

**Fishery Management Report No. 09-13**

---

---

**North Alaska Peninsula Salmon Management Plan,  
2009**

by

**Robert L. Murphy**

and

**Trent G. Hartill**

April 2009

---

---

Alaska Department of Fish and Game

Divisions of Sport Fish and 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, and Special Publications. 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	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	<b>Mathematics, statistics</b>	
meter	m	south	S	<i>all standard mathematical signs, symbols and abbreviations</i>	
milliliter	mL	west	W	alternate hypothesis	H <sub>A</sub>
millimeter	mm	copyright	©	base of natural logarithm	<i>e</i>
		corporate suffixes:		catch per unit effort	CPUE
<b>Weights and measures (English)</b>		Company	Co.	coefficient of variation	CV
cubic feet per second	ft <sup>3</sup> /s	Corporation	Corp.	common test statistics	(F, t, $\chi^2$ , 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	<i>E</i>
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
<b>Time and temperature</b>		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 <sub>2</sub> , 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 <sub>0</sub>
second	s			percent	%
				probability	P
<b>Physics and chemistry</b>				probability of a type I error (rejection of the null hypothesis when true)	$\alpha$
all atomic symbols				probability of a type II error (acceptance of the null hypothesis when false)	$\beta$
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				

***FISHERY MANAGEMENT REPORT NO. 09-13***

**NORTH ALASKA PENINSULA SALMON MANAGEMENT PLAN, 2009**

by

Robert L. Murphy

Alaska Department of Fish and Game, Division of Commercial Fisheries, Kodiak

and

Trent G. Hartill

Alaska Department of Fish and Game, Division of Commercial Fisheries, Kodiak

Alaska Department of Fish and Game  
Division of Sport Fish, Research and Technical Services  
333 Raspberry Road, Anchorage, Alaska, 99518-1565

April 2009

The Fishery Management Reports series was established in 1989 by the Division of Sport Fish for the publication of an overview of management activities and goals in a specific geographic area, and became a joint divisional series in 2004 with the Division of Commercial Fisheries. Fishery Management Reports are intended for fishery and other technical professionals, as well as lay persons. Fishery Management Reports are available through the Alaska State Library and on the Internet: <http://www.sf.adfg.state.ak.us/statewide/divreports/html/intersearch.cfm>. This publication has undergone regional peer review.

*Robert L. Murphy,  
Alaska Department of Fish and Game, Division of Commercial Fisheries,  
211 Mission Road, Kodiak, AK 99615, USA*

*Trent G. Hartill,  
Alaska Department of Fish and Game, Division of Commercial Fisheries,  
211 Mission Road, Kodiak, AK 99615, USA*

*This document should be cited as:*

*Murphy, R. L., and T. G. Hartill. 2009. North Alaska Peninsula salmon management plan, 2009. Alaska Department of Fish and Game, Fishery Management Report 09-13, 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 Road, Anchorage AK 99518 (907) 267-2375.

# TABLE OF CONTENTS

	<b>Page</b>
LIST OF TABLES.....	ii
LIST OF FIGURES.....	ii
LIST OF APPENDICES.....	ii
ABSTRACT.....	1
INTRODUCTION.....	1
GPS COORDINATES AND ENFORCEMENT.....	2
FISHERY ANNOUNCEMENTS.....	2
CATCH REPORTING.....	2
RECENT REGULATION CHANGES.....	3
NORTH ALASKA PENINSULA MANAGEMENT STRATEGY.....	4
Northwestern District.....	4
Dublin Bay Section.....	4
Urilia Bay Section.....	4
Swanson Lagoon Section.....	4
Bechevin Bay Section.....	4
Izembek-Moffet Bay Section.....	4
Northern District.....	5
Black Hills Section.....	5
Nelson Lagoon Section.....	5
Herendeen-Moller Bay Section.....	6
Port Moller Bight Section.....	6
Bear River and Three Hills Sections.....	6
Ilnik Section.....	8
Inner Port Heiden, Outer Port Heiden, and Cinder River Sections.....	10
BEAR RIVER TEST FISHERY.....	11
REFERENCES CITED.....	12
FIGURES.....	13
APPENDIX A. SCHEDULED NORTH ALASKA PENINSULA FISHING PERIODS.....	19

## LIST OF TABLES

<b>Table</b>	<b>Page</b>
1. Nelson River weir sockeye salmon escapement interim objectives. ....	5
2. Bear River sockeye salmon escapement interim objectives. ....	7
3. Sandy River sockeye salmon escapement interim objectives. ....	7
4. Sockeye salmon stocks used to manage five sections in the Northern District. ....	8
5. Ilnik River sockeye salmon escapement interim objectives if Ocean River flows into Ilnik River. ....	9
6. Ocean River aerial survey sockeye salmon escapement interim objectives if Ocean River flows directly into the Bering Sea. ....	9
7. Ilnik River sockeye salmon escapement interim objectives if Ocean River flows directly into the Bering Sea. ....	10

## LIST OF FIGURES

<b>Figure</b>	<b>Page</b>
1. Map of the Alaska Peninsula with North Alaska Peninsula commercial salmon fishing districts . ....	14
2. Map of the Alaska Peninsula with North Alaska Peninsula commercial salmon fishing sections. ....	15
3. Map of the Alaska Peninsula regional office and North Alaska Peninsula weir locations. ....	16
4. Map of the Area M and Area T overlap area with the portion of the Outer Port Heiden Section opened to commercial salmon fishing. ....	17

## LIST OF APPENDICES

<b>Appendix</b>	<b>Page</b>
A1. Scheduled North Alaska Peninsula fishing periods as described in regulations. ....	20

## ABSTRACT

The 2009 projected North Alaska Peninsula salmon harvest is 3,077,000 fish, comprised of 7,000 Chinook *Oncorhynchus tshawytscha*, 2,800,000 sockeye *O. nerka*, 70,000 coho *O. kisutch*, 50,000 pink *O. gorbuscha*, and 150,000 chum *O. keta*. The bulk of the salmon harvest is projected to occur in the Northern District from the Nelson Lagoon Section to the Outer Port Heiden Section. The predominant gear type used in the North Alaska Peninsula is drift gillnet and set gillnet, though purse seine is a legal gear type in some areas. In 2009, salmon enumeration weirs on the Nelson, Bear, Sandy, and Ilnik rivers will be used to facilitate inseason escapement assessment.

Key words: Area M, North Alaska Peninsula, Nelson Lagoon, Bear River, Three Hills, Ilnik, Port Heiden, salmon, commercial fisheries, management plan, MP, Chinook salmon, *Oncorhynchus tshawytscha*, sockeye salmon, *O. nerka*, coho salmon, *O. kisutch*, pink salmon, *O. gorbuscha*, chum salmon, *O. keta*, drift gillnet, set gillnet, purse seine

## INTRODUCTION

The purpose of this document is to provide commercial salmon fishermen and buyers with information and guidelines that will be used by the Alaska Department of Fish and Game (ADF&G) to manage the commercial salmon fisheries of the North Alaska Peninsula during 2009.

The North Alaska Peninsula, a portion of the Alaska Peninsula Management Area (Area M), consists of the Northern and Northwestern districts and encompasses Bering Sea coastal waters from Cape Menshikof to Cape Sarichef (Figure 1). The Northern District includes all state waters between the westernmost tip of Cape Menshikof and the southernmost tip of Moffet Point. The Northwestern District includes all state waters between Moffet Point and Cape Sarichef on Unimak Island. Five species of salmon are commercially harvested on the North Alaska Peninsula: Chinook *Oncorhynchus tshawytscha*, sockeye *O. nerka*, coho *O. kisutch*, pink *O. gorbuscha*, and chum *O. keta* salmon.

The Cinder River Section, Inner Port Heiden Section, and Ilnik Lagoon comprise an overlap area described under 5 AAC 39.120 (d) where both Area M (Alaska Peninsula and Aleutian Islands) and Area T (Bristol Bay) permit holders may fish under certain conditions (Figure 2). Area M permit holders may fish during open fishing periods in all of the above locations. Area T permit holders may only fish in the Cinder River and Inner Port Heiden sections from May 1 through June 30, and after July 31 during open fishing periods. Area T permit holders may also fish in Ilnik Lagoon beginning August 1 during open fishing periods.

The 2009 North Alaska Peninsula projected commercial salmon harvest is not considered a formal forecast and is based on a 5-year average of recent harvests and general trends. The 2009 North Alaska Peninsula commercial salmon harvest is projected to be approximately 3,077,000 fish, of which 7,000 are expected to be Chinook salmon, 2,800,000 sockeye salmon, 70,000 coho salmon, 50,000 pink salmon, and 150,000 chum salmon. The 2009 projected sockeye salmon harvest is about 25% above the 2008 actual harvest of 2,329,442 fish. The actual harvest of other species is directly related to market conditions and tend to vary each year. For example, there is often a harvestable surplus of coho available in the fall; however, the lack of processor interest or other viable marketing avenues frequently preclude a targeted harvest effort on some stocks.

Formal forecasts are prepared for the Nelson Lagoon and late Bear River sockeye salmon runs. The 2009 Nelson River total sockeye salmon run is forecasted to be 420,000 fish (range 224,000-615,000 fish) with a harvest of 270,000 sockeye salmon (Volk et al. *in prep*). The 2009 Nelson River sockeye salmon run is expected to be 129,000 fish less than the recent 10-year average run (549,000) and about 95,000 fish more than the actual 2008 run of 325,000 fish. The late Bear

River (post July 31) total sockeye salmon run is forecasted to be 792,000 fish (range 535,000-1,049,000 fish) with a forecasted harvest of 675,000 sockeye salmon (Volk et al. *in prep*).

## **GPS COORDINATES AND ENFORCEMENT**

The ADF&G and the Alaska Department of Public Safety use global positioning system (GPS) technology to identify districts, sections, closed waters, and regulatory fishing coordinates published in regulations or emergency orders. GPS is based on the North American 1983 datum.

## **FISHERY ANNOUNCEMENTS**

The Northern District will be managed from the Port Moller ADF&G office, while the Northwestern District will be managed from the Cold Bay ADF&G office. Management staff can be reached by SSB 3.230 MHz or over VHF channel 72 in Port Moller or by SSB 3.230 MHz or over VHF channel 6 in Cold Bay and through the following contacts:

### **Port Moller:**

Alaska Dept. of Fish & Game  
Phone (907) 375-2716  
Fax (907) 375-2715  
SSB 3.230 MHz  
robert.murphy@alaska.gov  
trent.hartill@alaska.gov

### **Cold Bay:**

Alaska Dept. of Fish & Game  
Phone (907) 532-2419  
Fax (907) 532-2470  
SSB 3.230 or 3.260 MHz  
aaron.poetter@alaska.gov

In season emergency orders and news releases will be made available to the industry and the public by one or more of the following methods:

- Communicated directly to the local buyers/processors and fishermen via fax, email, or verbally.
- Transmitted over one or more of the following radio frequencies: SSB 3.230 MHz and VHF 72 in Port Moller or VHF 6 in Cold Bay.
- News releases will be displayed at several places in Port Moller and at ADF&G offices in Port Moller, Cold Bay and Sand Point.
- In Port Moller and Cold Bay after business hours at the phone number listed above using recorded messages.

When possible, ADF&G will give a minimum of six hours advance notice of commercial fishing openings when established by emergency order. However, there may be times when less than six hours notice is given for a commercial fishery opening/closure/extension. Emergency orders, new releases, and catch reports will also be updated on the Westward Region web site located at: [www.cf.adfg.state.ak.us/region4/rgn4home.php](http://www.cf.adfg.state.ak.us/region4/rgn4home.php)

## **CATCH REPORTING**

Buyers/processors must report their salmon purchases by location, species (in both numbers of fish and pounds; 5 AAC 39.130), and number of deliveries **by 8:30 AM the day after delivery**. Reports are made to the ADF&G in Port Moller for harvests in the Northern District, and to ADF&G in Cold Bay for harvests in the Northwestern District. According to 5 AAC 39.010, a person engaged in commercial fishing may retain finfish from lawfully taken commercial catch for that person's own use, including for the use as bait in a commercial fishery. Finfish retained under this section may not be sold or bartered and must be reported on a fish ticket (5 AAC 39.010).

When purchasing salmon, the buyer must complete fish tickets showing the statistical area where the fish were harvested. The harvest location may be different than the area where the delivery occurred. Fish tickets must be sent to the appropriate ADF&G office in Port Moller or Cold Bay within seven (7) days of the delivery (5 AAC 39.130 (c)). The following addresses should be used:

**Port Moller:**

Alaska Dept. of Fish & Game  
P.O. Box 163  
Port Moller, AK 99571-8999  
Phone (907) 375-2716  
Fax (907) 375-2715

**Cold Bay:**

Alaska Dept. of Fish & Game  
P.O. Box 50  
Cold Bay, AK 99571  
Phone (907) 532-2419  
Fax (907) 532-2470

## **RECENT REGULATION CHANGES**

There are no new regulation changes for 2009. However, pertinent changes that occurred at the February, 2007 Board of Fisheries meeting are shown below.

1. In the Northwestern District, the commercial salmon fishing season is from June 1 to September 30 except in the Dublin Bay Section where the commercial fishing season is from July 10 until September 30.
2. In the Northwestern District, from September 1 through September 30, salmon may be taken only during fishing periods established by emergency order.
3. In the Uria Bay and Bechevin Bay sections, most commercial salmon fishing periods are open by emergency order only. While in the Izembek-Moffet Bay, Dublin Bay, and Swanson Lagoon sections, fishing periods are from 6:00 AM Monday to 6:00 PM Thursday through August after which openings are by emergency order.
4. The Ilnik Section, outside of the Ilnik Lagoon and the Seal Islands, may open to commercial salmon fishing on June 20.
5. Weekly fishing periods for the Ilnik Section inside of Ilnik Lagoon and the Seal Islands between June 20 and June 25 are from 6:00 AM Monday to 6:00 PM Wednesday to coincide with the weekly schedule in the Ilnik Section outside of the Ilnik Lagoon.
6. Management actions in the Ilnik Section may be taken for the conservation of Bear River sockeye salmon after August 15.
7. A portion of the Outer Port Heiden Section may open to commercial salmon fishing with drift gillnet gear only between June 20 and July 31 southwest of the line 158° 36.00' W long. Fishing periods are scheduled from 6:00 AM Monday to 6:00 PM Wednesday and will be based on Meshik River sockeye salmon run strength. Additional restrictions may be implemented if the commissioner closes that portion of the Egegik District specified in 5 AAC 06.359(c) for conservation of Ugashik River sockeye salmon stocks.
8. Two Commercial Fisheries Entry Commission (CFEC) set gillnet permit holders aboard a registered salmon fishing vessel may tow a second registered salmon fishing vessel with an aggregate length of legal gear on board.

# **NORTH ALASKA PENINSULA MANAGEMENT STRATEGY**

The North Alaska Peninsula salmon fisheries will be managed on the basis of catch-per-unit-effort (CPUE) abundance indicators, salmon abundance determined during ADF&G test fisheries, and escapement estimated by aerial surveys and weir counts. Scheduled weekly fishing periods during the open season are listed in Appendix A1 and in the 2007–2010 Commercial Finfish Regulations. When possible, the management of North Alaska Peninsula salmon fisheries will take into account processing requirements while maximizing harvest opportunity and ensuring escapement requirements.

## **NORTHWESTERN DISTRICT**

### **Dublin Bay Section**

Commercial salmon fishing periods in the Dublin Bay Section (Figure 2) will occur as scheduled in the Commercial Finfish Regulations and are summarized in Appendix A1.

### **Urilia Bay Section**

Commercial salmon fishing periods in the Urilia Bay Section (Figure 2) may open by emergency order if the sockeye salmon sustainable escapement goal (SEG) in Christianson Lagoon is likely to be met (25,000-50,000 fish; Honnold et al. 2007). Christianson Lagoon will be managed through July 31 based on sockeye salmon abundance and Peterson Lagoon will be managed through August 31 based on chum salmon abundance. The entire Urilia Bay Section will be managed based on coho salmon abundance in August and September.

### **Swanson Lagoon Section**

Sockeye and chum salmon stocks in the Swanson Lagoon Section (Figure 2) will be managed through August based on abundance estimates in Swanson Lagoon. The SEG for Swanson Lagoon was changed after the 2006 season to 6,000-16,000 sockeye salmon (Honnold et al. 2007). The section will be managed in September based on local coho salmon abundance determined from aerial surveys and commercial CPUE data.

### **Bechevin Bay Section**

The Bechevin Bay Section (Figure 2) will open concurrently with the Ikatán Bay Section (part of the South Peninsula) according to the South Unimak and Shumagin Islands June Salmon Management Plan (5 AAC 09.365 (b)). Post June, the Bechevin Bay Section will be managed based on the strength of local chum and pink salmon stocks. Fishing periods throughout the Bechevin Bay Section will be established by emergency order after June 30. The Bechevin Bay Section is the only area on the North Alaska Peninsula with a pink salmon SEG lower bound, which is 31,000 fish in even-numbered years and 1,600 fish in odd-numbered years (Honnold et al. 2007).

### **Izembek-Moffet Bay Section**

Typically chum salmon are the most abundant species found in the Izembek-Moffet Bay Section (Figure 2) through August, after which coho salmon become the predominant species. Management decisions will be based on aerial escapement surveys and CPUE data. If there is little or no market for chum salmon, and fishermen target local sockeye salmon producing systems, management decisions will be based on the sockeye salmon run strength to these systems.

## NORTHERN DISTRICT

### Black Hills Section

During June, the Black Hills Section (Figure 2) will be managed based on the strength of local Chinook salmon stocks. Management during July and early August will be based on the abundance of local sockeye salmon runs in the Black Hills Section. North Creek is the dominant sockeye salmon producing system in the Black Hills Section and has an SEG of 4,400-8,800 fish (Honnold et al. 2007). During late August and September, the Black Hills Section will be managed based on local coho salmon abundance and harvest effort.

### Nelson Lagoon Section

The Nelson River biological escapement goal (BEG) is 97,000 to 219,000 sockeye salmon (Table 1; Figure 3; Honnold et al. 2007). The Nelson Lagoon fishery will be managed based on interim escapement objectives at the Nelson River weir. Commercial salmon fishery harvests will also be used to evaluate run strength. Escapements may be increased if escapement quality is poor due to a high percentage of net-marked fish, high percentage of jack salmon (length  $\leq$  400 mm from mideye to fork of tail or age-1), or a low female to male sex ratio. The estimated number of female sockeye salmon in the escapement should comprise half the total escapement goal range by July 25 (50,000-110,000 female sockeye salmon).

Table 1.–Nelson River weir sockeye salmon escapement interim objectives.

Date	Escapement for period	Cumulative Escapement
30-Jun	30,000 - 60,000	30,000 - 60,000
5-Jul	20,000 - 45,000	50,000 - 105,000
10-Jul	20,000 - 50,000	70,000 - 155,000
15-Jul	15,000 - 30,000	85,000 - 185,000
20-Jul	10,000 - 25,000	95,000 - 210,000
25-Jul	2,000 - 9,000	97,000 - 219,000
Total	97,000 - 219,000	

The BEG range for Chinook salmon in the Nelson River system is 2,400-4,400 fish (Honnold et al. 2007). To provide adequate escapement for Chinook salmon in Nelson Lagoon, fishing periods through June 15 are limited in duration from 6:00 AM Monday to midnight Wednesday (Appendix A1). From June 16 to June 30, four fishing days per week may be allowed. Additional fishing time may be allowed if daily sockeye salmon catches are large or cumulative weir counts exceed interim objectives. However, if it is evident in June that the Chinook or sockeye salmon runs are weak, the number of fishing days will be reduced. The amount of effort directed at harvesting Chinook salmon in the fishery (e.g., mesh size of fishing gear used) will be considered when evaluating sockeye salmon escapement strategy.

During July, fishing time will be dependent upon sockeye salmon escapements and daily catches. If escapement data from the Nelson River weir cannot be determined due to high water events, then daily catch rates (primarily) and daily catch per boat (secondarily) will be used to evaluate run strength.

Beginning August 16, the Nelson Lagoon fishery is managed on coho salmon run strength. No more than three fishing days will be allowed per week unless coho salmon escapement in the

Nelson River is expected to exceed the SEG lower bound of 18,000 fish (Honnold et al. 2007), or if the fishing effort has minimal impact on achieving adequate escapement.

### **Herendeen-Moller Bay Section**

Prior to July 20, the Herendeen-Moller Bay Section (Figure 2) will be managed based on the abundance of chum and pink salmon stocks. Herendeen Bay pink salmon (especially during even-numbered years) will be harvested by emergency order after July 20, before significant numbers of chum salmon arrive. Management will be based on in-season escapement determined by aerial surveys and catch information.

### **Port Moller Bight Section**

The Port Moller Bight Section (Figure 2) will be managed based on the status of sockeye salmon escapement at the Bear River weir (Figure 3). Fishery openings and closures will be concurrent with the Bear River Section.

### **Bear River and Three Hills Sections**

The Bear River and Three Hills sections will be managed for each interim escapement objective and the season-ending escapement goal at Bear River (Table 2; Figures 2 and 3). The Bear River sockeye salmon escapement is divided into historic proportions of the early and late runs to account for both components of the Bear River run. The total season-ending goal in Bear River, including a post-weir estimate, is an SEG of 293,000-488,000 sockeye salmon by September 15 (Table 2; Honnold et al. 2007). The SEG range for the early run, from June 1 through July 31, is 176,000-293,000 sockeye salmon (Table 2). The escapement goal range for the late run, from August 1 through August 25 (when the weir is removed) is 87,000-165,000 sockeye salmon (Table 2). The post-weir objective of approximately 30,000 sockeye salmon is included in the Bear River late-run SEG of 117,000-195,000 fish (Table 2).

If one of the interim escapement objectives (Table 2) is not achieved, fishing in the Bear River and Three Hills sections will be curtailed until cumulative escapement objectives are reached. Sockeye salmon escapement during the July 26-31 period in excess of the 23,000 fish upper escapement objective will be applied to the first interim objective of the late-run escapement (August 1-5). However, no more than 15,000 fish from the early run shall be applied to the late-run escapement objective. This will aid the ADF&G in managing the late Bear River sockeye salmon run more effectively when the run is earlier than expected, or when the early run is large and exceeds interim escapement objectives.

The number of jack (length  $\leq$  400 mm mid eye to fork of tail or age-1) and net-marked sockeye salmon in the Bear River escapement is important when evaluating escapement quality. In normal years the number of jack salmon is less than 10% of the total run. If the number of jack sockeye salmon, on a daily basis or for the season, is above 10%, the escapement objective may be increased to compensate for the reduction in reproductive potential. If the number of net-marked salmon becomes excessive ( $>10\%$ ), the escapement objectives may be increased to preserve escapement quality.

Table 2.–Bear River sockeye salmon escapement interim objectives.

Date	Escapement for period	Cumulative escapement
Early-run component:		
15-Jun	4,000 - 8,000	4,000 - 8,000
20-Jun	11,000 - 22,000	15,000 - 30,000
25-Jun	15,000 - 25,000	30,000 - 55,000
30-Jun	30,000 - 60,000	60,000 - 115,000
5-Jul	30,000 - 50,000	90,000 - 165,000
10-Jul	25,000 - 35,000	115,000 - 200,000
15-Jul	15,000 - 30,000	130,000 - 230,000
20-Jul	10,000 - 20,000	140,000 - 250,000
25-Jul	20,000 - 20,000	160,000 - 270,000
31-Jul	16,000 - 23,000	176,000 - 293,000
Total early-run goal	176,000 - 293,000	
Late-run component:		
5-Aug	15,000 - 30,000	191,000 - 323,000
10-Aug	20,000 - 35,000	211,000 - 358,000
15-Aug	17,000 - 35,000	228,000 - 393,000
20-Aug	15,000 - 30,000	243,000 - 423,000
25-Aug	20,000 - 35,000	263,000 - 458,000
Total late-run objective	87,000 - 165,000	
Post-weir objective	30,000	
Total late-run goal	117,000 - 195,000	
Season total escapement goal	293,000 - 488,000	

The Sandy River sockeye salmon SEG is 34,000-74,000 fish (Table 3; Figure 3; Honnold et al. 2007). If weir counts at Sandy River are unavailable due to difficulties with the weir such as a high water event, aerial survey data will be used to estimate the escapement and manage the fisheries.

Table 3.–Sandy River sockeye salmon escapement interim objectives.

Date	Escapement for period	Cumulative escapement
20-Jun	2,000 - 3,000	2,000 - 3,000
25-Jun	4,000 - 8,000	6,000 - 11,000
30-Jun	7,000 - 17,000	13,000 - 28,000
5-Jul	8,000 - 19,000	21,000 - 47,000
10-Jul	5,000 - 13,000	26,000 - 60,000
15-Jul	3,000 - 7,000	29,000 - 67,000
20-Jul	3,000 - 4,000	32,000 - 71,000
25-Jul	2,000 - 3,000	34,000 - 74,000
Total	34,000 - 74,000	

Prior to July 21, the Three Hills Section will be managed based on Bear River, Sandy River, and Ilnik River sockeye salmon abundance (Table 4; Figures 2 and 3). If escapement objectives in the Bear or Sandy rivers are not being met, a portion of the Bear River Section may be closed

while the Three Hills Section may remain open. This strategy has been used successfully in the past to achieve escapement objectives while providing fishing opportunity and avoiding escapement surplus. If escapement into Ilnik and/or Ocean River (if Ocean River flows directly into the Bering Sea) is inadequate, and area closures in the Ilnik Section are not an effective conservation action, the fishery in the eastern portion of the Three Hills Section may be closed to provide additional protection for fish needed for escapement.

During June, management decisions regarding sockeye salmon may be conservative in the Bear River Section to protect Chinook salmon stocks in the King Salmon, Bear, and Sandy rivers. In August and September, management decisions in the Three Hills Section will consider the strength of Ilnik Lagoon coho salmon runs.

Table 4.–Sockeye salmon stocks used to manage five sections in the Northern District.

Section	Sockeye Salmon Stocks	
	Through July 20	After July 20
Nelson Lagoon	Nelson R.	Nelson R.
Bear River	Bear R., Sandy R.	Bear R., Sandy R.
Three Hills	Bear R., Sandy R., Ilnik R.	Bear R., Sandy R.
Ilnik		
SW of Unangashak Bluffs	Ilnik R., Ugashik R.	Bear R.
NE of Unangashak Bluffs	Ilnik R., Meshik R., Ugashik R.	Bear R.
Outer Port Heiden	Meshik R., Ugashik R.	Meshik R. (through July 31)

## Ilnik Section

In February 2007, the Alaska Board of Fisheries changed regulations in the Ilnik Section (Figures 2 and 4; 5 AAC 09.369 (j)). The change permits fishing in that portion of the Ilnik Section outside of Ilnik Lagoon as early as June 20. That portion of the Ilnik Section outside of the Ilnik Lagoon and southwest of Unangashak Bluffs will be managed based on Ilnik River sockeye salmon run strength through July 20 unless a management concern exists for Ugashik River sockeye salmon (Figure 2). The portion of the Ilnik Section northeast of Unangashak Bluffs to Strogonof Point will be managed based on Meshik River sockeye salmon run strength unless a management concern exists for Ilnik or Ugashik River sockeye salmon. Aerial surveys will be used to determine escapement into the Meshik River. Between July 20 and August 15, fishing time in the entire Ilnik Section will be based on Bear River sockeye salmon run strength. After August 15, local coho salmon run strength and CPUE will determine fishing time in the Ilnik Section unless a concern exists for Bear River late-run sockeye salmon.

The changes to regulation enacted by the 2007 Alaska Board of Fisheries were established to control the surplus escapement into the Ilnik and Meshik rivers. Between 2004 and 2006, the sockeye salmon escapement into the Ilnik River averaged 108,000 fish and was well above the SEG of 40,000-60,000 while the Meshik River averaged 119,800 sockeye salmon escapement between 2004 and 2006 and was well above the SEG of 10,000-20,000 fish. The Meshik River escapement goal was increased to an SEG of 20,000-60,000 sockeye salmon beginning in 2007

(Honnold et al. 2007). In 2004, 2.5 days of fishing per week was permitted northeast of Unangashak Bluffs to Strogonof Point because the impact of fishing in this area on Meshik River sockeye salmon stocks was unknown. During 2005 and 2006, the number of fishing days permitted was increased to a maximum of 4.5 days per week. During 2007, fishing was allowed in the Ilnik Section northeast of Unangashak Bluffs to Strogonof Point as early as June 20, and permitted for a maximum of 4.5 days per week. In 2008, a maximum of 4.5 days per week of fishing was allowed northeast of Unangashak Bluffs to Strogonof Point, and the fishery was closed due to weak early sockeye salmon runs. Ilnik River interim escapement objectives and season-ending goals are shown in Table 5.

Table 5.—Ilnik River sockeye salmon escapement interim objectives if Ocean River flows into Ilnik River.

Date	Escapement for period	Cumulative escapement
20-Jun	5,000 - 8,000	5,000 - 8,000
25-Jun	5,000 - 7,000	10,000 - 15,000
30-Jun	5,000 - 10,000	15,000 - 25,000
5-Jul	5,000 - 10,000	20,000 - 35,000
10-Jul	10,000	30,000 - 45,000
15-Jul	5,000	35,000 - 50,000
20-Jul	3,000 - 7,000	38,000 - 57,000
25-Jul	2,000 - 3,000	40,000 - 60,000
Total	40,000 - 60,000	

The sockeye salmon management objective for the Ocean River (Table 6) is based on aerial surveys when the river flows directly into the Bering Sea (not into the Ilnik River) as in 1972-1975, 1986-1987, and 2005-2008. When this occurs, many of the fish bound for Ocean River do not pass through the Ilnik River, and therefore do not pass the weir. For the years noted above, an average of about 20% of the total Ilnik River watershed escapement spawned in Ocean River. If the Ocean River were to flow directly into the Bering Sea during 2009, the Ocean River escapement objective would be subtracted from the Ilnik River escapement goal (Table 7). Because of the proximity of the Ocean River terminus to the Three Hills Section, management actions may be taken in the Three Hills Section to meet escapement objectives in Ocean River.

Table 6.—Ocean River sockeye salmon aerial survey escapement interim objectives if Ocean River flows directly into the Bering Sea.

Date	Cumulative number
15-Jun	1,000 - 1,600
20-Jun	2,000 - 3,000
25-Jun	3,000 - 5,000
30-Jun	4,000 - 7,000
5-Jul	6,000 - 9,000
10-Jul	7,000 - 10,000
15-Jul	7,600 - 11,400
20-Jul	8,000 - 12,000
Total	8,000 - 12,000

Table 7.-Ilnik River sockeye salmon interim escapement objectives if Ocean River flows directly into the Bering Sea.

Date	Escapement for Period	Cumulative escapement
20-Jun	4,000 - 6,400	4,000 - 6,400
25-Jun	4,000 - 5,600	8,000 - 12,000
30-Jun	4,000 - 8,000	12,000 - 20,000
5-Jul	4,000 - 8,000	16,000 - 28,000
10-Jul	8,000	24,000 - 36,000
15-Jul	4,000	28,000 - 40,000
20-Jul	3,000 - 5,600	30,400 - 45,600
25-Jul	2,000 - 3,000	32,000 - 48,000
Total	32,000 - 48,000	

### **Inner Port Heiden, Outer Port Heiden, and Cinder River Sections**

The Inner Port Heiden and Cinder River sections (Figure 2) will be managed on the basis of Chinook salmon abundance during May through mid June. The weekly fishing periods established in regulation can be adjusted in the Inner Port Heiden Section prior to June 20 to accommodate local markets (Appendix A1). Sockeye salmon abundance from mid June through July and coho salmon abundance after July will dictate fishing time in these sections. Beginning June 20, fishing time permitted in the portion of the Ilnik Section located northeast of Unangashak Bluffs (Figure 2) will be concurrent with fishing time in the Inner Port Heiden Section unless management concern exists for Ilnik or Ugashik river sockeye salmon and either interim or season-ending escapement goals appear likely not to be met. During every month except July, Area T permit holders may fish in the open waters of the Cinder River and Inner Port Heiden sections, and after July 31 in that portion of the Ilnik section within Ilnik Lagoon (5 AAC 39.120 (d)). The fishing season in that portion of the Cinder River Section outside of Shagong Lagoon (Cinder River Lagoon) cannot open earlier than August 1 (5 AAC 09.310 (a)(1)(B); Figure 4). Fishermen in the Cinder River Section are reminded that the following waters are closed to commercial salmon fishing under 5 AAC 09.350 (1) and (2):

Cape Menshikof: all waters of the Cinder River Section located north and east of a line extending 304° from a point on the shore at 57° 24.40' N. lat. 158° 03.00' W. long.

Cinder River Lagoon: all waters enclosed by a line from 57° 20.00' N. lat., 158°08.02' W. long., to 57° 21.30' N. lat., 158°02.63' W. long.

In February 2007, the Alaska Board of Fisheries opened that portion of the Outer Port Heiden Section southwest of the line 158° 36.00' W. long. to commercial salmon fishing between June 20 and July 31 (5 AAC 09.310 (a)(2)(B) and 5 AAC 09.350 (3)). Fishing time in the Outer Port Heiden Section will be based on Meshik River sockeye salmon abundance unless management actions are taken for the conservation of Ugashik River sockeye salmon in the Egegik District. Weekly fishing periods in the Outer Port Heiden Section are scheduled to be 2.5 days per week (Appendix A1).

## **BEAR RIVER TEST FISHERY**

During the 2009 season, the ADF&G may conduct a test fishery near the mouth of Bear River (Figure 3) to gauge the local marine abundance of sockeye salmon. The main objective of the test fishery is to decrease the likelihood of exceeding the Bear River escapement goal and to maximize the harvest opportunity on the Bear River sockeye salmon stock. The test fishery will occur during commercial fishing closures after build-ups of fish are expected (usually 3-5 days after a closure). The ADF&G management staff in Port Moller will assess the sockeye salmon abundance after each test fishery. Management decisions will incorporate all information available, including daily catch rates prior to the fishery closure, aerial survey estimates, daily escapement counts, and test fishery results. If salmon build-ups occur in the test fishery area, management actions may include opening the commercial fishery to provide harvest opportunities while providing a closed water area to protect milling Bear River bound sockeye salmon. In the past, the ADF&G has closed areas around Bear River to ensure escapement requirements were achieved while providing a harvest opportunity outside the closed area.

The ADF&G office in Port Moller will establish and maintain a list of permit holders willing to participate in the test fishery program. Enrollment will begin on May 15 and will continue until the first test fishing date. Enrollment can be completed in person, by phone, or over the radio. The permit holder must have at least five seasons of experience drift gillnet salmon fishing in the vicinity of Bear River, and each vessel must be able to chill the catch using refrigerated sea water.

All eligible names will be randomly chosen and a sequential list of charter vessels will be announced over the VHF radio and kept available at the ADF&G office in Port Moller. The sequential list will be maintained throughout the season. If the permit holder is unavailable to participate in the test fishery (permit holder cannot be contacted prior to 8:00 PM the day before the test fishery), the vessel will be moved to the bottom of the list and the next vessel on the list will be announced. Additional permit holders may enroll after the initial enrollment and drawing if additional test fish vessels are needed. However, these vessels will be placed at the end of the established list, in the order in which their enrollments are received.

Two chartered vessels will depart Port Moller in the morning of each test fishing day, and the vessel skippers will supply all necessary gear to make four sets at designated locations in the vicinity of Bear River. One vessel will fish north of the river mouth, and the other south of the river mouth. One ADF&G observer will be on board each vessel. The ADF&G will pay \$1,200 per day to charter each vessel. Proceeds from the sale of fish harvested in the ADF&G test fishery will be deposited in the ADF&G test fish fund to cover test fish expenses, including ADF&G personnel and equipment costs for salmon age, length, and sex data collection. Each vessel must meet requirements specified by the ADF&G as stated in the North Alaska Peninsula Sockeye Salmon Test Fishery Operational Plan 2009 (Murphy and Hartill *in prep*).

## REFERENCES CITED

- Honnold, S. G., M. J. Witteveen, I. Vining, H. Finkle, M. B. Foster, and J. J. Hasbrouck. 2007. Review of salmon escapement goals in the Alaska Peninsula Aleutian Islands Management Areas, 2006. Alaska Department of Fish and Game, Fishery Manuscript No. 07-02, Anchorage.  
<http://www.sf.adfg.state.ak.us/FedAidPDFs/fmr07-02.pdf>
- Murphy R. L., and T. G. Hartill. *In prep.* North Alaska Peninsula sockeye salmon test fishery operational plan, 2009. [*In*] Alaska Peninsula salmon operational plans, 2009. Alaska Department of Fish and Game, Regional Information Report, Kodiak.
- Volk, E., et al. *In prep.* Run forecasts and harvest projections for 2009 Alaska salmon fisheries and review of the 2008 season. Alaska Department of Fish and Game, Special Publication, Anchorage.

## **FIGURES**

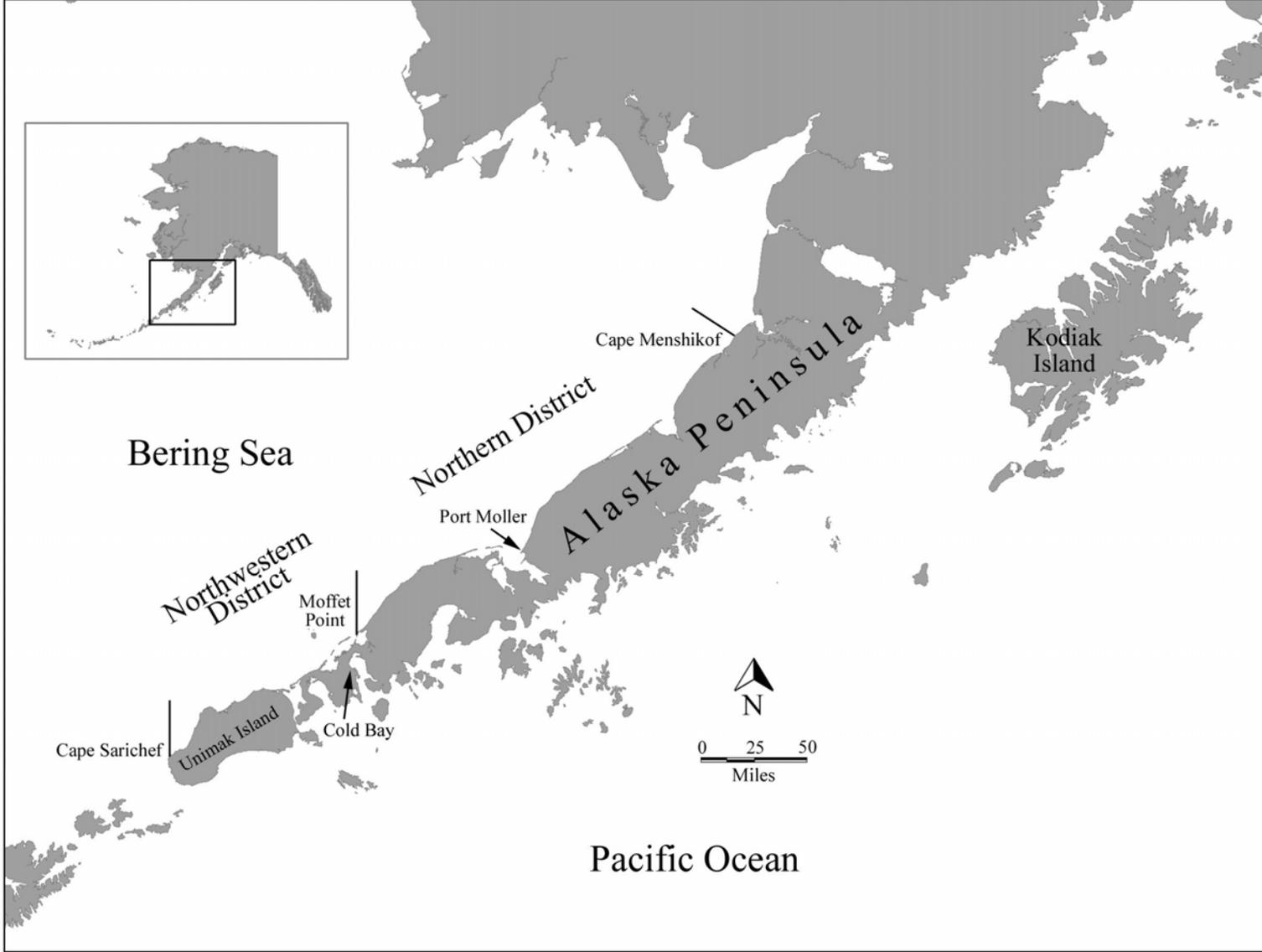


Figure 1.—Map of the Alaska Peninsula with North Alaska Peninsula commercial salmon fishing districts.

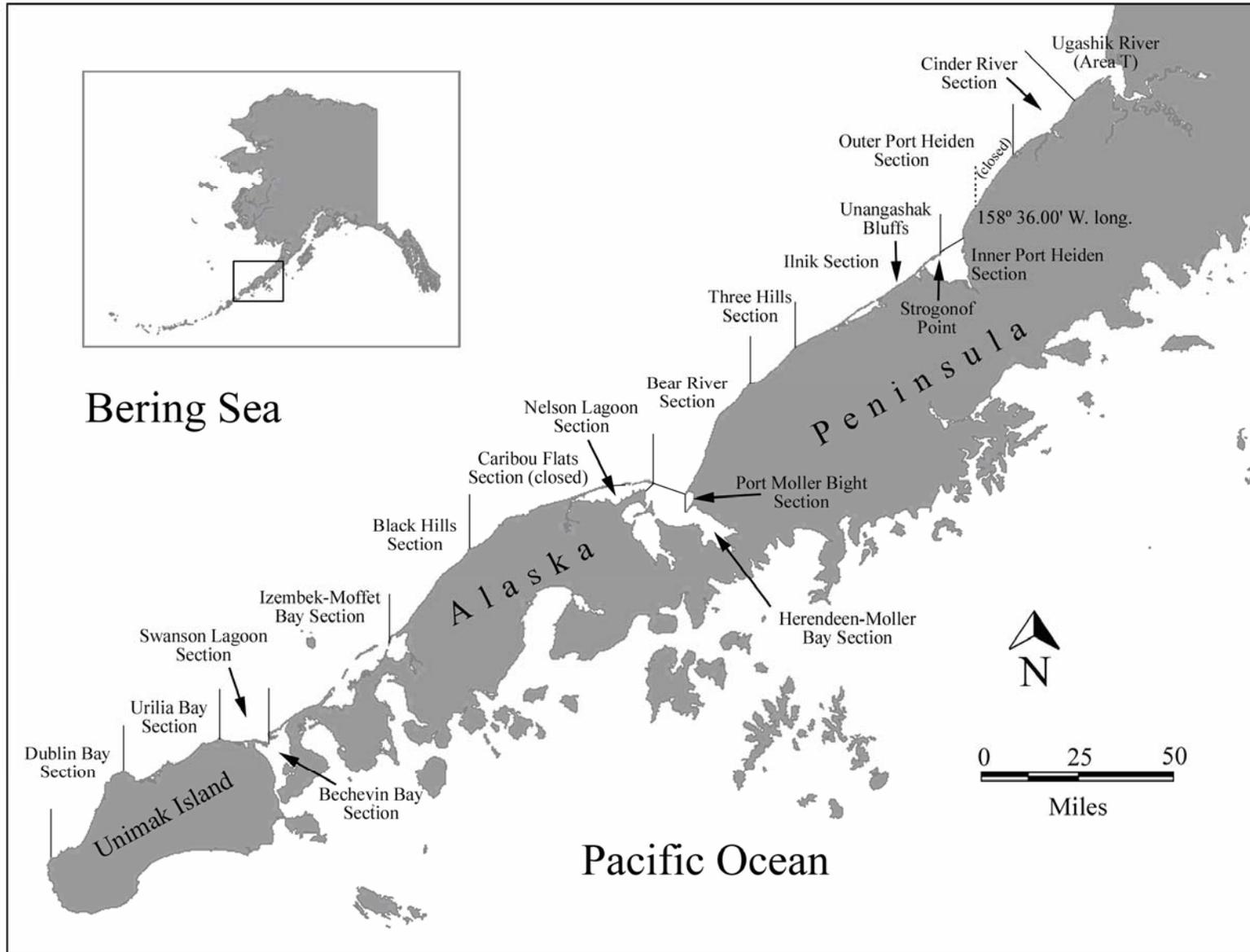


Figure 2.—Map of the Alaska Peninsula with North Alaska Peninsula commercial salmon fishing sections.

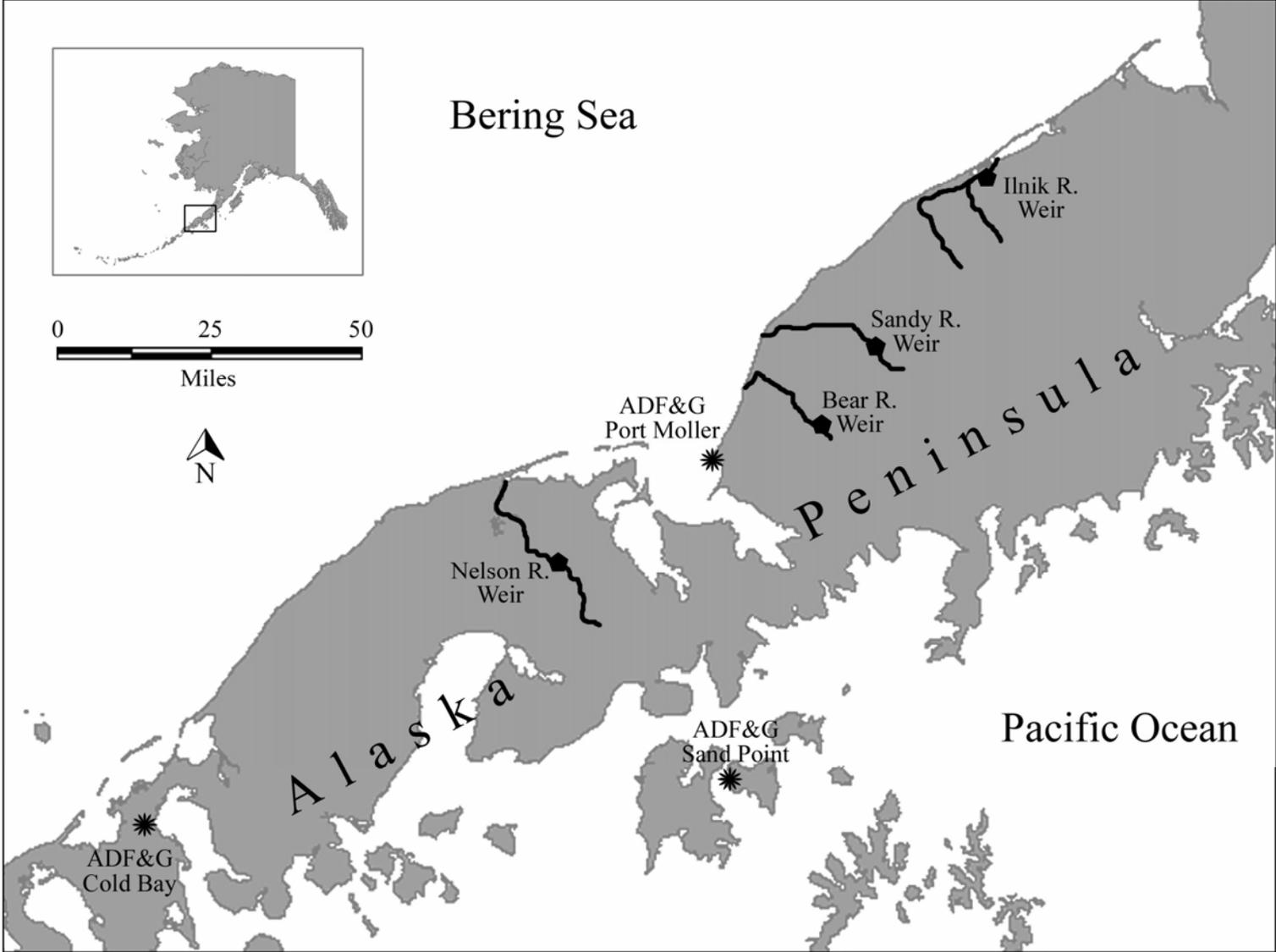


Figure 3.-Map of the Alaska Peninsula regional office and North Alaska Peninsula weir locations.

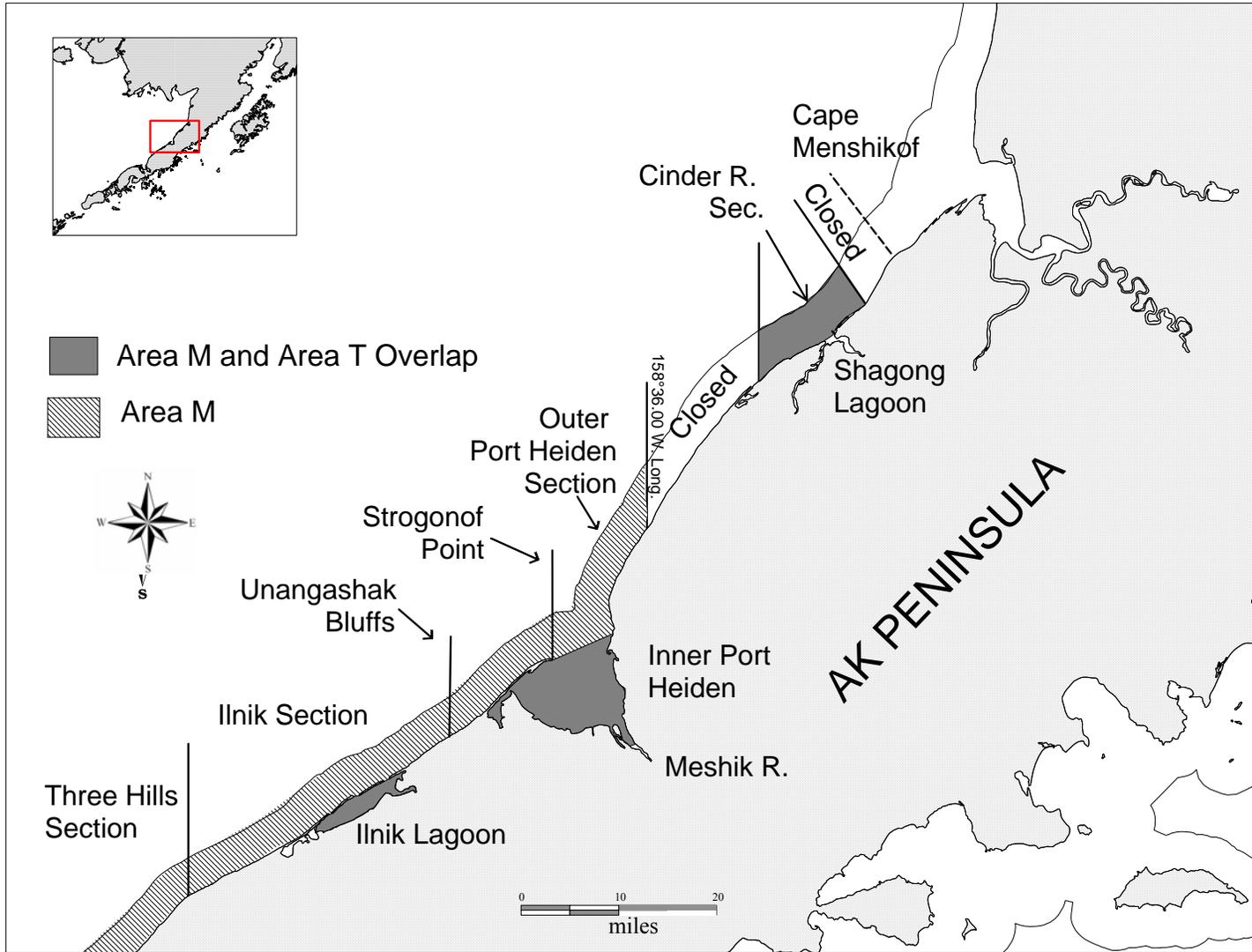


Figure 4.—Map of the Area M and Area T overlap area with the portion of the Outer Port Heiden Section opened to commercial salmon fishing.



**APPENDIX A. SCHEDULED NORTH ALASKA  
PENINSULA FISHING PERIODS**

Appendix A1.–Scheduled North Alaska Peninsula fishing periods as described in regulations.

Section	Open season	Scheduled fishing period
Cinder River		
Outside Shagong Lagoon	August 1 - September 30	6:00 AM Monday to 6:00 PM Wednesday
Inside Shagong Lagoon	May 1 - September 30	6:00 AM Monday to 6:00 PM Wednesday
Outer Port Heiden		
(SW of 158° 36.00' W. long.)	June 20 - July 31	6:00 AM Monday to 6:00 PM Wednesday
(NE of 158° 36.00' W. long.)	No open season	
Inner Port Heiden	May 1 - September 30	6:00 AM Monday to 6:00 PM Wednesday
Ilnik Section		
Southwest of Unangashak Bluffs (159° 10.25' W. long.) excluding Ilnik Lagoon and within the Seal Islands	June 20 - September 30	6:00 AM Monday to 6:00 PM Wednesday
Between Unangashak Bluffs (159°10.25' W. long.) to Strogonof Point (158° 50.45' W. long.).	June 20 - September 30	6:00 AM Monday to 6:00 PM Wednesday
Inside Ilnik Lagoon and within the Seal Islands	May 1 – June 19	NOON Monday to 11:59 PM Wednesday
Inside Ilnik Lagoon and within the Seal Islands	June 20 - September 30	6:00 AM Monday to 6:00 PM Wednesday
Three Hills	June 25 - June 30	6:00 AM Monday to 6:00 PM Wednesday
Three Hills	July 1 - September 30	6:00 AM Monday to 6:00 PM Thursday
Bear River	May 1 - June 30	6:00 AM Monday to 6:00 PM Wednesday
Bear River	July 1 - September 30	6:00 AM Monday to 6:00 PM Thursday

-continued-

Appendix A1.–Page 2 of 2.

Section	Open season	Scheduled fishing period
Port Moller Bight	May 1 - September 30	6:00 AM Monday to 6:00 PM Thursday
Herendeen-Moller Bay	May 1 - July 20	6:00 AM Monday to 6:00 PM Thursday
Nelson Lagoon	May 1 - June 15	6:00 AM Monday to MIDNIGHT Wednesday
	June 16 - August 15	6:00 AM Monday to MIDNIGHT Thursday
	August 16 - September 30	6:00 AM Monday to MIDNIGHT Wednesday
Caribou Flats	No open season	
Black Hills	May 1 - June 30	6:00 AM Monday to 6:00 PM Wednesday
	July 1 - September 30	6:00 AM Monday to 6:00 PM Thursday
Izembek-Moffet Bay	June 1 - August 31	6:00 AM Monday to 6:00 PM Thursday
	September 1 - September 30	by emergency order only
Swanson Lagoon	June 1 - August 31	6:00 AM Monday to 6:00 PM Thursday
	September 1 – September 30	by emergency order only
Urilia Bay <sup>a</sup>	June 1 – September 30	by emergency order only
Dublin Bay	July 10 - August 31	6:00 AM Monday to 6:00 PM Thursday
	September 1 – September 30	by emergency order only
Bechevin Bay	June 1 - September 30	by emergency order only

<sup>a</sup> In recent years, the fishing season in the Urilia Bay Section has been delayed until late June to obtain a substantial amount of sockeye salmon escapement before fishing begins.