

**Regional Information Report No. 3A11-03**

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# **2011 Norton Sound Salmon Fisheries Management Plan**

by

**Jim Menard**

May 2011

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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.

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

### Weights and measures (English)

cubic feet per second	ft <sup>3</sup> /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

***REGIONAL INFORMANTION REPORT NO. 3A11-03***

**2011 NORTON SOUND SALMON FISHERIES MANAGEMENT PLAN**

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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.sf.adfg.ak.us/statewide/divreprots/html/intersearch.cfm>.

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## ABSTRACT

This management plan provides the expected run outlooks, management issues, and harvest strategies for Norton Sound salmon fisheries in 2011. 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 twenty-one interns to work on department projects and cooperative projects between NSEDC and ADF&G. Anticipated department management projects in 2011 include: Kwiniuk River counting tower; Niukluk River counting tower; Nome River weir; Sinuk River weir video project; 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.

## 2011 RUN OUTLOOK

Salmon outlooks and harvest projections for the 2011 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. Subsistence restrictions for Chinook salmon are expected again in southern Norton Sound. Chum salmon runs are expected to be above average, and more commercial fishing targeting chum salmon is expected. Buyer interest in chum salmon has been increasing in recent years and the harvest could be 90,000 to 120,000 fish and may easily surpass

last year's harvest of nearly 118,000 chum salmon which was the best harvest in 25 years. 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 above average for an odd-numbered year and if there is buyer interest the harvest could be 50,000 to 100,000 pink salmon. A harvest of this magnitude would be dependent on pink salmon directed fishing periods. However, with the expected good run of chum salmon, fishermen and the buyer will likely be targeting the more valuable chum salmon. The coho salmon run in 2011 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 because of an expected poor sockeye salmon run.

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 and that the chum salmon run will be above average. However, because of the expected poor run of sockeye salmon to the Pilgrim River the department plans to close the river to salmon fishing in early 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. 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 2011 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.

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 fishers 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 the 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 easily met in 2011 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 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 2011, but sockeye salmon escapement to Glacial Lake is expected to be below average.

Commercial fishing for chum salmon is closed by regulation in Nome Subdistrict, and commercial fishing for other salmon species is not expected to occur in 2011.

## **GOLOVIN SUBDISTRICT**

Low chum salmon runs have kept the Golovin Subdistrict closed to commercial chum salmon fishing for most of the 2000s, but the good commercial fishing chum salmon fishing in 2010 is expected to continue in 2011. The pink salmon run is expected to be above average and the coho salmon run is 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 fishing time are expected. In most years in the last decade the harvests of chum salmon have been less than 5% of the subdistrict run and the 2011 run is expected to surpass the escapement goal of 23,000 chum salmon past Niukluk River tower. Likewise, 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 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 2011. Subsistence permits are required when subsistence salmon fishing in the marine or fresh waters of 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 depending on market availability. The department expects commercial fishing would begin sometime after mid-June for chum salmon based on the expected above average run of chum salmon projected. 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. Commercial coho salmon openings are likely with an expected average run of coho salmon projected.

## **NORTON BAY SUBDISTRICT**

Commercial salmon fishing returned to the Norton Bay Subdistrict in 2008 after ten years without a buyer. Likewise in 2009 and 2010 commercial fishing occurred in the subdistrict. Previously, salmon markets had not been sufficient to attract interested fishermen or buyers. Existing inseason escapement monitoring indices and subsistence harvest indices for this subdistrict have not been available in previous year and the department used information from nearby subdistricts to determine if commercial fishing time was warranted. However, in 2011, NSEDC will operate 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. Chum, pink and coho salmon directed commercial fisheries are likely in 2011 if there is market interest. No subsistence restrictions are expected.

## **SHAKTOOLIK AND UNALAKLEET SUBDISTRICTS**

Shaktoolik and Unalakelet 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 in July. A chum salmon fishery would likely occur after June to allow more time for Chinook salmon to pass through the subdistricts. The department will switch to coho management in late July and a commercial fishery is expected.

Timing and abundance of the Chinook salmon run will be monitored by department personnel conducting interviews with subsistence fishermen and Chinook salmon passage estimates from a tower located on the North River, an important Chinook salmon spawning tributary in the Unalakelet 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 Unalakelet River and Old Woman River index area is 550-1,100 Chinook salmon. For a commercial fishery to occur, the department must project an escapement of a minimum of 1,900 Chinook salmon past the North

River tower. However, if the Chinook salmon run is as poor as expected, commercial fishing will not be allowed and subsistence fishing time may be suspended.

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 test net and beach seine catches. To address these concerns subsistence gillnet mesh size will likely be restricted to no more than six inches in the Unalakleet River in late June through mid-July to conserve older, larger Chinook salmon. Also, if the run is as poor as expected, the department may need to restrict gillnet mesh size to 6 inches or less in the marine waters of both subdistricts in late June. 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 2011. 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 by July 15.

Chum or pink salmon directed commercial fishing periods are expected in July. 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 Chinook salmon escapements are lagging then other salmon directed fisheries may need to be restricted 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 4.5 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 in-river goal of 30,000 fish in the Pilgrim River. Also, the lone buyer from previous years will no longer purchase salmon from Port Clarence.

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 after the previous six years had record passage through the Pilgrim River weir ranging from 20,452 to 85,417 sockeye salmon. Likewise the sockeye salmon run crashed in 2010 and based on the 2010 run and sockeye salmon smolt outmigration data the department expects to 2011 run to be poor. The department will compare the 2010 run with escapement counts from the last few years at the weir and subsistence fishing restrictions are expected in Pilgrim River after July 4.

## **TABLES AND FIGURES**

Table 1.—Commercial salmon catches by species, Norton Sound District, 1961–2010.

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
Recent 5-year						
Average <sup>a</sup>	70	94	109,902		19,140	148,510
Long-term						
Average <sup>b</sup>	4,581	118 <sup>c</sup>	36,878		88,946	230,174

<sup>a</sup> 2005-2009    <sup>b</sup> 1961-2009    <sup>c</sup> 1961-1966, and 1975-2009

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

Nome Subdistrict

Sinuk River	500 salmon/family (no more than 40 chum, 40 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 40 chum, and 40 coho)
Snake River	400 salmon/family (no more than 40 chum, and 40 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 40 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 300 chum, and 40 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 boundary and, therefore, subsistence fishing can occur 7 days a week unless closed by an emergency order.

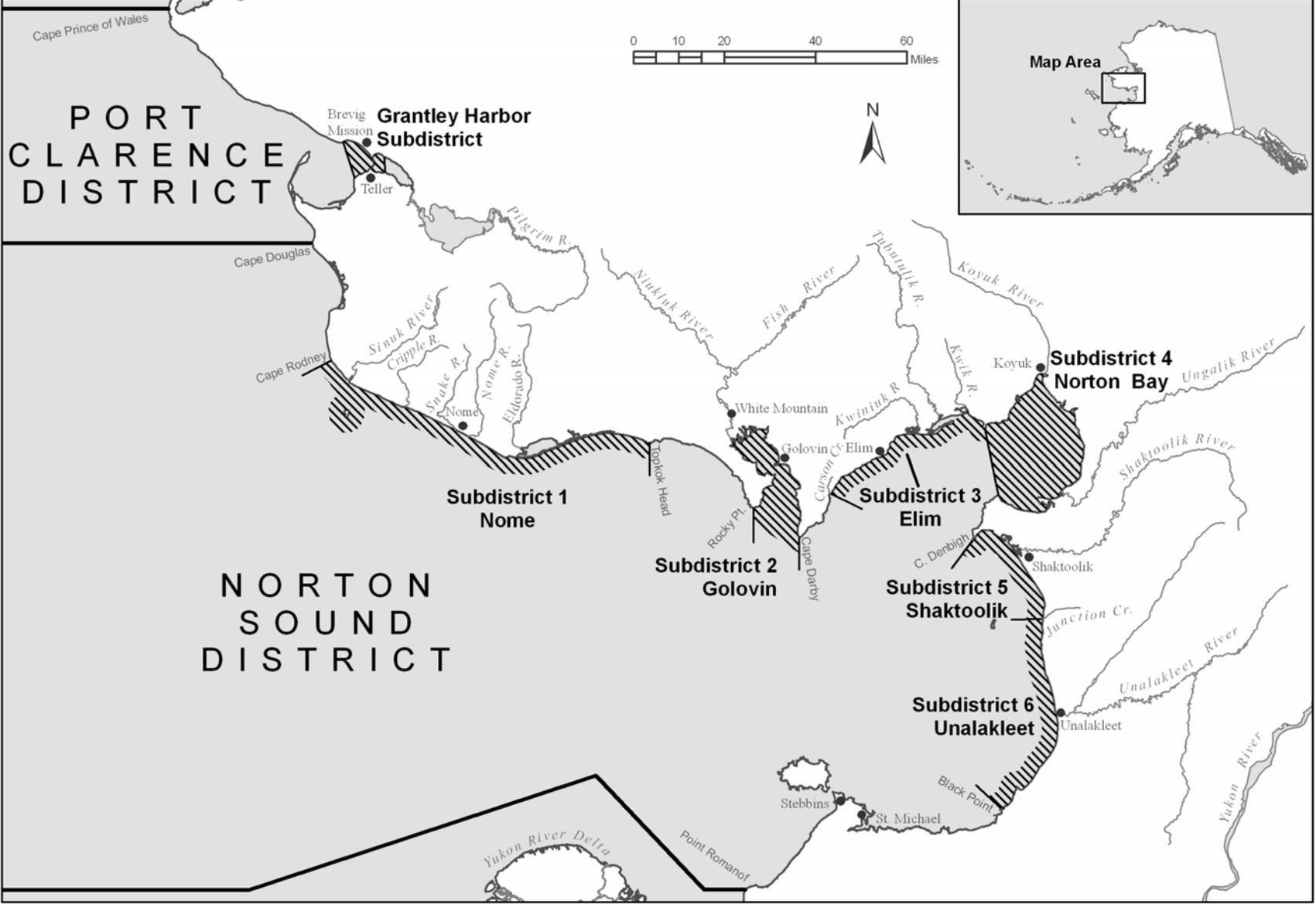


Figure 1.—Norton Sound District and Port Clarence District.

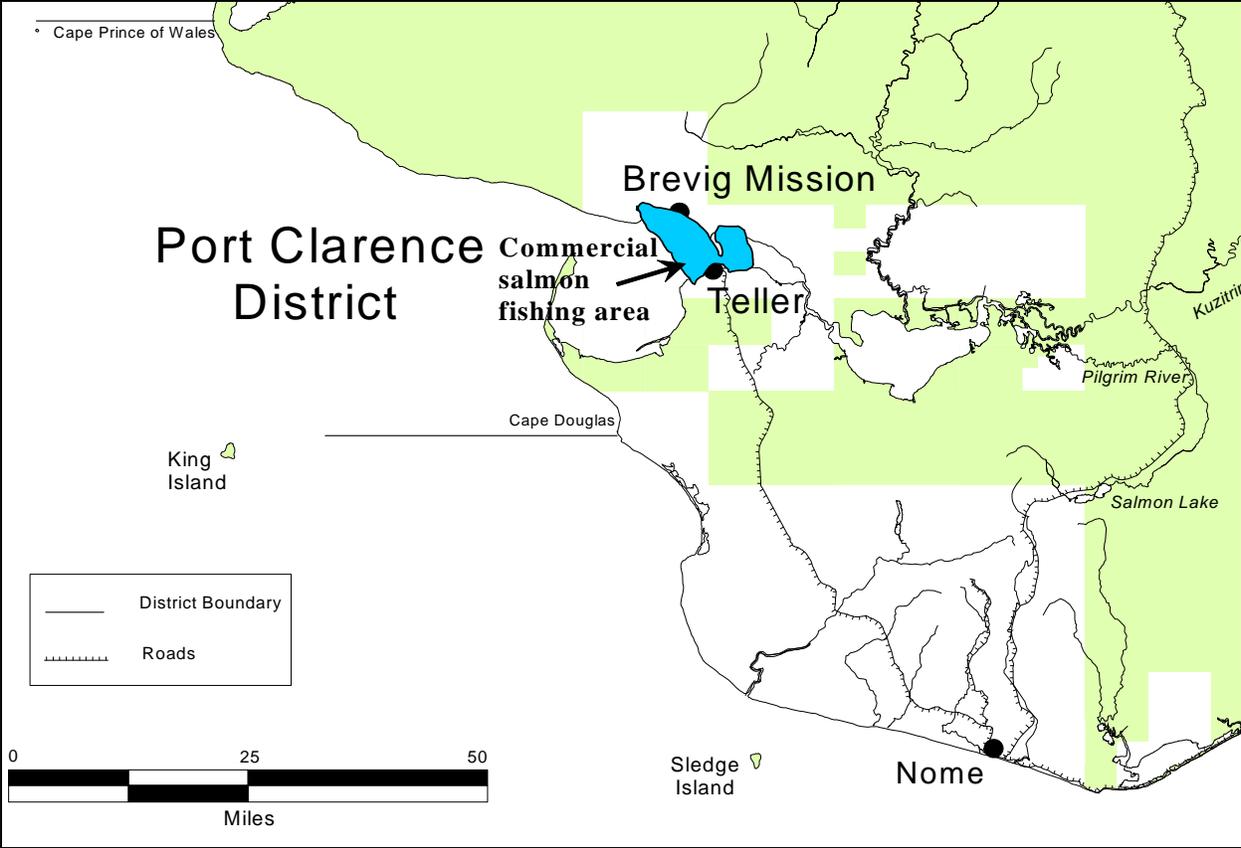


Figure 2.—Port Clarence District commercial salmon fishing area.