

Regional Information Report No. 3A12-03

**2012 Norton Sound Salmon Fisheries Outlook and
Management Strategies**

by

Jim Menard

May 2012

Alaska Department of Fish and Game

Division of Commercial Fisheries



Symbols and Abbreviations

The following symbols and abbreviations, and others approved for the Système International d'Unités (SI), are used without definition in the following reports by the Divisions of Sport Fish and of Commercial Fisheries: Fishery Manuscripts, Fishery Data Series Reports, Fishery Management Reports, Special Publications and the Division of Commercial Fisheries Regional Reports. All others, including deviations from definitions listed below, are noted in the text at first mention, as well as in the titles or footnotes of tables, and in figure or figure captions.

Weights and measures (metric)		General		Measures (fisheries)	
centimeter	cm	Alaska Administrative Code	AAC	fork length	FL
deciliter	dL	all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.	mid-eye-to-fork	MEF
gram	g	all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.	mid-eye-to-tail-fork	METF
hectare	ha	at	@	standard length	SL
kilogram	kg	compass directions:		total length	TL
kilometer	km	east	E		
liter	L	north	N	Mathematics, statistics	
meter	m	south	S	<i>all standard mathematical signs, symbols and abbreviations</i>	
milliliter	mL	west	W	alternate hypothesis	H _A
millimeter	mm	copyright	©	base of natural logarithm	e
		corporate suffixes:		catch per unit effort	CPUE
Weights and measures (English)		Company	Co.	coefficient of variation	CV
cubic feet per second	ft ³ /s	Corporation	Corp.	common test statistics	(F, t, χ^2 , etc.)
foot	ft	Incorporated	Inc.	confidence interval	CI
gallon	gal	Limited	Ltd.	correlation coefficient (multiple)	R
inch	in	District of Columbia	D.C.	correlation coefficient (simple)	r
mile	mi	et alii (and others)	et al.	covariance	cov
nautical mile	nmi	et cetera (and so forth)	etc.	degree (angular)	°
ounce	oz	exempli gratia (for example)	e.g.	degrees of freedom	df
pound	lb	Federal Information Code	FIC	expected value	E
quart	qt	id est (that is)	i.e.	greater than	>
yard	yd	latitude or longitude	lat. or long.	greater than or equal to	≥
		monetary symbols (U.S.)	\$, ¢	harvest per unit effort	HPUE
Time and temperature		months (tables and figures): first three letters	Jan,...,Dec	less than	<
day	d	registered trademark	®	less than or equal to	≤
degrees Celsius	°C	trademark	™	logarithm (natural)	ln
degrees Fahrenheit	°F	United States (adjective)	U.S.	logarithm (base 10)	log
degrees kelvin	K	United States of America (noun)	USA	logarithm (specify base)	log ₂ , etc.
hour	h	U.S.C.	United States Code	minute (angular)	'
hour	h	U.S. state	use two-letter abbreviations (e.g., AK, WA)	not significant	NS
minute	min			null hypothesis	H ₀
second	s			percent	%
				probability	P
Physics and chemistry				probability of a type I error (rejection of the null hypothesis when true)	α
all atomic symbols				probability of a type II error (acceptance of the null hypothesis when false)	β
alternating current	AC			second (angular)	"
ampere	A			standard deviation	SD
calorie	cal			standard error	SE
direct current	DC			variance	
hertz	Hz			population	Var
horsepower	hp			sample	var
hydrogen ion activity (negative log of)	pH				
parts per million	ppm				
parts per thousand	ppt, ‰				
volts	V				
watts	W				

REGIONAL INFORMANTION REPORT NO. 3A12-03

**2012 NORTON SOUND SALMON FISHERIES OUTLOOK AND
MANAGEMENT STRATEGIES**

by
Jim Menard
Division of Commercial Fisheries, Nome

Alaska Department of Fish and Game
Division of Commercial Fisheries
333 Raspberry Road, Anchorage, AK 99518

May 2012

The Regional Information Report Series was established in 1987 and was redefined in 2006 to meet the Division of Commercial Fisheries regional need for publishing and archiving information such as project operational plans, area management plans, budgetary information, staff comments and opinions to Board of Fisheries proposals, interim or preliminary data and grant agency reports, special meeting or minor workshop results and other regional information not generally reported elsewhere. Reports in this series may contain raw data and preliminary results. Reports in this series receive varying degrees of regional, biometric and editorial review; information in this series may be subsequently finalized and published in a different department reporting series or in the formal literature. Please contact the author or the Division of Commercial Fisheries if in doubt of the level of review or preliminary nature of the data reported. Regional Information Reports are available through the Alaska State Library and on the Internet at <http://www.adfg.alaska.gov/sf/publications/>.

*Jim Menard,
Alaska Department of Fish and Game, Division of Commercial Fisheries,
PO Box 1148, Nome, Alaska, 99762, USA*

This document should be cited as:

Menard, J. 2012. 2012 Norton Sound salmon fisheries outlook and management strategies. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report No. 3A12-03, Anchorage.

The Alaska Department of Fish and Game (ADF&G) administers all programs and activities free from discrimination based on race, color, national origin, age, sex, religion, marital status, pregnancy, parenthood, or disability. The department administers all programs and activities in compliance with Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act (ADA) of 1990, the Age Discrimination Act of 1975, and Title IX of the Education Amendments of 1972.

If you believe you have been discriminated against in any program, activity, or facility please write:

ADF&G ADA Coordinator, P.O. Box 115526, Juneau, AK 99811-5526

U.S. Fish and Wildlife Service, 4401 N. Fairfax Drive, MS 2042, Arlington, VA 22203

Office of Equal Opportunity, U.S. Department of the Interior, 1849 C Street NW MS 5230, Washington DC 20240

The department's ADA Coordinator can be reached via phone at the following numbers:

(VOICE) 907-465-6077, (Statewide Telecommunication Device for the Deaf) 1-800-478-3648,

(Juneau TDD) 907-465-3646, or (FAX) 907-465-6078

For information on alternative formats and questions on this publication, please contact:

ADF&G, Division of Sport Fish, Research and Technical Services, 333 Raspberry Rd, Anchorage AK 99518 (907) 267-2375

TABLE OF CONTENTS

	Page
LIST OF TABLES.....	ii
LIST OF FIGURES.....	ii
ABSTRACT.....	1
INTRODUCTION.....	1
2012 RUN OUTLOOK.....	1
MANAGEMENT STRATEGIES.....	2
Nome Subdistrict.....	2
Golovin Subdistrict.....	3
Elim Subdistrict.....	4
Norton Bay Subdistrict.....	4
Shaktoolik and Unalakleet Subdistricts.....	4
Port Clarence District.....	6
TABLES AND FIGURES.....	7

LIST OF TABLES

Table		Page
1.	Commercial salmon catches by species, Norton Sound District, 1961–2011.	8
2.	Nome Subdistrict, Port Clarence District subsistence permit limits.	9

LIST OF FIGURES

Figure		Page
1.	Norton Sound District and Port Clarence District.	10
2.	Port Clarence District commercial salmon fishing area.	11

ABSTRACT

This report provides the expected run outlooks, management issues, and harvest strategies for Norton Sound salmon fisheries in 2012. Commercial and subsistence salmon fisheries occur in Norton Sound and the area is comprised of two commercial fishing districts, the Norton Sound District and the Port Clarence District. Norton Sound District extends from Cape Douglas south to Point Romanof and includes over 500 miles of coastline. The area open to commercial salmon fishing is divided into six subdistricts. Each subdistrict contains at least one major spawning stream with commercial fishing effort located in the ocean often near stream mouths. The Port Clarence District encompasses all waters from Cape Douglas north to Cape Prince of Wales. The area open to commercial salmon fishing is near the villages of Teller and Brevig Mission. Management strategies may change inseason based upon assessment of Chinook *Oncorhynchus tshawytscha*, chum *O. keta*, sockeye *O. nerka*, pink *O. gorbuscha*, and coho *O. kisutch* salmon runs.

Key words: Norton Sound, Port Clarence, Chinook, *Oncorhynchus tshawytscha*, chum, *O. keta*, sockeye, *O. nerka*, pink, *O. gorbuscha*, coho, *O. kisutch*, outlook, subsistence, commercial, fishing, strategy, management plan.

INTRODUCTION

Norton Sound is comprised of two fishing districts, the Norton Sound District and the Port Clarence District (Figure 1). The Norton Sound District extends from Cape Douglas south to Point Romanof and includes over 500 miles of coastline. The area open to commercial salmon fishing is divided into six subdistricts. Each subdistrict contains at least one major spawning stream with commercial fishing effort located in the ocean near stream mouths. The Port Clarence District encompasses all waters from Cape Douglas north to Cape Prince of Wales. The area open to commercial salmon fishing is adjacent to the communities of Brevig Mission and Teller (Figure 2).

Alaska Department of Fish & Game (ADF&G) staffing for salmon management within Norton Sound includes three biologists, a program technician and 19 seasonal employees during the summer months. Norton Sound Economic Development Corporation (NSEDC) funds 21 interns to work on department projects and cooperative projects between NSEDC and ADF&G. Anticipated department management projects in 2012 include: Kwiniuk River counting tower; Niukluk River counting tower; Nome River weir; periodic aerial surveys of index spawning streams; catch sampling and monitoring efforts at Unalakleet; and test fishing on the main stem of the Unalakleet River. Cooperative projects with other agencies will occur at the Unalakleet River weir (BLM, NSEDC and Unalakleet IRA); Snake River weir (NSEDC); and Glacial Lake weir (NSEDC). Department staff will also track the salmon escapement counts reported on other cooperative projects administered by NSEDC on the following rivers: North, Shaktoolik, Inglutalik, Eldorado, and Pilgrim.

2012 RUN OUTLOOK

Salmon outlooks and harvest projections for the 2012 salmon season are based on qualitative assessments of parent-year escapements, subjective determinations of freshwater overwintering and ocean survival, and in the case of the commercial fishery, the projections of local market conditions. The Chinook salmon run is expected to be weak and no commercial fishing targeting Chinook salmon is expected in Norton Sound. Subsistence restrictions for Chinook salmon are possible again in southern Norton Sound. Chum salmon runs are expected to be average. Buyer interest in chum salmon has been increasing in recent years and the harvest could be 70,000 to

100,000 fish. The only expected subsistence restrictions for chum salmon will be in the Nome Subdistrict, and Pilgrim River and Kuzitrin River drainages where catch limits will be in effect. The department expects the pink salmon run to be average and based on buyer interest the harvest could be 300,000 to 600,000 pink salmon. It is expected that pink salmon directed fishing periods will be established in all subdistricts. The coho salmon run in 2012 is expected to be average based on good ocean survival conditions in recent years. The commercial harvest is expected to be 60,000 to 90,000 fish and no subsistence fishing restrictions are expected, except for catch limits in the Nome Subdistrict, and Pilgrim River and Kuzitrin River drainages. In the Port Clarence District the department expects the commercial fishery to remain closed, but does expect the sockeye salmon run to continue to improve compared to the last 3 years.

The excellent salmon runs in recent years for most species indicates good ocean survival conditions and will likely help this year's returning salmon. The department is cautiously optimistic that most salmon runs in Norton Sound will be average or better, except for Chinook and sockeye salmon. The department may again close the Pilgrim River to salmon net fishing by the second week of July if sockeye salmon runs show early signs of being weak.

MANAGEMENT STRATEGIES

Department staff will manage salmon fisheries to ensure escapement goals are achieved. Subsistence fishing will need to be restricted or closed if concerns for escapement arise. Commercial fishing will be allowed if a market is available and if the commercial fishery is not expected to jeopardize escapement or reasonable opportunity for subsistence fishing. Periodically, informational updates will be broadcast over Nome public radio stations to inform fishermen of current regulations, catches, escapements and ADF&G activities. Also, biologists will attempt to visit each fishery to disseminate fishery information and answer questions. The Unalakleet office will be open daily, except Sunday, throughout the season beginning the first week of June. The public may also call the Nome office at the toll-free number of 1-800-560-2271 or the regular number of 443-5167 for information.

NOME SUBDISTRICT

Salmon management in 2012 in the Nome Subdistrict is expected to be similar as last year. There will be no Tier II subsistence fishing restrictions because the chum salmon surplus above escapement needs is expected to exceed the amount necessary for subsistence (ANS). All subsistence salmon fishermen will require Tier I permits. In the last several years, exploitation of chum stocks in the Nome Subdistrict has been less than 5%. Since 2006 there have been no Tier II restrictions. In 2009 the chum salmon run fell 7% short of the lower end of the Nome Subdistrict escapement goal range of 23,000 to 35,000 fish and except for 2003, this was the only year in the last decade when the escapement goal was not achieved.

In marine waters, subsistence fishing is allowed 7 days a week prior to June 15 and after August 15. From June 15 through July 25 the marine waters of the subdistrict will be open to set gillnet fishing from 6 p.m. Wednesday until 6 p.m. Saturday and from July 26 through August 15 will be open from 6 p.m. Monday until 6 p.m. Saturday. In fresh waters, subsistence fishing is open 7 days a week prior to June 15 and after August 31. Beginning June 15 through August 31 subsistence set gillnet fishing will be open from 6 p.m. Monday until 6 p.m. Wednesday and from 6 p.m. Thursday until 6 p.m. Saturday. All state residents are eligible to receive a Tier I

subsistence permit. The fishing schedule listed above will be in effect unless reduced or closed by emergency order because of weaker than expected salmon runs. There is the possibility of an extension of fishing time in the marine waters if weather prevents subsistence fishermen from setting nets in the ocean. Also, beach seining is expected to be allowed in June during gillnet fishing periods. Additional beach seining periods may be allowed in July and August depending on escapement counts.

Harvests limits for salmon vary by marine and fresh waters. Marine and stream-specific harvest limits will be listed in the subsistence salmon fishing permits or the attachment given to subsistence fishermen at the same time the permit is issued. Permit catch limits for Nome Subdistrict and Port Clarence District streams are listed in Table 2.

The department will use the Eldorado River weir counts as an indicator of chum salmon run strength in Nome Subdistrict east of Cape Nome. If the Eldorado River chum salmon escapement begins to lag behind historical run timing curves and indicates that the escapement goal range will likely not be met, then marine fishing periods will be suspended as well as fishing periods in the river. The Eldorado River chum salmon escapement is expected to be met in 2012 and early escapement counts from the weir will be used to confirm that the run is tracking as expected. The Eldorado River weir counts will be used as index for escapement for the Flambeau, Bonanza and Solomon Rivers and aerial surveys will be used to confirm that escapement is sufficient on those rivers. If aerial survey counts show escapement to be lagging then fresh water fishing periods will be suspended.

The department will use the Nome River and Snake River escapement counts as an indicator of chum salmon run strength in the Nome Subdistrict west of Cape Nome. If either the Nome and Snake river weir counts project that the chum salmon escapement goal range will not be reached, then marine fishing periods will be suspended and fresh water fishing in the river with lagging escapement counts will be closed. The Cripple and Penny Rivers are closed by regulation to subsistence chum salmon fishing. The Sinuk River is expected to have a good chum salmon run in 2012 and sockeye salmon escapement to Glacial Lake is expected to improve compared to recent years.

Commercial fishing for chum salmon is closed by regulation in Nome Subdistrict. Commercial fishing is expected for pink salmon in late July or early August and periods will be no more than 24 hours in length with mesh size restricted to 4 ½ inches or less. There also is the possibility for commercial fishing for coho salmon in August depending on run strength. Commercial periods for coho salmon will likewise be no more than 24 hours in length with mesh size restricted to 6 inches or less.

GOLOVIN SUBDISTRICT

Low chum salmon runs and/or a lack of markets have kept the Golovin Subdistrict closed to commercial chum salmon fishing for most of the 2000s. Although good commercial chum salmon fishing occurred in 2010 and 2011 the chum run is expected to be below average compared to those years and the department will be cautious about any commercial chum salmon fishing time unless the adjacent Elim Subdistrict shows a good chum run or escapement counts at Niukluk River project the lower bound escapement goal of 23,000 or greater chum salmon will be reached. The pink and coho salmon runs are expected to be average and both are expected to be strong enough to allow a commercial harvest and reach escapement goals.

Permits are required when subsistence salmon fishing and no restrictions in subsistence fishing time are expected. In most years in the last decade subsistence harvests of chum salmon have been estimated to be less than 5% of the subdistrict run. The coho salmon run is expected to reach the escapement goal of range of 2,400–7,200 coho salmon past Niukluk River tower. In the last decade, the subdistrict subsistence harvest of coho salmon in the subdistrict has been estimated to be less than 15% of the run for most years.

ELIM SUBDISTRICT

No subsistence salmon fishing restrictions have occurred in Elim Subdistrict in over 20 years and no restrictions are expected in 2012. Subsistence permits are required when subsistence salmon fishing in the Elim Subdistrict.

The commercial fishing boundaries for Elim Subdistrict were expanded beginning with the 2010 fishing season. The boundaries are now at Bald Head and to the west at Carson Creek near Cape Darby. No commercial fishing is expected for Chinook salmon because escapement is expected to fall below the high end of the escapement goal range of 300 to 550 fish. Commercial fishing for chum and pink salmon is expected although chum salmon fishing may be delayed until July depending on escapement numbers. A commercial pink salmon directed fishery can occur if subsistence needs are expected to be met and chum salmon escapement goals are projected to be achieved, or after July 6 if it is determined there is a harvestable surplus of pink salmon and that a directed pink salmon commercial fishery will not have a significant impact on the escapement or subsistence use of chum salmon. The pink salmon run is expected to be average. Commercial coho salmon openings are likely with an expected average run.

NORTON BAY SUBDISTRICT

Commercial salmon fishing returned to the Norton Bay Subdistrict in 2008 after 10 years without a buyer and commercial fishing has occurred each year since. Previously, salmon markets had not been sufficient to attract interested fishermen or buyers. Inseason escapement monitoring indices for this subdistrict had not been available in previous years and the department used information from nearby subdistricts to determine if commercial fishing time was warranted. However, in 2011, NSEDC operated a counting tower on the Inglutalik River and the department plans to use salmon escapement counts from the project as an index and comparison with other projects in 2012. Chum, pink and coho salmon directed commercial fisheries are likely in 2012 if there is market interest. No subsistence restrictions are expected.

SHAKTOOLIK AND UNALAKLEET SUBDISTRICTS

Shaktoolik and Unalakleet Subdistricts will be managed as one fishery because past studies have shown salmon bound for these subdistricts intermingle and that harvests in one subdistrict most likely will affect the other. If there is a sufficient salmon surplus for commercial fishing, a fishery will occur. However, no commercial fishing is expected for Chinook salmon because of recent poor runs and poor parent-year escapements. If there is market interest, chum and pink salmon will be targeted. A chum salmon fishery would likely occur after June to allow more time for Chinook salmon to pass through the subdistricts. There is the possibility of fishing in June for chum salmon if the Chinook salmon run is projected to reach escapement goals with no additional subsistence fishing closures. The department will switch to coho salmon management in late July and a commercial fishery is expected.

Timing and abundance of the Chinook salmon run will be monitored by department personnel by conducting interviews with subsistence fishermen, a new marine test fish project targeting Chinook salmon, and passage estimates from a tower located on the North River, an important Chinook salmon spawning tributary in the Unalakleet River drainage. The escapement goal range for the North River is 1,200–2,600 Chinook salmon and the aerial survey escapement goal range for the Unalakleet River and Old Woman River index area is 550–1,100 Chinook salmon. For a Chinook salmon directed commercial fishery to occur, the department must project an escapement of a minimum of 1,900 Chinook salmon past the North River tower.

A subsistence fishing schedule will be in effect beginning in mid-June in the Shaktoolik and Unalakleet Subdistricts to protect Chinook salmon. Beginning June 15, the subsistence fishing schedule in the marine waters of Shaktoolik and Unalakleet Subdistricts will be from 6:00 p.m. Monday until 6:00 p.m. Wednesday and from 6:00 p.m. Thursday until 6:00 p.m. Saturday, and the schedule in the Unalakleet River will be from 8:00 a.m. Monday until 8:00 p.m. Tuesday and from 8:00 a.m. Friday until 8:00 p.m. Saturday.

In the 2000s, the number of larger Chinook salmon reaching the spawning grounds has been in serious decline based on age and sex composition of fisheries harvests, and inriver test net and beach seine catches. To address these concerns subsistence gillnet mesh size will likely be restricted to no more than 6 inches in the Unalakleet River in late June through mid-July to conserve older, larger Chinook salmon. The department may need to restrict gillnet mesh size to 6 inches or less in the marine waters of both subdistricts in late June if the Chinook salmon run is poor. The Alaska Board of Fisheries approved a proposal to allow the use of 7-inch or smaller mesh size subsistence gillnets in order to conserve Chinook salmon in both subdistricts. This gillnet mesh size specification may be used instead of the 6-inch mesh size restriction in 2012. A subsistence gillnet closure will occur in both subdistricts and the Unalakleet River the first weekend of July if it is projected that the North River tower Chinook salmon passage will not exceed the lower end of the escapement goal range. However, if projections show the Chinook salmon escapement goal range will likely be met, then the subsistence fishing schedule will remain in effect through July 15 or until the escapement goal range is exceeded.

Chum and pink salmon directed commercial fishing periods are expected in July. The chum and pink salmon runs are expected to be average. In Shaktoolik and Unalakleet Subdistricts, the commercial chum and pink salmon fishery may occur only if it is determined there is a harvestable surplus of pink or chum salmon and that a directed pink or chum salmon commercial fishery will not have a significant impact on escapement or subsistence use of Chinook salmon, and no earlier than July 1 if either gillnet mesh-size or subsistence fishing time are restricted in the Chinook salmon subsistence fishery. If early projections show sufficient Chinook numbers caught in the test net and sufficient passage at the North River tower then a restricted mesh commercial opening for chum salmon is possible in June. If Chinook salmon escapements are lagging, then other salmon directed fisheries may need to be delayed to minimize Chinook salmon harvest. Chum salmon directed fishing periods will have gear restricted to a maximum mesh size of 6 inches and pink salmon directed fishing periods will have gear restricted to a maximum mesh size of 4 ½ inches. If there is sufficient run strength, coho salmon commercial fishing openings will continue to occur as they have been in recent years. The coho season is considered to begin July 25. Coho gear will be restricted to a maximum mesh size of 6 inches and the regular 48-hour periods will be in effect if there are no escapement concerns.

PORT CLARENCE DISTRICT

A commercial fishery for sockeye salmon is not expected to occur in the Port Clarence District. The sockeye salmon run is not expected to reach the inriver goal of 30,000 fish in Pilgrim River. However, if the run is projected to reach 30,000 sockeye salmon in Pilgrim River and a market is available then commercial fishing time will be allowed.

Subsistence salmon fishing permits are required for the Port Clarence District, Pilgrim River drainage and Salmon Lake. Catch limits are listed on subsistence permits and in Table 2.

The sockeye salmon run in the Pilgrim River crashed in 2009 with only 953 fish through the weir after the previous 6 years had record passage from 20,452 to 85,417 sockeye salmon. The sockeye salmon run was only 1,654 fish in 2010, but the escapement improved in 2011 (8,449) and based on the 2011 escapement and sockeye salmon smolt outmigration data the department expects the 2012 run to improve compared to the previous three years. The department will compare the 2012 run with historical escapement counts at the weir and subsistence fishing restrictions may be necessary the second week of July if the run is weak.

TABLES AND FIGURES

Table 1.—Commercial salmon catches by species, Norton Sound District, 1961–2011.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1961	5,300	35	13,807	34,327	48,332	101,801
1962	7,286	18	9,156	33,187	182,784	232,431
1963	6,613	71	16,765	55,625	154,789	233,863
1964	2,018	126	98	13,567	148,862	164,671
1965	1,449	30	2,030	220	36,795	40,524
1966	1,553	14	5,755	12,778	80,245	100,345
1967	1,804	-	2,379	28,879	41,756	74,818
1968	1,045	-	6,885	71,179	45,300	124,409
1969	2,392	-	6,836	86,949	82,795	178,972
1970	1,853	-	4,423	64,908	107,034	178,218
1971	2,593	-	3,127	4,895	131,362	141,977
1972	2,938	-	454	45,182	100,920	149,494
1973	1,918	-	9,282	46,499	119,098	176,797
1974	2,951	-	2,092	148,519	162,267	315,829
1975	2,393	2	4,593	32,388	212,485	251,861
1976	2,243	11	6,934	87,916	95,956	193,060
1977	4,500	5	3,690	48,675	200,455	257,325
1978	9,819	12	7,335	325,503	189,279	531,948
1979	10,706	57	31,438	167,411	140,789	350,401
1980	6,311	40	29,842	227,352	180,792	444,337
1981	7,929	56	31,562	232,479	169,708	441,734
1982	5,892	10	91,690	230,281	183,335	511,208
1983	10,308	27	49,735	76,913	319,437	456,420
1984	8,455	6	67,875	119,381	146,442	342,159
1985	19,491	166	21,968	3,647	134,928	180,200
1986	6,395	233	35,600	41,260	146,912	230,400
1987	7,080	207	24,279	2,260	102,457	136,283
1988	4,096	1,252	37,214	74,604	107,966	225,132
1989	5,707	265	44,091	123	42,625	92,811
1990	8,895	434	56,712	501	65,123	131,665
1991	6,068	203	63,647	0	86,871	156,789
1992	4,541	296	105,418	6,284	83,394	199,933
1993	8,972	279	43,283	157,574	53,562	263,670
1994	5,285	80	102,140	982,389	18,290	1,108,184
1995	8,860	128	47,862	81,644	42,898	181,392
1996	4,984	1	68,206	487,441	10,609	571,241
1997	12,573	161	32,284	20	34,103	79,141
1998	7,429	7	29,623	588,013	16,324	641,396
1999	2,508	0	12,662	0	7,881	23,051
2000	752	14	44,409	166,548	6,150	217,873
2001	213	44	19,492	0	11,100	30,849
2002	5	1	1,759	0	600	2,365
2003	12	16	17,058	0	3,560	20,646
2004	0	40	42,016	0	6,296	48,352
2005	151	280	85,255	0	3,983	89,669
2006	12	3	130,808	0	10,042	140,865
2007	19	2	126,115	3,769	22,431	152,336
2008	83	60	120,293	75,384	25,124	220,944
2009	84	126	87,041	17,364	34,122	138,737
2010	140	103	62,079	31,557	117,743	211,622
2011	185	369	58,917	7,141	110,555	177,167
Previous						
5-Yr Avg ^a	68	59	105,267		41,892	172,901
Previous						
10-Yr Avg ^b	72	68	69,192		23,500	105,639

^a 2006–2010

^b 2001–2010

Table 2.–Nome Subdistrict, Port Clarence District subsistence permit limits.

Nome Subdistrict

Sinuk River	500 salmon/family (no more than 100 chum, 60 coho, and 50 red)
Cripple River	300 pink salmon/family (no chum and 3 coho)
Penny River	300 pink salmon/family (no chum and 3 coho)
Nome River	500 salmon/family (no more than 60 chum, and 60 coho)
Snake River	400 salmon/family (no more than 60 chum, and 60 coho)
Eldorado River	500 salmon/family (no more than 200 chum, and 40 coho)
Flambeau River	500 salmon/family (no more than 200 chum, and 40 coho)
Bonanza River	400 salmon/family (no more than 100 chum, and 60 coho)
Solomon River	300 salmon/family (no more than 20 chum, and 20 coho)
Safety Sound/Bonanza Channel	400 salmon/family (no more than 100 chum, and 40 coho)
Marine Waters	750 salmon/family (no more than 400 chum, and 100 coho)

Norton Sound District from Cape Douglas to Rocky Point (outside the Nome Subdistrict)

Marine Waters	No catch limits
Fresh Waters	100 salmon /family (no more than 20 chum and 10 coho)

Golovin, Elim, Norton Bay, Shaktoolik and Unalakleet Subdistricts

Marine Waters & Fresh Waters - No catch limits

Port Clarence District

Marine Waters	No catch limits
Pilgrim River	500 salmon/family (no more than 3 king, 25 red & 3 coho)
Salmon Lake	Opened by emergency order only/100 salmon per family
Kuzitrin River	100 salmon/family (above the confluence of the Pilgrim River) – no more than 3 king & 3 coho.

Note: The waters of the Nome Subdistrict are subject to closures from June 15 to September 30. The Port Clarence District is outside the Nome Subdistrict area and, therefore, subsistence fishing can occur 7 days a week unless closed by an emergency order.

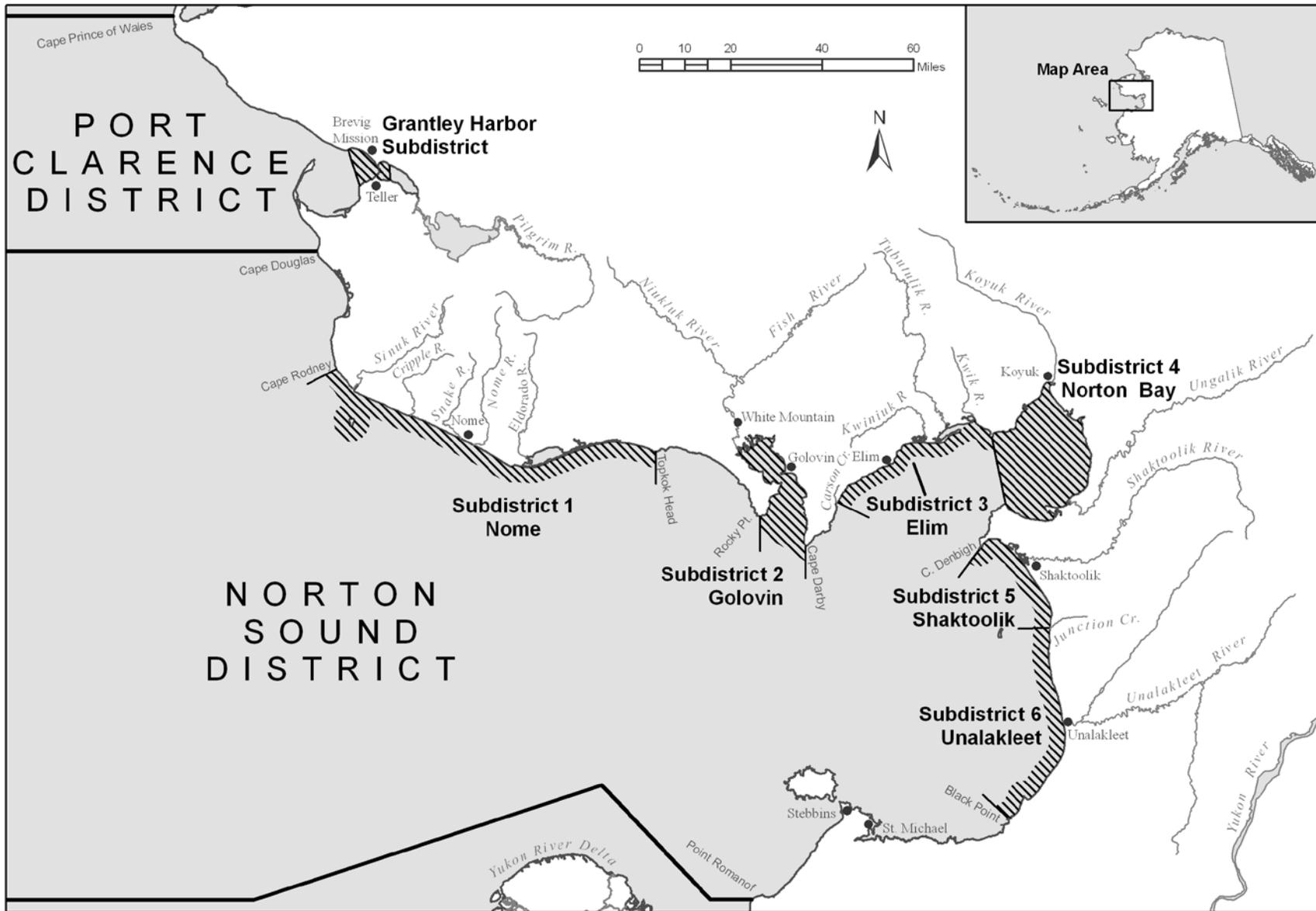


Figure 1.—Norton Sound District and Port Clarence District.

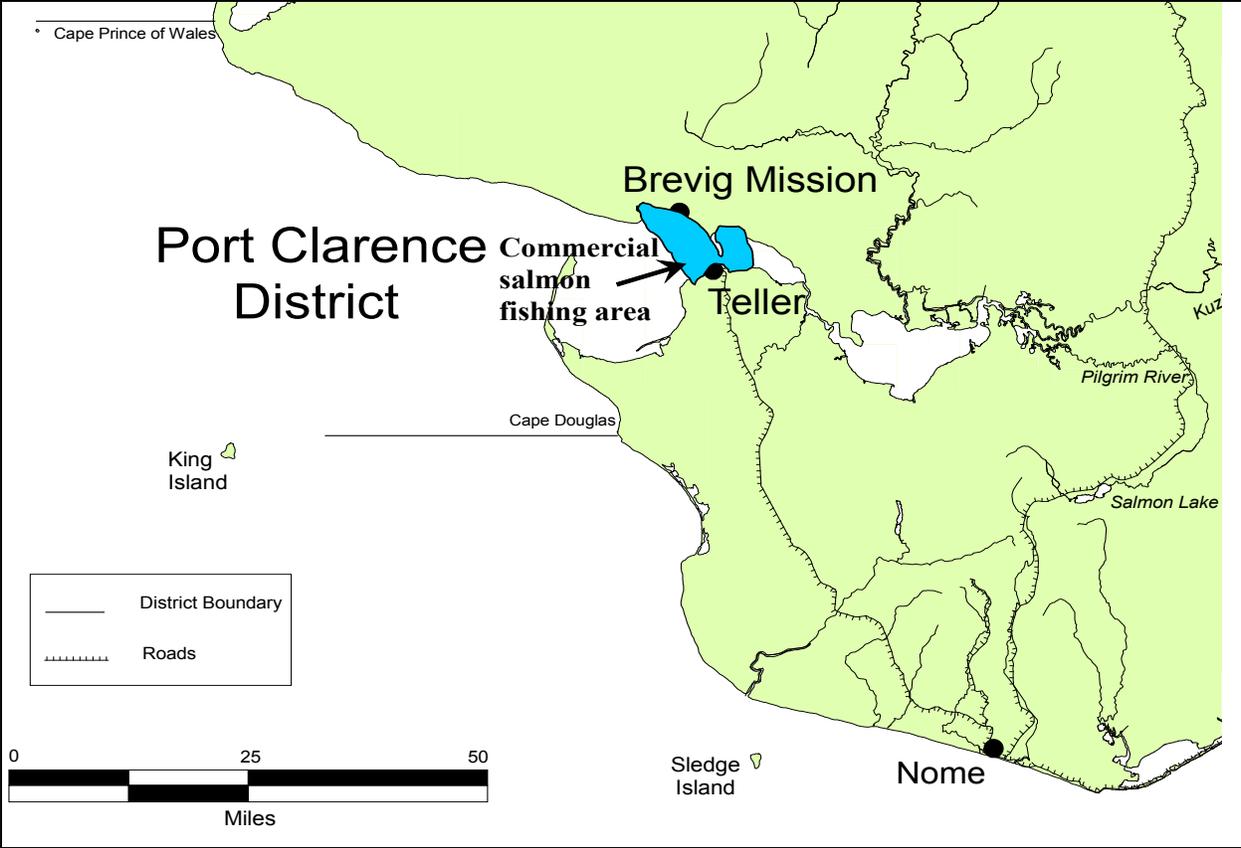


Figure 2.—Port Clarence District commercial salmon fishing area.