with the Board a third petition, Proposal 362, for a subsistence fishery in the upper Yentna River area. As with Proposals 405 and 7, the Board recognized that it could not properly consider Proposal 362 without first determining whether current uses of upper Yentna River area salmon were customary and traditional. The Board was advised that the regulatory criteria for finding a use to be customary and traditional were "substantially the same" as the criteria applicable to its decisions about Proposals 405 and 7. Therefore, during the Proposal 362 hearings, Board members focused on whether there was any new information that would cause them to disavow their prior conclusions that current uses of upper Yentna River salmon were not customary and traditional.

The Division of Subsistence orally informed the Board that it had collected no new data since the Board's hearings on Proposal 7. However, the division's written report to the Board stated: "In the [Proposal 405] worksheet, it is implied that Dena'ina Athabaskans did not use this area after 1934. In fact, uses by Dena'ina ... occurred until the early 1960s." The division also noted that it had "information from taped interviews with Skwentna area residents regarding Criterion 6, 'intergenerational transmission of knowledge' which was not included in the [Proposal 405] worksheet; this information can be summarized orally if there are questions about it from Board members." Despite the fact that the Board neither reviewed nor asked questions about those taped interviews, its members apparently concluded that there was no new information that would cause them to revise their 1988 findings and voted unanimously to reject Proposal 362.

On February 25, 1994, the **Paytons** brought this action to challenge the Board's decision to reject Proposal 362. The parties filed cross-motions for summary judgment as to the **Paytons**' claims under AS 16.05.258 and its implementing regulations. On October 6, 1995, the court denied the **Paytons**' motion and granted the State's motion. The court held:

Unquestionably, the Board of Fisheries could have decided this case favorably for the [**Paytons**], but it appears equally clear that the Board's decision against the [**Paytons**] is amply supported by the evidence that was presented to it and that the Board's interpretation and application of the statutory and regulatory provisions was correct.

***1041** After the superior court entered partial final judgment against them, the **Paytons** appealed.

On appeal, the **Paytons** claim that the Board violated AS 16.05.258 and 5 AAC 99.010(b) when it rejected Proposal 362. Specifically, the **Paytons** assert that the Board erred by construing 5 AAC 99.010(b) in a manner that is inconsistent with AS 16.05.258. They also contend that the Board applied its regulations arbitrarily and unreasonably. The State responds by arguing that the **Paytons**' appeal is moot. Alternatively, the State contends that the Board did not err when it rejected Proposal 362.

III. *STANDARD OF REVIEW*

[1] [2] We review the superior court's grant of summary judgment *de novo.* *Nielson v. Benton,* 903 P.2d 1049, 1052 (Alaska 1995). The **Paytons** do not contend that there are disputed issues of material fact that preclude summary judgment. Instead, they assert that the Board's December 1988 written findings, which were incorporated into the 1992 decision, demonstrate that the Board misinterpreted 5 AAC 99.010. We review the Board's interpretation of its own regulation under the "reasonable basis" standard. *Rose v. Commercial Fisheries Entry Comm'n,* 647 P.2d 154, 161 (Alaska 1982)("[W]here an agency interprets its own regulation ... a deferential standard of review properly recognizes that the agency is best able to discern its intent in promulgating the regulation at issue."). However, insofar as our review requires us to determine the meaning of "customary and traditional" in AS 16.05.258, we exercise our independent judgment. *Madison v. Alaska Dep't of Fish & Game,* 696 P.2d 168, 173 (Alaska 1985).

The **Paytons** also allege that the Board's written findings demonstrate that the Board erred when it applied 5 AAC 99.010 to the facts of their case. Faced with a similar question in *Rose,* we held that once the interpretation of the applicable regulation is resolved, "the [agency's] application of the 'law' to the particular factual circumstances ... is a matter committed to the [agency's] sound discretion. Consequently, 'our scope of review is limited to whether the decision was arbitrary, unreasonable or an abuse of discretion.' " 647 P.2d at 161 (quoting *State, Dep't of Admin. v. Bowers Office Prods., Inc.,* 621 P.2d 11, 13 (Alaska 1980)).

IV. *DISCUSSION*
A. *The **Paytons**' Appeal Is Not Moot.*

[3] The State asserts that the **Paytons**' appeal is moot because on February 27, 1996, the Board conducted additional proceedings relating to whether current uses of upper Yentna River area salmon are customary and traditional. During those proceedings, the Board considered a fourth proposal by the**Paytons** for a subsistence fishery near Skwentna. Although it rejected the proposal, the Board created a new personal use fishery in the area.

The State argues that the 1996 action, which the **Paytons** have not included in their appeal, "supersede[s]" the 1992 decision that the **Paytons** challenge: "[i]f this Court were to invalidate or remand the Board's 1988 and 1992 findings, it would be unclear what effect, if any, such a result would have on the 1996 findings because they have not been put at issue."

[4] We will not decide questions where the facts have rendered the legal issues moot. *O'Callaghan v. State,* 920 P.2d 1387, 1388 (Alaska 1996). "A case is moot if the party bringing the action would not be entitled to any relief even if they prevail." *Id.* (quoting *Maynard v. State Farm Mut. Auto. Ins. Co.,*902 P.2d 1328, 1329 n. 2 (Alaska 1995)).

We conclude that this case is not moot. Although the 1996 decision created a personal use fishery, "personal use fishing" is not a "subsistence use" and, thus, is not entitled to the subsistence preference that the **Paytons** seek in this action. *Compare* AS 16.05.940(24) *with* AS 16.05.940(32). Moreover, the Board based its 1996 decision solely upon its 1988 written findings, which were also the basis for the 1992 decision. Thus, the Board did not decline to create a subsistence fishery in 1996 for any reason not already incorporated into the 1992 decision. Under these

circumstances, the 1996 decision does not, as the State suggests, provide the ***1042*** Board with a sound basis to deny the **Paytons**' requested relief even if they prevail in this action.

B. *The Board Erred When It Denied the **Paytons**' 1992 Proposal for a Subsistence Fishery.*
1. *The Board erroneously required a familial relationship between current and past generations of users of upper Yentna River area salmon.*

[5] The **Paytons** argue that the Board declined to find that current uses of upper Yentna River area salmon are customary and traditional because it improperly construed 5 AAC 99.010 to require successive generations of related individuals to have used the salmon. They contend that the Board "engrafted onto the law" "successive generations" and "kinship" requirements that are inconsistent with the language of 5 AAC 99.010(b) and the meaning of "customary and traditional" in AS 16.05.258. The State responds that subsistence laws protect only "ongoing, historical uses" and that its references in its 1988 written findings to the dearth of successive generations in the upper Yentna River area indicated that uses of salmon in the area were neither ongoing nor historical.

We conclude that the Board did not err in considering the presence of "successive generations," but that it did err when it required the current users of salmon to be related to past generations of users. In its 1988 written findings, which were incorporated into the 1992 decision, the Board referred to the lack of multigenerational families in the upper Yentna River area in its discussion of criteria one, five, six, seven, and eight. Indeed, the absence of multiple generations appears to be the principal reason that the Board declined to create a subsistence fishery. In the summary of its decision, the Board stated:

[W]hile it is certainly true that the residents of this area fish ..., these characteristics are the result of a desire to move to a remote area and establish this type of life style rather than the continuation of a life style that has existed in a stable population of multigenerational families with a history of subsistence uses in the area. The board believes that the current subsistence law was designed to protect ongoing uses of fish and fishing practices-practices that existed in the the [sic] distant past and have been carried on through successive generations....

Despite repeated legal challenges to and multiple revisions of the subsistence laws, "subsistence uses" have long been defined in terms of "customary and traditional uses." *Compare* *Madison v. Alaska Dep't of Fish & Game*, 696 P.2d 168, 170 n. 4 (Alaska 1985) *with* AS 16.05.940(32). Accordingly, we consistently have interpreted "customary and traditional" to refer to "uses" rather than "users." *State v. Morry*, 836 P.2d 358, 368 (Alaska 1992); *McDowell v. State*, 785 P.2d 1, 9 n. 19 (Alaska 1989); *Madison*, 696 P.2d at 174.

We disagree with the **Paytons** that our interpretation of "customary and traditional" prohibits the Board from considering how successive generations of Skwentna-area residents used salmon. The statutory definition of "customary and traditional" refers to "long-term" and "consistent" uses of fish. AS 16.05.940(7). As the State points out, "customary" means "commonly practiced, used, or observed" or "familiar through long use or acquaintance." *Webster's New International Dictionary* 559 (3d ed. 1969). And one meaning of "traditional" is "handed down from age to age without writing." *Id.* at 2422. Thus, the Board was charged with determining whether users of salmon in the upper Yentna River area currently practice methods of catching, preparing, and sharing salmon that were "handed down from age to age." Such an inquiry demands that the Board investigate the activities of current and long-time residents of the area. Insofar as the Board made this inquiry in its written findings, it did not err.

However, the Board went further than simply determining whether current residents had learned subsistence traditions from prior generations of persons who had used upper Yentna River salmon for subsistence: it required a familial relationship between current residents and those prior generations. This is evident from the Board's ***1043*** reference to "multigenerational families" in its summary of its 1988 findings, as well as from its findings relating to specific criteria. For example, in examining criterion six, the Board noted that "there was also no information to indicate that current area residents developed use patterns based on knowledge of fishing skills, values, and lore which was handed down from generation to generation since the families in the area have not been in the area for successive generations." Similarly, with respect to criterion seven, the Board concluded that the "people in the area ... do not appear to have developed a systematic pattern of sharing based on kinship ties of historical practices." Finally, the Board's findings for criteria one and eight indicate that current residents of the upper Yentna River area were not adequately relying on salmon because they had "no long term consistent pattern of ties to the area" and were not perpetuating a "long-term use pattern" because their households were "newly established."

[6] The plain language of AS 16.05.258(a) and AS 16.05.940(7) and our prior decisions emphasize that "customary and traditional" refers to "uses" and "use patterns" of fish stocks. None of these authorities indicates that a use of fish may be customary and traditional only if current users are related by blood to past generations

who used the fish in essentially the same way. Instead, the focus is whether the use has occurred consistently for an extended period of time.

This interpretation is consistent with the legislative history of the 1992 amendments to the subsistence laws. Section 1 of chapter 1, Second Special Session Laws Amended (SSSLA) 1992 contains legislative findings regarding the purpose and intent of the 1992 subsistence revisions. In those findings, the legislature stated that "customary and traditional uses of Alaska's fish and game originated with Alaska Natives, and have been adopted and supplemented by many non-Native Alaskans as well." Ch. 1, § 1(a)(3), SSSLA 1992.[FN5] Because the legislature recognized that customary and traditional uses can be "adopted" and "supplemented," the legislature apparently did not limit the meaning of customary and traditional uses to only those uses that are handed down from parent to child or relative to relative.

FN5. The legislature's findings also provide:(1) there are Alaskans, both Native and non-Native, who have a traditional, social, or cultural relationship to and dependence upon the wild renewable resources produced by Alaska's land and water; the harvest and use of fish and game for personal and group consumption is an integral part of those relationships;(2) although customs, traditions, and beliefs vary, these Alaskans share ideals of respect for nature, the importance of using resources wisely, and the value and dignity of a way of life in which they use Alaska's fish and game for a substantial portion of their sustenance; this way of life is recognized as "subsistence"[.]

Ch. 1, § 1(a)(1)-(2), SSSLA 1992.

Therefore, we conclude that the Board's interpretation of 5 AAC 99.010(b) violated AS 16.05.258(a) because it erroneously required current users of salmon in the upper Yentna River area to be related to prior generations of users in the area rather than focusing on whether the fish stocks "are customarily and traditionally taken or used for subsistence." AS 16.05.258(a). By construing the regulation the way it did, the Board inappropriately restricted the **Paytons**' ability to establish a subsistence fishery.[FN6]

FN6. AS 16.05.940(32) limits "subsistence uses" to uses for "direct personal or family consumption ... and for customary trade, barter, or sharing for personal or family consumption." The State notes the similarity between this language and that of 5 AAC 99.010(b)(7), which requires the Board to identify customary and traditional uses of resources after considering the possible existence of "a pattern of taking, use, and reliance where the harvest effort or products of that harvest are distributed or shared, including customary trade, barter, and gift-giving." Based upon this similarity, the State asserts that it was appropriate for the Board to conclude that Skwentna-area residents do not have "a systematic pattern of sharing based on kinship ties of historical practices."However, similarities between AS 16.05.940(32) and 5 AAC 99.010(b)(7) should not be construed to permit the Board to require a familial relationship between current and prior generations of users of upper Yentna River area salmon. The regulation does not refer to "kinship." *See* 5 AAC 99.010(b)(7). And, if we interpreted the statute to mean that sharing must occur with family members only, the phrase "for direct personal or family consumption" in AS 16.05.940(32) would take on the same meaning as the words "sharing for personal or family consumption." We decline to interpret AS 16.05.940 in this manner. *See Alascom, Inc. v. North Slope Borough, Bd. of Equalization,* 659 P.2d 1175, 1178 n. 5 (Alaska 1983) (concluding that statutes should be construed so that no part will be superfluous).

***1044** [7] Moreover, this error cannot be characterized as harmless error. The **Paytons** asserted that they and other residents of the upper Yentna River area learned subsistence skills, values, and lore from long-time, albeit unrelated, residents of the Skwentna area.[FN7] Plus, the Division of Subsistence uncovered evidence that might support the **Paytons**' position. In 1992, the division informed the Board that it possessed new "information from taped interviews with Skwentna area residents regarding Criterion 6, 'intergenerational transmission of knowledge.' " Although the division notified the Board that "this information can be summarized orally if there are questions about it from Board members," the Board neither played the tapes nor asked questions about them. Based upon these portions of the record and the Board's interpretation of 5 AAC 99.010(b)(6), we conclude that the Board erred when it denied the **Paytons**' Proposal 362.

FN7. The only record evidence of this intergenerational transmission of knowledge is in two affidavits attached to the **Paytons**' 1992 proposal for a subsistence fishery. In the first, Tom **Payton** stated that he was "given the knowledge of the customs and traditions of the subsistence uses of fish ..., the skills, and the values and lore of the Skwentna area by residents who have passed such knowledge down from previous generations." In the other affidavit, Annabelle Shellabarger, who had lived in Skwentna for over sixty-two years before her death, stated that she learned subsistence fishing methods that were "customary and traditional of the residents of this area at such time that I moved here." She also stated, "I have handed down knowledge of fishing ... skills, and values and lore to my family, Tom and Dianne **Payton**, and to other residents of Skwentna in the same manner and respect that such knowledge was handed down to me from numerous old-time residents of the Skwentna area."

2. *The Board erred when it concluded that current users of salmon in the upper Yentna River area do not handle, prepare, preserve, and store salmon based on traditional practices.*

[8] Criterion five of 5 AAC 99.010(b) requires the Board to identify customary and traditional uses of fish by considering whether there exists "a means of handling, preparing, preserving, and storing fish ... that has been traditionally used by past generations, but not excluding recent technological advances where appropriate." 5 AAC 99.010(b)(5). The Board concluded that this criterion weighed against the **Paytons** because residents of the upper Yentna River area do not split and dry salmon as do residents of the three recognized Native subsistence villages in the Cook Inlet region.

We conclude that the Board's criterion five finding is erroneous. The record indicates that historically the Alaska Natives in the Skwentna area dried, smoked, and fermented salmon and that "since that time in the 20's through the 50's and on" residents dried, smoked, salted, canned, and jarred salmon. Current methods are similar in that residents smoke, can, and jar salmon; the only difference is that current residents freeze salmon out-of-doors but do not dry it. However, criterion five specifically permits residents to stop using certain methods based upon "technological advances where appropriate." 5 AAC 99.010(b)(5). It was error for the Board not to explain why this statutory exception does not justify Skwentna-area residents' failure to dry salmon. Moreover, the taped interviews that the Board failed to consider in 1992 may have some bearing on whether the **Paytons** satisfy criterion five. [FN8]

FN8. The **Paytons** also challenge the Board's finding concerning criteria three and four. The finding relating to criterion three provides:(3) although the gear used in the early part of this century and later during the 1950's could be characterized as efficient and cost effective (traps, weirs, fishwheels and set gill nets), current gear has been dictated by regulation and since statehood, rod and reel fishing under sport fishing regulations has been the only legal means for taking salmon in this region[.]

The Board erred in basing its finding upon upper Yentna River area residents' failure to use "methods and means" of harvesting fish that are prohibited by regulation. Criterion one prohibits the Board from finding that a "long-term consistent pattern" of taking does not exist simply because regulations have prohibited such a pattern from continuing. *See* 5 AAC 99.010(b)(1). "It is fundamental that legislation should be construed so as to harmonize its various elements without doing violence to its language or spirit." *Hartford Fire Ins. Co. v. Macri,* 4 Cal.4th 318, 14 Cal.Rptr.2d 813, 842 P.2d 112, 116 (1992). Following this principle, the **Paytons** should not be faulted under criterion three for failing to use "methods and means" that are prohibited by regulation.

As to criterion four, the Board found:

(4) evidence before the board indicated that people in this area probably do take fish and game that are reasonably accessible from their homes and do not regularly travel to other parts of Alaska [to] fish for salmon or hunt. However, this is also [the] case for the majority of Alaskans[.]

The **Paytons** assert that the Board inappropriately minimized the weight it gave to this criterion. It is within the discretion of the Board to give each of the eight criteria appropriate weight, but it must do so in a reasonable manner. *See Rose v. Commercial Fisheries Entry Comm'n,* 647 P.2d 154, 161 (Alaska 1982) (applying a deferential standard of review when an agency interprets its own regulation). The record contains no evidence that supports the Board's statement about "the majority of Alaskans." Nor is it clear why that statement, even if true, merits discounting the importance of criterion four relative to the other criteria. Therefore, we cannot determine whether the Board reasonably weighed criterion four. On remand, the Board should provide reasons based upon record evidence for the relative weight that it gives to its findings concerning each of the eight criteria.

***1045** C. *Related Determinations by the Joint Boards of Fisheries and Game and the Board of Game Do Not Require the Board of Fisheries to Accept Appellants' Proposal.*

Finally, the **Paytons** assert that related determinations by the Joint Boards of Fisheries and Game and the Board of Game require the Board of Fisheries to establish a subsistence fishery in the upper Yentna River area. The **Paytons** point out that the Board of Game has recognized that the upper Yentna River area is within a subsistence area for hunting. They also note that a few days before the Board met to discuss the **Paytons**' Proposal 362, the Joint Boards of Fisheries and Game excluded the upper Yentna River area from a "nonsubsistence area" where that term is defined as "an area or community where dependence upon subsistence is not a principal characteristic of the economy, culture, and way of life." AS 16.05.258(c).

[9] We conclude that neither of these decisions impacts the Board's 1992 decision concerning Proposal 362. As the State points out, the Board of Fisheries and the Board of Game are separate entities acting under different statutory authority; they may reach different conclusions based on the same facts. Moreover, the Board of Game's finding relates to a larger area than the finding by the Board of Fisheries. *See* 5 AAC 92.450(16)(B). Therefore, the Board of Game's decision does not limit the Board of Fisheries' finding with respect to Proposal 362.

Similarly, the Joint Board of Fisheries and Game's nonsubsistence area finding is consistent with the Board of Fisheries' decision concerning Proposal 362. Exclusion of a community from a nonsubsistence area does not necessarily mean that the community is entitled to a subsistence preference. This is apparent from the structure of AS 16.05.258. The "nonsubsistence area" provisions in subsection (c) set forth procedures for excluding areas from being considered for subsistence preferences. However, decisions to grant subsistence rights are governed by subsections (a) and (b). Thus, to determine that areas excluded from "nonsubsistence areas" are automatically "subsistence areas" would not be consistent with AS 16.05.258.

V. *CONCLUSION*

The Board erroneously required current users of salmon in the upper Yentna River area to have a familial relationship with prior generations of subsistence users in the area. We determine that this interpretation of 5 AAC 99.010(b) is inconsistent with AS 16.05.258(a) and AS 16.05.940(7). We also conclude that the Board failed to explain adequately why it determined 5 AAC 99.010(b)(5) does not favor a finding that uses of upper Yentna River area salmon are customary and traditional. Therefore, we REVERSE and REMAND the superior court's decision with directions to remand the matter to the Board. On remand, the Board should reevaluate the **Paytons**' subsistence fishery Proposal 362 in a manner consistent with this opinion, in light of the evidence in the record and the taped interviews that it failed to ***1046** review in 1992. In doing so, it may allow the parties to present additional evidence.[FN9]

FN9. For example, insofar as the Board's mistaken understanding of applicable law may have influenced the questions it posed government witnesses, such as the Division of Subsistence, it may need to question these witnesses again.

Alaska,1997.
Payton v. State
938 P.2d 1036

Briefs and Other Related Documents (Back to top)

- 1996 WL 34394105 (Appellate Brief) Reply Brief for Appellants (Oct. 25, 1996)
- 1996 WL 34394104 (Appellate Brief) Brief of Appellees (Sep. 27, 1996)
- 1996 WL 34420594 (Appellate Brief) Brief for Appellants (Jul. 25, 1996)

Judges and Attorneys (Back to top)
Judges | Attorneys

Judges

- **Compton, Hon. Allen T.**
State of Alaska Supreme Court
Alaska
Litigation History Report | Judicial Reversal Report | Profiler

- **Eastaugh, Hon. Robert L.**
State of Alaska Supreme Court
Alaska
Litigation History Report | Judicial Reversal Report | Profiler

- **Fabe, Hon. Dana**
State of Alaska Supreme Court
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Litigation History Report | Judicial Reversal Report | Judicial Expert Challenge Report | Profiler

- **Matthews, Hon. Warren W.**
State of Alaska Supreme Court
Alaska
Litigation History Report | Judicial Reversal Report | Profiler

- **Rabinowitz, Hon. Jay A.**
State of Alaska Supreme Court
Alaska
Litigation History Report | Profiler

- **Souter, Milton M. Hon.**
State of Alaska Superior Court, 3rd District
Alaska

Litigation History Report | Judicial Reversal Report | Profiler

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Litigation History Report | Profiler

END OF DOCUMENT

1999 PAYTON DECISION IMPACT ON ALASKA BOARD OF FISHERIES C&T DETERMINATION, LANCE NELSON, ASSISTANT ATTORNEY GENERAL

Payton Decision Impact on Board of Fisheries C&T Determinations
Lance B. Nelson, Assistant Attorney General
November 19, 1999

In its decision in *Payton v. State*, 938 P.2d 1036 (Alaska 1997), the Supreme Court of Alaska set out the following points dealing with customary and traditional subsistence use findings by the Board of Fisheries:

A. Family Ties

1. The court ruled that 5 AAC 99.010 cannot be interpreted to require a finding that current users of salmon be related to past generations of users.
2. The Board can determine if users of salmon currently practice methods of catching, preparing, and sharing salmon that were handed down from age to age or from prior generations.
3. But the Board can't require familial relationships between current users and prior generations.
4. There is no requirement that current users be related by blood to past generations who used fish in exactly the same way.
5. Focus is whether the use has occurred consistently for an extended period of time.
6. The legislature did not limit meaning of C&T uses to those passed from parent to child or relative to relative.

B. Methods of Handling, Preparation, Preservation, and Storing Fish

1. The court ruled that in order to qualify as a C&T use, fish need not be prepared or preserved in exactly the same way as past generations.
2. Users could stop using certain techniques because of "technological advances" and still have qualifying C&T use.
3. For example, where previous methods were drying, smoking, and fermenting, later uses of smoking, canning, and jarring, and freezing salmon out-of-doors, but not drying could still be qualifying use.

C. Differences with Board of Game C&T Determinations

1. The court ruled that positive C&T determinations by the Board of Game on wildlife populations in the same area did not bind the Board of Fisheries' C&T determinations.
2. The court held that the boards had separate statutory authority and could reach different conclusions based on the same facts.
3. The court also ruled that the fact that the Joint Boards' decision that an area was not within a nonsubsistence area did not automatically mean that the uses of fish and game within the area were customary and traditional.

1998 SELECTIONS FROM THE SUBSISTENCE AND PERSONAL USE COMMITTEE REPORT

ALASKA BOARD OF FISHERIES
STATEWIDE FINFISH & MISCELLANEOUS PROPOSALS

SESSION 2 - (FEBRUARY 7-15, 1998)

ANCHORAGE, ALASKA

Subsistence and Personal Use Committee 2/10/98

The committee began at 10:00 a.m. and finished at 4:30 p.m.. A break for lunch and committee status reports was taken from approximately 11:45 a.m. until 1:15 p.m..

Board of Fisheries Members:

Larry Engel (chair)
Trefon Angasan
Virgil Umphenour

Alaska Department of Fish and Game Staff Members:

Tom Taube
Linda Brannian
Jim Fall
Jeff Regnart
Doug Mecum
Paul Larson
Kelly Hepler
James Brady
Jeff Regnart
Lee Hammarstrom
Ron Stanek

Advisory Panel Members:

Lillian Elvsaas - Seldovia
Jerry Swanson - Seldovia
Warren Brown - Seldovia
Dale Bondurant – Kenai
Tom Payton - Skwentna

Fish and Game Advisory Committee Members: Not available

AC reports:
8,10,12,18,19

Late AC reports:
Naknek/Kvichak AC

RC:
2,8,17,25,30,53,55,64,69,70,71,77,88,89,90,91,92,93,94,105,106,109,110,111,115,120,125,127,128,129,131

PC:
6,10,15,16,24,28,29,33,37,44,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,79,80,81,83,84,85,86,87,88,90,91,92,93,94,95

Proposal Roadmap and Recommended Actions:

ACR #9. 5 AAC 77.664 and 5 AAC 34.111. Restrict the summer personal use king crab fishery to pot gear and the winter personal use king crab fishery to dive gear and ring net gear pulled by hand.

Staff presented the background of the existing management plan. Main contention is that the fishery was closed by emergency order in the last two years because the harvest quota was reached, primarily due to the harvest from the pot fishery. The early closures effectively eliminated the opportunity for the divers to harvest crab. Part of the intent of the existing plan was to provide for a harvest quota that would last throughout the season and last long enough for all the users to participate. The proposers offered a solution by setting allocations for each gear type to ensure that divers will have an opportunity to harvest crab. Department plans to implement seasonal limits (summer season 10 crab) in 1998. This should allow the season the last the entire season. At the present time 80% of the users harvest less than 11 crabs.

Options for consideration:
1. Institute seasonal bag limit (tool already in regulation).
2. Institute the reallocation suggested in ACR #9.

Advisory Panel Recommendation: Consensus to support establishing a seasonal limit under existing regulatory authority

Board Committee Recommendation: Consensus agreement with Advisory Panel recommendation

ACR #1. 5 AAC 77.590. Increase the seasonal bag limit for personal use dip net fishery in Copper River during years of high abundance.

Staff explained background on the agenda change request and has prepared substitute language for deliberation. The substitute language was a compromise between the

Chitina Dipnetters Association and Prince William Sound/Copper River Advisory Committee. Essentially the proposal would provide the opportunity for personal use dipnetters to harvest additional sockeye salmon when there is a harvestable surplus in excess of 50,000 sockeye in a weekly period. The additional harvest will not jeopardize existing sustained yield goals.

Copper River Native Association is opposed to any further increase in the number of permits for the personal use fishery.

Advisory Panel Recommendation: Consensus for approval of substitute language

Board Committee Recommendation: Consensus for approval of substitute language

ACR #7. 5 AAC 77.540. Consider closing an area in the Kenai River to personal use dip net fishing below bluffs upstream from an unnamed creek's confluence with Kenai River to prevent trespass and erosion problems.

Staff explained the background of the proposal. A personal use dip net dip net fishery has been provided at the mouth of the Kenai River since 1981. The fishery occurs from boats and from the bank. Most of the land from which the fishery occurs is owned by the City of Kenai. Increasing participation in the fishery has caused problems that include parking, litter, and carcasses on the beach and erosion caused by fishers rappelling down the bluff to access the fishery. The City is addressing the parking problem. In cooperation with the Division of Sport Fish, the problem of litter and carcasses on the beach is being addressed. The problem that still needs to be addressed is the erosion problem on the bluff that is exacerbated by fishers.

The Advisory Panel viewed the problem as a trespass problem for the City of Kenai and should be addressed with more enforcement and signage and the area should not be closed.

Advisory Panel Recommendation: Consensus opposed to proposal

Board Committee Recommendation: Consensus to table the proposal until the next regularly scheduled meeting which is February 1999.

ACR #24. 5 AAC 01.560. (b) (8) (A). Extend the season for the Seldovia area subsistence gillnet fishery ("early" season) by 10 days, from May 20 as currently in regulation to May 30.

Staff gave an overview of the Seldovia fishery (see handout, **RC 127**). ACR #24 was originally brought before the BOF as a petition.

The C&T finding for salmon in Seldovia Bay does not apply to enhanced stocks of salmon. A history of subsistence fishing in May as referenced in the C&T findings. Information on harvest levels and timing in the month of May was lacking.

Commercial catches of kings increased substantially in 1989 when the enhanced fish started to return. The enhanced king returns start building in late May. The first period of the commercial set gillnet fishery (first Monday in June) always produces the highest catches of kings.

Stocking programs such as the king project in Seldovia, are supported by federal funds. Sport Fish Div. analyzes the cost-to-benefit ratio when evaluating a stocking program

It was suggested that some of the subsistence set net fishers in Seldovia Bay could move to the other (west) side of the bay until the end of May, after which time the commercial fishery starts, or they could fish in waters outside of Seldovia Bay between Point Naskowhak and Port Graham. These proposals would be conditional on the acceptance of the 10-day season extension. Others opposed moving to the west side of the bay because of commercial/subsistence gear conflicts. Opening the area outside of Seldovia Bay is outside of the legal notice for this meeting.

The 200 king "cap" on the fishery is a guideline and not a guarantee, and the key is to provide "reasonable opportunity". In 1996, 42 permits were issued, 44 kings and 7 sockeye reported caught; in 1997, 19 permits issued, 44 kings and 19 sockeye reported. There are two to three commercial participants in Seldovia Bay.

The statewide sport fish harvest survey may not account for a significant amount of sport fishing effort, for example children fishing for kings.

Concern was expressed regarding exceeding the 200 fish cap. A mandatory reporting system was discussed to provide better harvest information.

The area around Seldovia small boat harbor (Watch Pt south) was identified as the area of most conflict. Closing this area to subsistence fishing was discussed.

Advisory Panel Recommendation: No consensus

Board Committee Recommendation: Consensus to approve attached substitute language.

COURT REMAND. 5 AAC 01.5XX. Reconsider earlier finding of no customary and traditional use of salmon for subsistence in the Skwentna River and consider establishing subsistence seasons, open and closed areas, methods and means, marking requirements, and harvest limits for salmon in that area, as a result of a court remand (Payton, et. al. v. State of Alaska and Frank Rue, Commissioner of Fish and Game).

Staff (Dept. of Law and ADFG) reviewed the Supreme Court decision that remanded the Peyton case back to the board. Henry Wilson highlighted the major action points that are necessary for board review:

1. The board erroneously required a familial relationship between current and past generations of users of upper Yentna area salmon.

2. The board should focus the uses of the fish stocks rather than the characteristics of the users.

3. The board needs to explain the relative value they place each time they review the eight criteria.

4. The Board erred when it concluded that current users of salmon in the upper Yentna River area do not handle, prepare, preserve, and store salmon based on traditional practices.

5. The Board may not disqualify the applicants regarding Criterion 3 simply because the methods were prohibited by regulations.

Department staff reviewed BOF actions regarding the subsistence issue in the Skwentna River. (reference RC115). Staff stated that in their opinion, the information available at this time is sufficient for the BOF to make a C&T determination.
-Henry Wilson gave an overview of the remand to the BOF for the committee, there is no timeline mentioned in the remand. RC 88 was reviewed, specifically the findings of the court.

-Virgil suggested that the committee go through the criteria with the court remand in mind. Virgil would like to the compare the criteria (1988 to 1996).

-Jim Fall went through a comparison of the two C&T worksheets, one prepared in 1987/88 and resubmitted in 1992, and a second prepared in 1996. These appear in RC 115. Committee members added information from their review of the notes and transcripts of oral history interviews conducted by the Subsistence Division in the 1980s. Substantial information was added to the 1996 worksheet for Criterion 1, especially regarding the consistent pattern of use of salmon in the area starting with the Dena'ina Athabaskans and continuing uninterrupted by settlers in the late 1800s and the 1900s. Included in the new worksheet was an excerpt from a trapper's diary from 1935 which documented a typical pattern of harvesting salmon with nets. Data on Criteria 2, 3, 4, and 5 are similar in the two worksheets. Additional information on these criteria were noted from the transcripts of the interviews, such as drying fish, and use of nets and fishwheels. The 1996 worksheet contains a substantially rewritten section on Criterion 6. It reports that knowledge of hunting and fishing methods and areas was transmitted across generations between relatives, hunting and trapping partners, and neighbors. The survival of Athabaskan place names for rivers in the area is evidence of the interaction with the successive occupants of the area. Much information on this criterion is contained in the oral history interviews.

Even through these interviews focused on trapping, respondents discussed many relevant topics, such as how they learned fishing and preservation methods. Criteria 7 and 8 are similar in both worksheets.

Peyton: would like to use Fish Wheels, 16 hour openings, mandatory call in of catch, 2,500 fish cap (two wheels operated this year) . Season July 15-July 31 (this is what is in use currently in the PU fishery)

The Area is from the mouth of the Skwentna downstream to ¾ of a mile below Marten creek.

Jim Fall pointed out that the C and T would be for the Fish Stocks in question, not for the area or for the people of the area.

Advisory Panel Recommendation: Consensus to approve a subsistence fishery configured with the same regulations as the existing personal use fishery if the Board adopts a positive c&t finding

Board Committee Recommendation: Consensus to support a positive c&t finding for salmon stocks of the area; support advisory panel recommendation regarding subsistence regulations

ACR 20. 5 AAC 01.310. Establish a redfish subsistence fishery in Katmai National Park.

In response to ACR #20, submitted by the South Naknek Village Council, "to establish a redfish subsistence fishery in Katmai National Park," the department prepared substitute language as a starting point for Board of Fisheries deliberations, which was endorsed by the committee. This proposal incorporates the following points from the ACR:

1. Allows use of spears and dipnets to take salmon at specified locations during specific seasons
2. Limits gill nets to 5 fathoms, requires fisher to be present while fishing, and prohibits use of gill net as a set net at these locations and during these times
3. Establishes a seasonal limit of 200 sockeye salmon taken after August 15 in the Naknek District
4. Repeals ambiguous language in 5 AAC 01.310 (c) related to fishing seasons and periods
5. Repeals redundant and contradictory language in 5 AAC 01.320 (c) (1) (D) regarding gear length.

As written, the draft proposal does not include the following provisions from the ACR:

1. Does not close any waters to subsistence salmon fishing
2. Does not prohibit gillnets at Johnny's Lake
3. Does not allow rod and reel subsistence fishing
4. Does not require release of incidentally taken rainbow trout

5. Does not require permit from the National Park Service; only ADF&G subsistence permit required
6. Does not limit participation to any individuals or groups who are otherwise eligible for a state subsistence permit.

For further background, see staff comments, **RC 2**.

Advisory Panel Recommendation: Consensus to adopt substitute language
Board Committee Recommendation*: Consensus to adopt substitute language

*Consensus by Engel and Umphenour, Angasan did not participate in this proposal

5AAC XX.XXX. SKWENTNA RIVER SUBSISTENCE SALMON FISHERY. In the subsistence taking of salmon in the Skwentna River, salmon, other than king salmon, may be taken only as follows:

(1) under a subsistence permit issued under **5AAC** .

(2) in the mainstream of the Yetna River from its confluence with Martin Creek upstream to its confluence with the Skwentna River from July 15 through July 31 from 4:00 a.m. through 8:00 p.m. Monday, 4:00 a.m. through 8:00 p.m. Wednesday, and 4:00 a.m. through 8:00 p.m. Friday;

(3) only with a fish wheel as follows:

(A) each fish wheel must be equipped with a livebox; the livebox must be constructed so tat it contains no less than 45 cubic feet of water volume while it is in operation;

(B) the permit holder shall attach a wood or metal plate that is at least 12 inches high by 12 inches wide, bearing the permit holder's name and address in letters and numerals at least one inch high to each fish wheel operated under this section so that thee name and address are plainly visible;

(C) the permit holder shall be present to attend the fish wheel at all times while the fish wheel is in operation, and king salmon and rainbow trout must be returned alive to the water;

(D) for purposes of this paragraph, a "livebox" is a submerged container that is attached to the fish wheel that will keep fish caught by the fish wheel alive;

(4) the annual limit for a Skwentna River subsistence fishing permit holder is as specified in **5 AAC 77.525(c)**;

(5) the commissioner shall close the subsistence fishery by emergency order as necessary, to ensure that no more 2,500 salmon are taken during the entire season under this section.

2011 SELECTIONS FROM SPECIAL PUBLICATION NO. BOF 2011-01, OVERVIEW OF SUBSISTENCE SALMON FISHERIES IN THE TYONEK SUBDISTRICT AND YENTNA RIVER, COOK INLET, ALASKA

UPPER YENTNA RIVER SUBSISTENCE FISH WHEEL FISHERY

History and Regulations

The BOF first considered proposals to provide subsistence salmon fishing opportunities in a portion of the Yentna or Skwentna rivers in 1988 and made a negative C&T finding[1] which focused on the lack of transmission of traditions about the fishery within multigenerational families and the relative short length of residency in the area by potential participants in the fishery, who were expected to be mostly residents of the Skwentna area. The BOF affirmed this negative finding in 1992 following the passage of the present state subsistence statute (AS 16.05.258). In response to another proposal in 1996, the BOF again affirmed its negative C&T finding but adopted regulations establishing a personal use fish wheel fishery in a portion of the Yentna River. In 1997, in *Payton et al. v. State*, the Alaska Supreme Court ruled that the BOF had erred in requiring transmission of fishing traditions through family lines, in focusing on the short length of time that current local residents had lived in the area, and in requiring that salmon be preserved by methods similar to those used in Alaska Native communities in the Cook Inlet area. The court remanded the issue to the BOF with additional instruction to review information about transmission of knowledge about the fishery across generations (but not necessarily within families who still resided in the area) that had been included in interviews and archival data collected and organized by the Division of Subsistence. During its meeting in February 1998, the BOF reviewed this and other information and made a positive C&T finding for Yentna River salmon stocks. The personal use fish wheel fishery established in 1996 became a subsistence fishery as a result of these BOF actions.

Since 1998, the Division of Subsistence has conducted no new research that would update the information previously provided about the 8 criteria for consideration of C&T uses, as summarized in the 1996 worksheet and as supplemented by a synopsis of interviews and archival data. These documents have been provided in this report in Part Three. The only new data available are harvest records compiled from permit returns since 1996 (see below) and updated demographic data from the U.S. Census and Alaska Department of Labor and Workforce Development (Table 3).

A permit is required to participate in this subsistence fishery. The open area is the mainstem Yentna River from its confluence with Martin Creek upstream to its confluence with the Skwentna River. The fishery is open from July 15 through July 31, from 4:00 a.m. to 8:00 p.m., Mondays, Wednesdays, and Fridays.

The only legal gear is a fish wheel, which must be equipped with a live box. Permit holders must be present at the fish wheel while the wheel is fishing. The BOF has established a season limit of 2,500 salmon for the fishery. King salmon and rainbow/steelhead trout must be returned alive to the water. Household limits are 25 salmon for a household of 1, plus 10 salmon for each additional household member. Other standard permit conditions include prohibition of fishing within 300 feet of a dam, fish ladder, weir, culvert, or other artificial obstruction.

Harvest Assessment Methods, Harvests in 2009, Preliminary Results from 2010

Permits are available through the Division of Sport Fish offices in Palmer and Anchorage. Reported harvests are not expanded in this fishery.

Seventeen subsistence permits were issued for the Yentna River subsistence fish wheel fishery in 2009 and all were returned (Table 4). In 2009, 7 of the 17 permit holders resided in the Skwentna area (41%), with the remaining 10 permits held by residents of other Cook Inlet area communities, particularly Wasilla (5 permits). Permit holders living in the community of Skwentna in 2009 harvested 89 of the reported 273 salmon, or 33% of the harvest (Table 4). Since the fishery began in 1996, Skwentna residents have obtained 54% of the issued permits, while residents of Anchorage made up 23% of the fishery and residents of the Matanuska-Susitna Valley 21% (Figure 9).

[1] FB-124-88; see the Alaska Board of Fisheries website.

The total harvest as reported on permit returns in 2009 was 273 salmon, including 253 sockeye salmon (93%), 14 coho salmon (5%), and 6 chum salmon (2%). There were no reported harvests of king or pink salmon. The 2009 harvest of 273 salmon was well below the 5-year average of 398 salmon, the 10-year average of 497 salmon, and the historical average of 524 salmon (Table 5 and Figure 10).

Preliminary results of the 2010 fishery included in Table 5 show an increase in harvest compared to all previous years and notably higher than 2007–2009. The total reported harvest in 2010 was 786 salmon, which is approximately 3 times higher than the 2009 harvest, and was comprised of 675 sockeye salmon (86%), 52 coho salmon (7%), 18 chum salmon (2%), and 41 pink salmon (5%).

2018 Customary and Traditional Use Worksheet for the Tyonek Subdistrict Provided to the Alaska Board of Fisheries

1. INTRODUCTION

BACKGROUND

At its April 2018 regulatory meeting in Anchorage, the Alaska Board of Fisheries (board) will consider an emergency petition submitted by the Mt. Yenlo Fish and Game Advisory Committee (AC) for the Upper Yentna River subsistence fishery in the Cook Inlet Management Area (Figure 1). The petition asks the board to revise its customary and traditional (C&T) use determination for salmon in the Yentna River to add king salmon to the positive C&T finding, alleging that the board made an error when it revised the finding in 2011. The petition also asks the board to adopt regulations allowing the harvest of king salmon (also called Chinook salmon) in the Upper Yentna River subsistence fishery. In 1998, the board made a positive C&T determination for salmon in the Yentna River pursuant to Alaska Statute 16.05.258. All five species of Alaska salmon are found in the Yentna River: Chinook salmon (*Oncorhynchus tshawytscha*), sockeye salmon (*O. nerka*), pink salmon (*O. gorbuscha*), chum salmon (*O. keta*), and coho salmon (*O. kisutch*). Also in 1998, the board adopted regulations for a subsistence fishery for salmon in a portion of the Yentna River that prohibited the retention of king salmon. In 2011, the board modified the 1998 C&T determination to explicitly exclude king salmon from the positive finding.

For consideration of the emergency petition at the April 2018 meeting, the department has summarized C&T information in this report focusing on Yentna River king salmon from two sources. First, this summary lists the harvest and use information about Yentna River king salmon available to the board at its February 1998 and February 2011 meetings, primarily derived from the ethnographic and ethnohistorical literature as reported in the C&T worksheet for Yentna River salmon prepared for the February 1998 meeting. The board may apply this information in determining if the revision to the C&T finding was made in error. Second, we have added more recent additional information [collected by the Division of Subsistence since 2011, and primarily summarized in Holen et al. 2014 for the 2012 data year (also referred to as Technical Paper No. 385)], indicated as underlined text. The board may find this information useful if it determines an error was made and that the C&T finding should be reevaluated. Information from the C&T worksheet available to the board for the February 1998 meeting for considering if an error was made appears as normal text. This information has been organized by the eight C&T criteria found in regulation at 5 AAC 99.010. This document is not intended to be a complete C&T worksheet about all Upper Yentna salmon but rather a highlighting of information about uses of Yentna River king salmon to assist the board's evaluation of the emergency petition for the Upper Yentna River subsistence fishery. Appendices A–D provide additional pertinent quotations, summarized information, and historical documents related to the board's deliberations on the customary and traditional uses of Yentna River salmon in 1998 and 2011.

Details about the board's previous regulatory actions regarding C&T determinations and subsistence regulations for Yentna River salmon have also been provided in ADF&G staff comments on the petition and are in Appendix E (RC 8).

2. THE EIGHT CRITERIA

CRITERION 1: LENGTH AND CONSISTENCY OF USE

A long-term consistent pattern of noncommercial taking, use, and reliance on the fish stock or game population that has been established over a reasonable period of time of not less than one generation, excluding interruption by circumstances beyond the user's control, such as unavailability of the fish or game caused by migratory patterns.

- Oral history information mentions early runs of salmon under ice; the kinds of fish used; and oral traditions about salmon runs (tapes of oral history interviews conducted by the Division of Subsistence in the 1980s which were indexed in RC 115 submitted for the Feb. 1998 meeting; also Special Publication No. BOF 2011-01)
- The C&T worksheet prepared for 1996 board references king salmon, noting (RC 115 Feb. 1998/Special Publication No. BOF 2011-01):
    - The preface notes king salmon as an Upper Cook Inlet stock, uses of which are described in the worksheet: "…early and late run Chinook salmon…."
    - Text under Criteria 1 notes that in 1982 king salmon were harvested by 44.1% of Skwentna households and are one of the three most frequently harvested species (Table 1).
    - Text under Criteria 1 further notes in 1984 king salmon were harvested by 68.8% of Skwentna households. They were the most harvested species.
    - Text under Criteria 1 notes that the sport harvest in the Yentna River (all participants) from 1989-1994 was about half king salmon.
- King salmon was the sixth ranked resource in pounds per capita and fifth by the percentage of household resource use in Skwentna in 2012 (Table 6-5 in Holen et al. 2014).
- **From Technical Paper (TP) 385 (Holen et al. 2014)**
    - "Salmon are one of the most important wild resources used by Skwentna residents for subsistence, especially sockeye salmon, coho salmon, and Chinook salmon." (pg 276)
    - "For Skwentna residents, salmon composed 34% of the wild resource harvest in pounds usable weight in 2012 (Figure 6-4). The composition of the salmon harvest was as follows: 47% coho salmon (1,562 lb, or 25 lb per capita); 41% sockeye salmon (1,362 lb, or 22 lb per capita); 7% Chinook salmon (234 lb, or 4 lb per capita); 4% chum salmon (137 lb, or 2 lb per capita); and 2% pink salmon (62 lb, or 1 lb per capita) (Table 6-4)." (pg 249)
    - "During 2012, 73% of households reported using coho salmon, 67% of households reported using sockeye salmon, and 60% of households reported using Chinook salmon." (pg 249)
    - "The majority of the salmon harvest effort by Skwentna households was directed toward coho salmon, sockeye salmon, and Chinook salmon. Of the 63% of households that attempted to harvest coho salmon and the 53% of households that attempted to harvest sockeye salmon, all were successful. However, out of the 50% of households that attempted to harvest Chinook salmon, only 43% were successful." (pg 252)

Table 5 compares survey results from Skwentna from 1982, 1984, and 2012 regarding uses and harvests of each of the five salmon species available locally as well as salmon in combination.

CRITERION 2: SEASONALITY

A pattern of taking or use recurring in specific seasons of each year.

- Summary index of oral history tapes in RC 115 Feb. 1998/Special Publication No. BOF 2011-01):
    - Index of oral history content contains notes regarding fishing for king salmon with nets.
- C&T worksheet prepared for the 1996 board references timing of harvests for king salmon (RC 115 Feb. 1998/Special Publication No. BOF 2011-01):
    - Criteria 2: notes "King salmon are taken in early June into July…."
        - Seasonal round figure shows king salmon harvests from May to August.
- "…on June 10 Bill [Link] caught 14 salmon in his net on mouth of fish creek." (Joseph Delia affidavit referencing Bill Link 1935 diary for 1997 *Payton* lawsuit [Joseph Delia affidavit referencing Bill Link 1935 diary for 1997 *Payton* case (RC89 for 1998 board)].
- "During May and June Chinook salmon are caught by rod and reel under sport fishing regulations." (TP 385; pg 240-247)[1].
- "By July 15 the kings are very red and few in number" (Samantha Oslund, ADF&G Fishery Biologist II, personal communication April 13, 2018).

CRITERION 3: MEANS AND METHODS OF HARVEST

A pattern of taking or use consisting of methods and means of harvest that are characterized by efficiency and economy of effort and cost.

- The 1996 worksheet did not provide specific information for king salmon.
- "We never heard of subsistance [sic] in those times, just got our fish as fast as we could – when the run was new and the fish fresh and in numbers that warranted the canning and smoking process" [Joseph Delia affidavit referencing Bill Link 1935 diary for 1997 Payton Case (RC89 for 1998 board)].
- "There is a local need that needs to be faced. Even if they want to people don't have time to sport-fish for their winter needs. There is a lot to do before Ole Man Winter blows and a short summer to accomplish it in. People want to get their fish when they're bright and fresh and in numbers worth operating a smokehouse or canning process so they can get on with their work" [Joseph Delia affidavit referencing Bill Link 1935 diary for 1997 Payton Case (RC89 for 1998 board)].
- TP 385: "In 2012, rod and reel gear was used to harvest an estimated 70% of the salmon harvest weight, fish wheels were used to harvest about 28% of the salmon harvest weight, and gillnets were used to harvest about 2% of the salmon harvest weight during the study year (Table 6-6)" (pg 249).

1 Note that this is before the July 15 opening date for fishing with fish wheels.

CRITERION 4: GEOGRAPHIC AREAS

The area in which the noncommercial, long-term, and consistent pattern of taking, use, and reliance upon the fish stock and game population has been established.

- The 1996 worksheet did not provide any specific location data for king salmon, just for "salmon."
- "Chinook salmon were harvested in the Susitna River, Yentna and Skwentna rivers and the tributaries of Hayes River and Lake Creek. Chum salmon and pink salmon were harvested by fish wheels on the Yentna River" (see Table 4 and Fig. 2) (TP385; pg 249).
- "During the 2012 study year, Skwentna respondents reported harvesting coho salmon in the Yentna River, Skwentna River and tributaries, the Talachulitna River, Eightmile Creek, and Lake Creek. Sockeye salmon were harvested in the Yentna River, Lake Creek, and Shell Lake (Figure 6-6)" (TP385; pg 249)..

CRITERION 5: MEANS OF HANDLING, PREPARING, PRESERVING, AND STORING

A means of handling, preparing, preserving, and storing fish or game that has been traditionally used by past generations, but not excluding recent technological advances where appropriate.

- The 1998 worksheet and supporting documents did not offer any specific information about king salmon for this criterion.
- "…By June 15 he [Bill Link] had 115 [salmon] cut and hung in his smokehouse" [Joseph Delia affidavit referencing Bill Link 1935 diary for 1997 Payton Case (RC89 for 1998 board)].

CRITERION 6: INTERGENERATIONAL TRANSMISSION OF KNOWLEDGE, SKILLS, VALUES, AND LORE

A pattern of taking or use that includes the handing down of knowledge of fishing or hunting skills, values, and lore from generation to generation.

- Payton Affidavit (RC 93 at February 1998 meeting):
    - Page 2. "I have been given the knowledge of the customs and traditions of the subsistence uses of fish (including all five species of salmon) and game, the skills, and the values and lore of the Skwentna area by residents who have passed such knowledge down from previous generations. . . The skills handed down include the methods of harvest, fish wheel, gill net, dip net, traps and the like as well as the locations of fish camps and the ways of preservation of the salmon resource, which include drying, salting, smoking, pickeling, jarring and canning."
    - Note that in his affidavit, Mr. Payton generally refers to "salmon" or "the salmon resource" and rarely refers to specific species.

CRITERION 7: DISTRIBUTION AND EXCHANGE

A pattern of taking, use, and reliance where the harvest effort or products of that harvest are distributed or shared, including customary trade, barter, and gift-giving.

- The 1996 worksheet and supporting documents from the 1998 meeting did not include any information specific to king salmon, just "salmon."
- TP 385:
    - "During 2012, 90% of Skwentna households used salmon, 77% harvested salmon, 37% shared salmon, and 50% reported receiving salmon (Table 6-4). Coho salmon (73% using),

sockeye salmon (67%), and Chinook salmon (60%) were the primary salmon species used by Skwentna residents" (TP385; pg 249).

- Many of the households that harvested salmon shared their catch with other Skwentna households (33% of households reported receiving sockeye salmon, 27% of households reported receiving Chinook salmon, and 23% of households reported receiving coho salmon)" (TP385; pg252).

CRITERION 8: DIVERSITY OF RESOURCES IN AN AREA; ECONOMIC, CULTURAL, SOCIAL, AND NUTRITIONAL ELEMENTS

A pattern that includes taking, use, and reliance for subsistence purposes upon a wide variety of fish and game resources and that provides substantial economic, cultural, social, and nutritional elements of the subsistence way of life.

- C&T worksheet prepared for 1996 board references king salmon on several occasions (RC 115 Feb. 1998/Special Publication No. BOF 2011-01):
  - Criteria 8: notes all five species of salmon comprised 24.9 percent of the wild food harvest.
- TP 385:
  - "Although the study found evidence of a long-term pattern of harvest and use of wild resources, many participants reported that their wild resource uses and harvests have changed over their lifetimes and in the last 5 years. This is especially true of salmon harvests with the decline of Chinook salmon abundance in the Susitna River Basin. Residents continue to harvest wild resources locally while also taking advantage of opportunities to travel to other areas in Alaska to harvest wild foods. Many residents expressed the desire to continue to harvest wild resources locally, regardless of changes in abundance of resources and the increase in the population of Southcentral Alaska over time" (TP385; pg 336).
  - In 2012, Skwentna residents harvested 9,966 lb of wild foods, 161.2 lb per person (TP385 pg 239).

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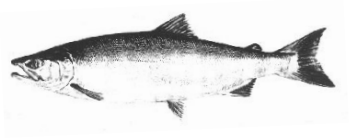
APPENDIX A
UPPER COOK INLET SUBSISTENCE FISHING ANNOUNCEMENT NO. 1, 2019

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
NEWS RELEASE

Douglas Vincent-Lang, Commissioner
Sam Rabung, Director



Contact: Brian Marston, Area Mgmt. Biologist or Alyssa Frothingham, Asst. Area Mgmt. Biologist
43961 Kalifornsky Beach Rd, Suite B Soldotna, AK 99669
Phone: (907) 262-9368 Fax: (907) 262-4709
Date Issued: May 1, 2019 Time: 12:00 p.m.

UPPER COOK INLET SUBSISTENCE FISHING ANNOUNCEMENT No. 1
EMERGENCY ORDER NUMBER 2S-02-19

Upper Cook Inlet Subsistence Fishing Announcement No. 1 closes subsistence salmon fishing in the Tyonek Subdistrict of Upper Cook Inlet from 4:00 a.m. until 8:00 p.m. on Tuesdays from May 15 through June 15, 2019. The subsistence fishery will remain open in the Tyonek Subdistrict from 4:00 a.m. until 8:00 p.m. on Thursdays and Fridays from May 15 through June 15, 2019, unless modified by subsequent emergency order. In addition, the Tyonek Subdistrict subsistence fishery will also remain open from June 16 through October 15, 2019, from 6:00 a.m. through 6:00 p.m. on Saturdays, unless modified by subsequent emergency order.

All sport and commercial king salmon fishing in Northern Cook Inlet (NCI) is being closed for the 2019 season. This broad closure is in response to a recent pattern of extremely poor returns for all stocks in the NCI area and a Deshka River king salmon forecast that is well below the escapement goal. Furthermore, the Upper Yentna River king salmon subsistence fishery has also been restricted to Wednesdays and Fridays from June 1 to June 30 for the 2019 season. The objective of these restrictive actions is to achieve all Susitna River king salmon escapement goals by eliminating sport, commercial, and subsistence harvest of these stocks.

Therefore, in order to reduce the harvest of king salmon destined to streams throughout the Northern Cook Inlet watershed, including the Susitna River, a reduction in the harvest of king salmon in the Tyonek Subdistrict subsistence fishery is warranted.

Based on inseason information, fishing opportunity may be restored where and when possible while ensuring escapement goals are achieved.