

THE NORTH ALASKA PENINSULA  
SALMON REPORT

REPORT TO THE ALASKA BOARD OF FISHERIES



By

Robert L. Murphy  
Philip Tschersich  
and  
Kenneth A. Bouwens

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Alaska Department of Fish and Game  
Division of Commercial Fisheries  
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## ABSTRACT

The North Alaska Peninsula includes the waters of the Bering Sea of the Alaska Peninsula Management Area (Area M) within three miles of the shore from Cape Sarichef on Unimak Island to Cape Menshikof, which borders the Bristol Bay Management Area (Area T). The area is divided into two districts: the Northwestern and Northern Districts. Chinook salmon *Oncorhynchus tshawytscha*, sockeye salmon *O. nerka*, coho salmon *O. kisutch*, pink salmon *O. gorbuscha*, and chum salmon *O. keta* are harvested in commercial fisheries in the waters of the North Peninsula. The majority of the sockeye salmon harvest occurs from June through September in the Nelson Lagoon to Strogonof Point reach of the North Peninsula, which includes the Nelson Lagoon, Bear River, Three Hills, and Ilnik Sections. This area is predominately fished by drift and set gillnet gear, with some areas open to purse seine gear. The 2003 commercial salmon harvest on the North Peninsula was 4,545 chinook, 1,476,344 sockeye, 53,874 coho, 18,666 pink, and 39,177 chum salmon, all were below recent harvest averages.

The North Peninsula sockeye salmon escapement in 2003 was 1,231,411 fish; 343,511 were estimated at Nelson River, 366,000 in Bear River, 66,000 in Sandy River, 69,000 in Ilnik River, 114,000 in river systems draining into Port Heiden (of which 94,000 were in the Meshik River), and 88,700 in the Cinder River. Bear River is the largest sockeye salmon producing system in the Alaska Peninsula Management Area. Bear River has two sockeye salmon runs; the early run begins in early June and ends in the latter part of July, while the late run begins in late July and ends in September. Timing of the Nelson, Sandy, Ilnik, and Meshik River sockeye salmon runs are similar to the run timing of the Bear River early run.

## INTRODUCTION

The North Peninsula, which is part of the Alaska Peninsula Management Area (Area M), includes the state coastal waters of the Bering Sea from Cape Sarichef on Unimak Island northeast to Cape Menshikof which borders the Bristol Bay Management Area (Area T; Figure 1). This report describes those commercial salmon fisheries that are located on the North Peninsula which is subdivided into two districts: 1) the Northwestern District, which encompasses the coastal waters from Cape Sarichef to Moffet Point, and 2) the Northern District, which ranges from Moffet Point to Cape Menshikof. Chinook salmon *Oncorhynchus tshawytscha*, sockeye salmon *O. nerka*, coho salmon *O. kisutch*, pink salmon *O. gorbuscha*, and chum salmon *O. keta* are all harvested in commercial fisheries in the waters of the North Peninsula; however, sockeye salmon are the most economically valuable.

Legal commercial salmon fishing gear in the Northwestern and Northern Districts include purse seine (also hand purse seine) and drift and set gillnet gear (ADF&G 2001). The majority of the salmon harvest occurs in the Northern District, specifically within the area from Nelson Lagoon to Strogonof Point (Figure 2). Within this area, many gear restrictions apply: the Nelson Lagoon Section is open to set gillnet and drift gillnet gear only, the Bear River Section to seine and drift gillnet gear, the Three Hills Section to drift gillnet gear only, and the Ilnik Section to set gillnet and drift gillnet gear.

The commercial salmon fishing season opens in most of the Northwestern District on June 1, and in parts of the Northern District on May 1. Generally, the sections of the Northern District have progressively later opening dates from west to east. Scheduled weekly fishing periods occur in most areas and are usually either 6:00 AM Monday to 6:00 PM Wednesday (2.5 days/week) or 6:00 AM Monday to 6:00 PM Thursday (3.5 days/week; Table 1). Modifications to weekly fishing periods occur inseason by emergency order.

Escapement into local salmon systems determines commercial fishery opening and closing times. Sockeye salmon are the primary species harvested on the North Peninsula. During June 1 through September 15 within the Nelson Lagoon to Strogonof Point area, management emphasis is on four sockeye salmon systems: Nelson, Bear, Sandy, and Ilnik Rivers. Nelson and Bear Rivers are the dominant systems. Alaska Department of Fish and Game (ADF&G) weir camps located at these four systems provide daily escapement counts that are used to manage commercial fisheries.

## ESCAPEMENT BY SPECIES

There are at least 62 annually surveyed salmon streams on the North Peninsula. In 2003, chinook salmon were observed in 15 streams, sockeye salmon were observed in 52 streams, coho salmon were documented in at least 36 streams, pink salmon in 11 streams, and chum salmon were surveyed in 68 streams (Figure 3).

### *Chinook*

Chinook salmon escapement occurs almost exclusively within streams of the Northern District. The Northwestern District has only three documented chinook salmon streams while chinook salmon are found in 18 streams in the Northern District (McCullough 2001; Figure 3). The bulk of the known chinook salmon escapement occurs in the Nelson, Meshik, and Cinder River systems. Individual escapement goals for these systems range from a low of 1,000 fish to a high of 6,400 fish (Nelson and Lloyd 2001). The total North Peninsula chinook salmon escapement has averaged 18,678 fish since 1994 (Appendix A.1.).

### *Sockeye*

Of the 55 sockeye salmon streams on the North Peninsula (McCullough 2001; Figure 3), 26 are in the Northwestern District and 29 are in the Northern District. The total North Peninsula escapement goal is 444,800 to 659,600 sockeye salmon (Nelson and Lloyd 2001). The North Peninsula 1984-2003 average sockeye indexed escapement was 915,021 fish, while the 1994-2003 average indexed escapement was 979,611 fish, and the 1999-2003 average indexed escapement was 965,162 fish (Figure 4). The majority of the sockeye salmon escapement occurred in the Northern District's four systems that enumerate escapement through weirs (Bear, Nelson, Sandy, and Ilnik Rivers). In some years, substantial sockeye salmon escapement (> 50,000) was observed north of Strogonof Point in the Meshik (Inner Port Heiden) and Cinder River systems (Table 2). The Christianson Lagoon system at Urilia Bay in the Northwestern District, during some years, produces substantial sockeye salmon escapements as well. In 2003, the total Inner Port Heiden sockeye salmon escapement was 114,000 fish of which 94,000 fish were in the Meshik River, while the Cinder River escapement was 88,700 fish.

Sockeye salmon are abundant from Nelson Lagoon to Strogonof Point in June through September. Escapement objectives, 1994-2003 average escapement estimates, and 2003 escapements for the four major sockeye systems of the North Peninsula can be found in Table 3. The Nelson River sockeye run begins in mid June, peaks in early July, and is over by mid August. Bear River supports two distinct runs: an early run that begins in early June, peaks in early July, and ends in late July; and a late run that begins in late July, peaks in early-mid August, and is over in mid to late September. Sandy River run timing begins in mid June, peaks in early July, and ends in late July. Ilnik River run timing is early and closely parallels Sandy River run timing.

### *Coho*

Seventeen coho salmon streams are found in the Northwestern District and 33 are found in the Northern District (Figure 3). Many systems have not been surveyed for coho salmon, therefore the number of coho systems listed is considered minimum. Due to inadequate funding and fall weather conditions, too few surveys are flown to estimate total coho salmon escapement abundance. In 2003, 337,800 coho salmon were documented in 36 streams. The escapement goal for North Peninsula coho salmon is 59,000 to 107,000 (Nelson and Lloyd 2001). Accurate total North

Peninsula coho salmon escapement estimates are not available since survey data is incomplete. However, in 2003, 337,000 coho salmon were documented. The major coho salmon systems are found in Uria Bay, Joshua Green, Nelson, Ilnik, Meshik, and Cinder Rivers. Coho salmon runs also are found in rivers located in Swanson Lagoon, and in the Bear, Sandy, and Unangashak Rivers, and numerous other systems throughout the North Peninsula.

### ***Pink***

With a few exceptions, pink salmon are usually of only limited economic importance in the North Peninsula. They occur in 39 streams (McCullough 2001; Figure 3). The average 1994-2003 pink salmon escapement was 101,410 fish and ranged from 8,200 (1995) to 382,600 (1996; Table 4; Appendix A.2.). The annual odd-year escapement goal is 2,400 to 4,800 (Nelson and Lloyd 2001). The Northwestern District met its goal in 2003. Bechevin Bay is historically the largest pink salmon producing location. Herendeen Bay, in the Northern District, produced substantial pink salmon runs in 1990, 1992, 1996, and 1998.

### ***Chum***

Chum salmon streams are the most abundant of all salmon systems in the North Peninsula, numbering 73 (McCullough 2001; Figure 3). Escapement from 1994-2003 averaged 625,886 chum salmon, with a 2003 escapement of 447,960 fish (Table 4). The North Peninsula chum salmon indexed escapement goal is 343,200-686,401 fish (Nelson and Lloyd 2001) and has been met or exceeded in each of the past ten years (Table 4). The Northwestern and Northern District chum salmon escapements are shown in Appendix A.3 and Appendix A.4. Due to market conditions and the purse seine fleet often concentrating on South Peninsula pink salmon runs, North Peninsula chum salmon are underexploited in some years.

## **HARVEST BY SPECIES**

### ***Chinook***

The 2003 chinook salmon harvest on the North Peninsula was 4,545 fish, which was well below the 1994-2003 average of 6,887 (Table 4). The harvests in the 10 most recent years ranged from 3,852 in 2002 to 18,508 fish in 1994 (Table 4). Most of the annual harvest occurs incidental to sockeye salmon fishing in the Nelson Lagoon and Bear River Sections. The Inner Port Heiden Section was a major chinook harvest location, but in recent years there was no fishery due to weak markets.

## *Sockeye*

The 1984-2003 average sockeye harvest in the North Peninsula was 2,128,054 fish, the 1994-2003 average harvest was 1,899,752, and the 1999-2003 average harvest was 1,558,386 fish (Table 4; Figure 5). The record harvest of 3,866,479 fish occurred in 1993. The bulk of the North Peninsula harvest occurs in the Nelson Lagoon to Strogonof Point area, with a substantial portion of this harvest occurring in the Port Moller to Strogonof Point area (includes the Port Moller Bight, Bear River, Three Hills, and Ilnik Sections; Table 2; Figure 2).

In Nelson Lagoon, the 1984-2003 average sockeye salmon harvest was 311,476, the 1994-2003 average harvest was 307,283 fish, and the 1999-2003 average harvest was 260,838 fish (Figure 6). Annually, between 30-40 permit holders typically fish in this section, and the majority of the gear is set gillnet. The peak weekly sockeye harvest occurs in early to mid July, as occurred in 2003 (Figure 7).

The 1984-2003 average sockeye salmon harvest in the Port Moller to Cape Seniavin reach, which includes the Bear River and Port Moller Bight Sections was 787,347 fish, the 1994-2003 average was 672,295 fish, and the 1999-2003 average was 528,242 fish (Figure 8). The number of permits fished in the Bear River Section has steadily decreased since 1993 with the 1999-2003 average annual number of permits fished of 111, below the 1984-2003 average of 147 permits (Figure 9). The peak weekly harvest in the Port Moller to Cape Seniavin area usually occurs in late June and early July, then decreases with another peak in mid August. In 2003, effort in the Port Moller to Cape Seniavin reach was reduced due to large closed areas around Sandy River in order to achieve its escapement goal. Sockeye salmon catches in the Port Moller to Cape Seniavin reach were below 100,000 sockeye/week for most of the season, and peaked during the last week of June and early July (Figure 10). The sockeye salmon harvest continued until the second week of September when the local processing facility in the area closed for the season (Figure 10).

In the Cape Seniavin to Strogonof Point reach (encompassing the Three Hills and Ilnik Sections), the 1984-2003 average sockeye harvest was 904,821, the 1994-2003 average was 821,641 fish, and the 1999-2003 average was 647,936 fish. Most of the harvest in these two sections usually occurs in the Ilnik Section (Figure 8). The number of permits fished in the Three Hills Section began to decrease in 2001 with the 1984-2003 average number of permits fished within this section at 121. The 1999-2003 average decreased to 101 permits fished (Figure 9). In the Ilnik Section, the 1999-2003 average number of permits fished in the section of 103, was less than the 1984-2003 average of 124 (Figure 9). The number of permits fished in these sections has dramatically decreased since 2000. Catches within the Cape Seniavin to Strogonof Point reach typically peak in late June to early July, then decrease as observed in 2003 (Figure 10). The peak weekly harvest in 2003 occurred during the week of June 28 - July 4 when 219,015 sockeye salmon were harvested. During this period, a major portion of the Bear River Section was closed to commercial salmon fishing for concerns of achieving the Sandy River sockeye salmon escapement goal. Due to this area closure, the bulk of the fishing effort shifted to the southern portion of the Bear River, Three Hills, and Ilnik Sections. The Ilnik Section was also open for short fishing periods prior to July 5 in 2003 (5 AAC 09.369).

Prior to 1984, the Bear River Section accounted for the majority of the harvest in the Port Moller to Strogonof Point area (includes the Port Moller Bight, Bear River, Three Hills, and Ilnik Sections; Figure 11). Since 1984, the Bear River Section averaged 47% of the total sockeye harvest within these four sections combined. From 1994-2003, the Three Hills Section averaged 22% of the total sockeye harvest within the Port Moller Bight, Bear River, Three Hills, and Ilnik Sections combined, while the Ilnik Section averaged 33%.

### *Coho*

The majority of the North Peninsula coho salmon harvest typically occurs in the Northern District, specifically in Nelson Lagoon, Bear River, Ilnik, Inner Port Heiden, and Cinder River Sections (Table 5). The 1994-2003 average North Peninsula harvest was 100,671 coho salmon. The harvest since 1994 has ranged from 22,162 in 2001 to 241,913 in 1994. Coho salmon harvests typically commence during the first week of August, peak during the last 10 days of August and first week of September, and end in early September usually when processing facilities close for the season. In 2003, some major coho salmon stocks were underexploited, or not exploited at all due to poor market conditions. This has been the trend during recent years. Only Nelson Lagoon had a directed coho salmon fishery in 2003. The 2003 North Peninsula coho salmon harvest was 53,874 fish (Table 5).

### *Pink*

The 1994-2003 average pink salmon harvest was 46,918 fish, with a range from 4,367 in 1999 to 226,315 in 1994 (Table 4). The 2003 pink salmon harvest was 18,666 fish. Directed pink salmon fisheries usually occur when market conditions and salmon surplus to escapement requirements permit in the Bechevin Bay Section of the Northwestern District and occasionally in the Herendeen Bay Section of the Northern District. No directed pink salmon fisheries occurred on the North Peninsula in 2003 due to poor market conditions.

### *Chum*

The 1994-2003 average chum salmon harvest of 82,660 fish, and ranged from 39,177 in 2003 to 174,523 in 2001 (Table 4). In the Northwestern District, the bulk of the harvest usually occurs in the Izembek-Moffet Bay and Bechevin Bay Sections. Catches from the Herendeen-Moller Bay and Bear River Sections typically dominate the Northern District catch. Only a small directed chum salmon fishery occurred in the Northwestern District in 2003.

## **SOCKEYE SALMON RUN PRODUCTION POTENTIAL**

After August 1, all local and non-local sockeye salmon runs are considered complete in the Port Moller to Strogonof Point area, except the late Bear River run. Prior to August 1, no method is available to apportion the catch to North Peninsula stock-of-origin. After August 1, the sockeye salmon harvest in the Port Moller to Strogonof Point reach is considered to be bound for Bear River. Therefore, the potential sockeye salmon production of the Bear (early and late), Sandy, and Ilnik River runs were calculated in aggregate, using data from the late Bear River run. The mean return per spawner (R/S) from the Bear River late run over the last five fully recruited brood years was used as an estimator for the R/S for all these systems (3.99:1; 1992-1996; Appendix A.1). The R/S for Nelson River (1.57:1; 1992-1996; Appendix A.2) was used to calculate the run potential for Nelson River. These average R/S data were applied to the five-year average escapements, by system, to obtain an indication of annual potential run strength. Confidence intervals (80%) were calculated from the variance in R/S data and applied to the average escapements to produce a range of production potential.

The potential run size for these four systems in recent years for the entire season would be expected to range from 792,000 to 3,411,000 sockeye salmon with a midpoint of 2,101,000 fish (Table 6: Figure 12). The run potential depicted in Table 6 includes escapement. To determine the annual potential harvest, the escapement (which has averaged 677,000 sockeye for these four systems) is subtracted from the run potential, leaving a potential harvest estimate of about 115,000 to 2,374,000 fish with a midpoint of 1,424,000 fish.

These estimates are intended to be used as an indicator of potential sockeye salmon production from four North Peninsula sockeye runs (Nelson, early and late Bear, Sandy, and Ilnik Rivers) based on R/S data from the Nelson and late Bear River runs. Actual North Peninsula production is unknown.

### **NELSON RIVER AND BEAR RIVER LATE-RUN SOCKEYE SALMON RUN PROJECTIONS FOR 2004**

The 2004 Bear River late-run sockeye salmon forecast was prepared primarily by using simple linear regression models (Witteveen et al. *in press*). These models utilized available brood year (1980–1999) sibling relationships when appropriate (Appendix A.1). In constructing and evaluating each of the regression models, standard regression diagnostic procedures were used. Regression models were used in cases where the slope of the regression was significantly different from zero ( $P < 0.25$ ). The age 2.2 component of the run was predicted from returns of age 2.1 in 2003 and the abundance of age 2.3 fish were predicted from their age 2.2 siblings. All “other” age classes were estimated by summing 15 minor age class run estimates by total age, calculating the median contribution of each pooled age class, and summing the pooled medians. The total run forecast was calculated by summing the individual and pooled age class estimates. When a regression relationship was used to predict an individual age class, the variance of the

estimate was calculated from the error structure of the regression. When the median returns by total age were used, the 10<sup>th</sup> and 90<sup>th</sup> percentiles of the data were used to calculate prediction intervals. The variances associated with individual estimates were summed to estimate 80 percent prediction intervals, which were then added to the percentile estimates to calculate the forecast range.

The 2004 Nelson River sockeye salmon forecast was constructed using simple linear regressions of ocean age relationships and median estimators of age class returns. Standard regression diagnostics were employed including analysis of residuals and outlier points. Regression estimates were only used if the slope was significantly different from zero ( $P < 0.25$ ). Regression estimates were used to predict the 2004 3-ocean returns (predicted from 2-ocean returns), using data from the last 10 years. Age 2.2 returns in 2004 were predicted using a median estimator from the last 19 years. All “other” age classes were estimated by summing 11 minor age class run estimates by total age, calculating the median contribution of each pooled age, and summing the pooled medians. The total run forecast was calculated by summing individual and pooled age class estimates. When a regression relationship was used to predict an individual age class, the variance of the estimate was calculated from the error structure of the regression. When the median returns were used, the 10<sup>th</sup> and 90<sup>th</sup> percentiles of the data were used to describe the range of the data. The variance associated with the regression estimate was used to estimate 80% prediction intervals, which was then added to the percentile prediction interval estimates to calculate the forecast range.

The following table lists the 2004 run projections for Nelson River and Bear River late-run sockeye salmon:

System	Estimate	80% P.I.	
		Low	High
Nelson	489,000	207,000	831,000
Bear (Late Run)	631,000	307,000	1,010,000

There were an unusually high number of 1-ocean (jacks) returns in 2003 in both rivers. It is unknown if these indicate high brood year success (which would indicate unusually large returns in 2004) or if ocean conditions facilitated early maturity. These forecasts were based on the conservative assumption that the large numbers of jacks in 2003 were not indicators of a larger-than-usual 2-ocean run in 2004. Because of this uncertainty combined with the variable predictive capabilities of the sibling data, the departments’ confidence in these forecasts are poor to fair; the actual runs may be larger than projected.

## **AREA M AND AREA T OVERLAP AREA**

The Area M (Alaska Peninsula) and Area T (Bristol Bay) overlap area consists of the Cinder River Section, Inner Port Heiden Section, and Ilnik Lagoon (Figure 13). The overlap area was created shortly after statehood to allow Bristol Bay fishermen, primarily those residents of Port Heiden and Pilot Point, the opportunity to fish close to home. Permit holders registered for the Bristol Bay area, historically fished for chinook and coho salmon in the Inner Port Heiden Section and occasionally in Ilnik Lagoon for coho salmon. Pilot Point area permit holders registered for the Bristol Bay area, were given the opportunity to fish in the Cinder River Section for chinook and coho salmon, and still participate in Bristol Bay sockeye salmon fisheries.

Lack of markets in recent years has eliminated most of the effort in the Cinder River and Inner Port Heiden Sections. Nearly all of the recent effort, in years when significant effort occurred, in the Cinder River Section has been from Area T permit holders. During every month except July, Area T permit holders are allowed to fish during the open season in the Inner Port Heiden and Cinder River Sections (Figure 13). Area T permit holders are also allowed to fish inside Ilnik Lagoon during August and September. Prior to 1990, Area T permit holders were allowed to fish in the entire Ilnik Section during August and September.

Since 1976, when 16 Area T permit holders began fishing the overlap area, the number of Area T permit holders increased and peaked in 1992 with 122 permits (104 drift gillnet and 18 set gillnet). In 2003, there was no Area T effort within the overlap area due to poor market conditions for chinook and coho salmon. In past years, the majority of Area T permit holders that fish in Alaska Peninsula waters, fished within the Cinder River and Inner Port Heiden Sections for coho salmon in August and September. Area T effort has also occurred in the Cinder River and Port Heiden Sections during June for chinook and occasionally sockeye salmon when markets are available (Figure 13).

In 1986, Area T fishermen started operating in the Ilnik and Outer Port Heiden Sections. In 1990, the Alaska Board of Fisheries (BOF) eliminated Area T fishermen from the Ilnik Section (except inside Ilnik Lagoon) and closed the Outer Port Heiden Section to all commercial salmon fishing operations by both Area M and Area T fishermen due to concern over potential interception of coho salmon bound for Inner Port Heiden (Meshik River).

## **BOARD OF FISHERIES REGULATION CHANGES**

BOF regulation changes instituted in the Northern District are summarized in Table 7.

## MANAGEMENT STRATEGY

The Bear River, Three Hills, and Ilnik Sections are managed using catch per unit effort indicators and the escapement strength of Bear, Sandy, and Ilnik Rivers as determined by aerial surveys and weir counts (Murphy and Shaul 2003). Table 8 briefly depicts the sockeye salmon stocks used to manage these three sections. This description is not a detailed management strategy, but a general account of the factors that are considered when management actions are taken.

### *Bear River and Three Hills Sections*

The Bear River and Three Hills Sections are managed on the basis of Bear and Sandy River sockeye salmon stocks (Table 8). When the escapement objectives in Bear and Sandy Rivers are not being met, the Bear River and Three Hills Sections may be closed until escapements respond adequately to warrant a fishery. If escapement objectives are not lagging dramatically and harvests indicate sufficient run strength, then the closed waters at the river terminus may be expanded to obtain the escapement objectives, while allowing effort on incoming fish outside the protected area. This prevents a build-up of fish near the river mouths and a resulting excess number of fish moving up river. If escapement into Ilnik and/or Ocean River (if Ocean River flows into the Bering Sea versus Ilnik Lagoon, which occasionally occurs) are lacking and area closures in the Ilnik Section are not effective, the eastern portion of the Three Hills Section line may be moved to the west to provide for a larger closed water area in an attempt to increase the escapement.

### *Ilnik Section*

Prior to July 20, the Ilnik Section (Figure 2), including the area outside of Ilnik Lagoon, will be managed primarily for Ilnik sockeye salmon stocks unless a management concern exists for Bear or Ugashik River stocks (Table 8). That portion of the Ilnik Section southwest of Unangashak Bluffs (excluding Ilnik Lagoon which opens May 1) will open to commercial salmon fishing between June 25 and July 4 if the escapement into Ilnik River on June 25 is 50% of the season ending lower goal (20,000 sockeye salmon) or if the minimum season ending goal (40,000 sockeye) is expected to be met by July 5. If either of these two criteria are expected to be met, fishing will be permitted southwest of Unangashak Bluffs between June 25 and July 4. Fishing periods will be no more than 24 hours in duration with at least a 24-hour closure between periods and the sockeye salmon harvest during this period may not exceed 100,000 fish.

The intent of the management plan is to harvest Ilnik River bound sockeye salmon throughout the June 25-July 4 period when escapements are strong, while not exceeding the harvest cap of 100,000 sockeye salmon. The cap of 100,000 sockeye salmon, with an acceptable range of 80,000-120,000 sockeye salmon, was adopted by the BOF in 1998 when the plan was developed, and is based on the average sockeye salmon harvest northeast of Unangashak Bluffs to Strogonof Point during July 15-25, 1990-1997 of 117,000 fish. This cap is not considered a guideline harvest that will always be attained, but the upper harvest limit if the Ilnik River escapement goals are ensured.

Since 1998, early fishing time in the Ilnik Section southwest of Unangashak Bluffs occurred in five out of six years. The harvests during these periods have ranged from 62,861 sockeye salmon in 2001 to 106,924 sockeye salmon in 2003 and averaged 83,209.

If fishing occurs southwest of Unangashak Bluffs (excluding Ilnik Lagoon) prior to July 5, then that portion of the Ilnik Section northeast of Unangashak Bluffs to Strogonof Point will not open to commercial salmon fishing until July 25. If fishing southwest of Unangashak Bluffs (excluding Ilnik Lagoon) does not occur between June 25 and July 4, the area northeast of Unangashak Bluffs to Strogonof Point may open on July 15.

Management actions based on Bear River sockeye salmon run strength will be considered in the Ilnik Section if the Bear River run is not meeting escapement objectives after closures in the Bear River and Three Hills Sections. Prior to July 21, management actions will also be taken in the Ilnik Section if management actions are taken in the Egegik District to protect Ugashik River sockeye salmon stocks by moving the district lines to reduce the Ugashik River sockeye salmon harvest. If Bear and Ugashik Rivers' sockeye salmon runs are expected to meet escapement objectives prior to July 21, fishing time in the Ilnik Section will be based on the abundance of Ilnik River sockeye salmon stocks. From July 20 to August 15, the Ilnik Section will be managed for Bear River sockeye salmon stock abundance. Post August 15, the Ilnik Section is managed based on coho salmon return to Ilnik Lagoon.

#### **OUTLOOK FOR 2004**

The projected 2004 commercial salmon harvest for the North Peninsula includes: 5,000 chinook, 1,750,000 sockeye, 50,000 coho, 35,000 pink, and 75,000 chum salmon. The Nelson Lagoon forecasted sockeye salmon harvest is predicted to be 339,000, and the Bear River late-run (August and September) forecasted harvest is 531,000 fish (Witteveen et al. *in press*). The bulk of the remaining harvest of 630,000 fish is expected to occur in the Bear River, Three Hills, and Ilnik Sections during June and July on Bear River early run, Sandy River, and Ilnik River sockeye salmon stocks.

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Table 1. Scheduled North Peninsula fishing periods as described in the 2001-2004 regulation book.

Section	Open Season	Fishing Period
Cinder River, outside Cinder River Lagoon.	August 1 - September 30	6:00 AM Monday to 6:00 PM Wednesday
Cinder River, inside Cinder River Lagoon	May 1 - September 30	6:00 AM Monday to 6:00 PM Wednesday
Outer Port Heiden	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 excluding Ilnik Lagoon and within the Seal Islands	June 25 - July 4	By Emergency Order Only (see description in Ilnik Section)
Ilnik Section between Three Hills (159° 50.00' W long.) and Unangashak Bluffs located at 159°10.80' W long. and including Ilnik Lagoon and within the Seal Islands	July 5 - September 30	6:00 AM Monday to 6:00 PM Wednesday
Ilnik Section between Three Hills (159°50.00' W long.) Bluffs at 159°10.80' W long. and Strogonof Point.	July 15 - September 30	6:00 AM Monday to 6:00 PM Wednesday
Ilnik Section inside Ilnik Lagoon and within the Seal Islands	May 1 - July 4	12:00 NOON Monday to 11:59 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
Port Moller Bight	May 1 - September 30	6:00 AM Monday to 6:00 PM Thursday

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Table 1. (page 2 of 2)

Section	Open Season	Fishing Period
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 12:00 MIDNIGHT Wednesday
Nelson Lagoon	June 16 - August 15	6:00 AM Monday to 12:00 MIDNIGHT Thursday
Nelson Lagoon	August 16 - September 30	6:00 AM Monday to 12:00 MIDNIGHT Wednesday
Caribou Flats	No open season	
Black Hills	May 1 - June 30	6:00 AM Monday to 6:00 PM Wednesday
Black Hills	July 1 - September 30	6:00 AM Monday to 6:00 PM Thursday
Izembek-Moffet Bay	June 1 - August 10	6:00 AM Monday to 6:00 PM Thursday
Swanson Lagoon	June 1 - August 10	6:00 AM Monday to 6:00 PM Thursday
Urilia Bay <sup>a</sup>	June 23 - August 10	6:00 AM Monday to 6:00 PM Thursday
Dublin Bay	July 10 - August 10	6:00 AM Monday to 6:00 PM Thursday
Bechevin Bay	June 1 - September 30	By Emergency Order Only

<sup>a</sup> Season was delayed from June 1 to June 23, 2003 by Emergency Order.

Table 2. Northern District sockeye salmon runs by section (number of fish), 1962 - 2003.

Year	Outer Port Heiden <sup>a</sup> and Cinder River	Inner Port Heiden	Ilnik	Three Hills	Bear River <sup>b</sup>	Combined Ilnik, Three Hills, & Bear R. Sections	Port Moller Bight & Herendeen-Moller Bay	Nelson Lagoon	Caribou Flats & Black Hills	Northern District Totals
1962 <sup>c</sup> Catch	900	17,800	9,700	<sup>e</sup>	142,900	152,600	0	69,600	0	240,900
Escapement	5,000	19,000 <sup>d</sup>	5,900	<sup>e</sup>	215,000	220,900	100	54,200	1,000	300,200
Total	5,900	36,800 <sup>d</sup>	15,600	<sup>e</sup>	357,900	373,500	100	123,800	1,000	541,100
1963 <sup>c</sup> Catch	0	0	26,600	<sup>e</sup>	120,000	146,600	0	71,500	0	218,100
Escapement	1,400	14,200 <sup>d</sup>	10,400	<sup>e</sup>	238,600	249,000	100	31,000	1,300 <sup>d</sup>	297,000
Total	1,400	14,200 <sup>d</sup>	37,000	<sup>e</sup>	358,600	395,600	100	102,500	1,300 <sup>d</sup>	515,100
1964 <sup>c</sup> Catch	0	6,300	33,300	<sup>e</sup>	107,500	140,800	0	88,700	0	235,800
Escapement	1,500	10,000	6,500	<sup>e</sup>	250,200	256,700	200	80,000	1,500	349,900
Total	1,500	16,300	39,800	<sup>e</sup>	357,700	397,500	200	168,700	1,500	585,700
1965 <sup>c</sup> Catch	0	9,700	58,400	<sup>e</sup>	62,400	120,800	100	53,800	0	184,400
Escapement	7,500	30,000	12,500	<sup>e</sup>	137,000	149,500	0	37,000	500	224,500
Total	7,500	39,700	70,900	<sup>e</sup>	199,400	270,300	100	90,800	500	408,900
1966 <sup>c</sup> Catch	0	8,000	11,000	<sup>e</sup>	152,600	163,600	0	60,000	0	231,600
Escapement	3,000	11,700 <sup>d</sup>	24,300	<sup>e</sup>	185,000	209,300	600	36,500	2,300	263,400
Total	3,000	19,700 <sup>d</sup>	35,300	<sup>e</sup>	337,600	372,900	600	96,500	2,300	495,000
1967 <sup>c</sup> Catch	0	3,100	0	<sup>e</sup>	156,100	156,100	12,500	40,200	0	211,900
Escapement	3,800 <sup>c</sup>	12,000 <sup>d</sup>	26,400	<sup>e</sup>	200,000	226,400	200	42,000	500 <sup>d</sup>	284,900
Total	3,800 <sup>c</sup>	15,100 <sup>d</sup>	26,400	<sup>e</sup>	356,100	382,500	12,700	82,200	500 <sup>d</sup>	496,800
1968 <sup>c</sup> Catch	0	0	78,600	<sup>e</sup>	90,500	169,100	3,400	51,100	0	223,600
Escapement	4,100	15,000 <sup>d</sup>	15,000	<sup>e</sup>	166,000	181,000	400	31,000	2,000 <sup>d</sup>	233,500
Total	4,100	15,000 <sup>d</sup>	93,600	<sup>e</sup>	256,500	350,100	3,800	82,100	2,000 <sup>d</sup>	457,100
1969 <sup>c</sup> Catch	0	5,200	24,000	<sup>e</sup>	205,500	229,500	4,400	72,800	0	311,900
Escapement	3,800 <sup>d</sup>	15,000 <sup>d</sup>	15,600	<sup>e</sup>	406,000	421,600	100	78,500	2,500 <sup>d</sup>	521,500
Total	3,800 <sup>d</sup>	20,200 <sup>d</sup>	39,600	<sup>e</sup>	611,500	651,100	4,500	151,300	2,500 <sup>d</sup>	833,400

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Table 2. (page 2 of 6)

Year	Outer Port Heiden <sup>a</sup> and Cinder River	Inner Port Heiden	Ilnik	Three Hills	Bear River <sup>b</sup>	Combined Ilnik, Three Hills, & Bear R. Sections	Port Moller Bight & Herendeen-Moller Bay	Nelson Lagoon	Caribou Flats & Black Hills	Northern District Totals
1970 <sup>c</sup> Catch	0	0	21,011	<sup>e</sup>	109,209	130,220	1,672	52,043	21	183,956
Escapement	1,500	14,100	15,300	800	294,000	310,100	0	82,400	1,400	409,500
Total	1,500	14,100	36,311	800	403,209	440,320	1,672	134,443	1,421	593,456
1971 <sup>c</sup> Catch	0	0	16,153	40,929	238,628	295,710	1,301	47,536	0	344,547
Escapement	2,000	30,800	26,100	400	281,000	307,500	200	60,100	500	401,100
Total	2,000	30,800	42,253	41,329	519,628	603,210	1,501	107,636	500	745,647
1972 <sup>c</sup> Catch	0	2	4,478	7513	136,160	148,151	1,006	23,227	0	172,386
Escapement	400	3,500	13,100	0	135,400	148,500	0	28,000	0	180,400
Total	400	3,502	17,578	7,513	271,560	296,651	1,006	51,227	0	352,786
1973 <sup>c</sup> Catch	0	0	0	16659	117,678	134,337	3,287	23,896	0	161,520
Escapement	1,200	7,200	16,000	0	130,100	146,100	0	18,700	0	173,200
Total	1,200	7,200	16,000	16,659	247,778	280,437	3,287	42,596	0	334,720
1974 <sup>c</sup> Catch	0	0	0	46,895	157,457	204,352	7,730	25,611	34	237,727
Escapement	1,300	1,400	14,500	100	266,500	281,100	0	39,900	1,800	325,500
Total	1,300	1,400	14,500	46,995	423,957	485,452	7,730	65,511	1,834	563,227
1975 <sup>c</sup> Catch	0	644	411	8,296	165,730	174,437	3,739	51,519	0	230,339
Escapement	900	5,100	40,500	300	310,000	350,800	100	138,600	2,000	497,500
Total	900	5,744	40,911	8,596	475,730	525,237	3,839	190,119	2,000	727,839
1976 <sup>c</sup> Catch	3	4,973	11,954	207,765	310,869	530,588	9,912	74,914	0	620,390
Escapement	6,300	30,300	15,100	600	328,000	343,700	500	108,900	7,400	497,100
Total	6,303	35,273	27,054	208,365	638,869	874,288	10,412	183,814	7,400	1,117,490
1977 <sup>c</sup> Catch	8	3,416	12,592	85,295	268,676	366,563	11,061	56,314	44	437,406
Escapement	3,900	23,600	20,600	100	265,200	285,900	13,500	155,000	4,100	486,000
Total	3,908	27,016	33,192	85,395	533,876	652,463	24,561	211,314	4,144	923,406

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Table 2. (page 3 of 6)

Year	Outer Port Heiden <sup>a</sup> and Cinder River	Inner Port Heiden	Ilnik	Three Hills	Bear River <sup>b</sup>	Combined Ilnik, Three Hills, & Bear R. Sections	Port Moller Bight & Herendeen-Moller Bay	Nelson Lagoon	Caribou Flats & Black Hills	Northern District Totals
1978 <sup>c</sup> Catch	0	829	7,457	24,711	556,393	588,561	53,731	213,430	0	856,551
Escapement	3,800	18,800	21,200	<sup>d</sup>	814,000	835,200	4,900	304,300	1,500	1,168,500
Total	3,800	19,629	28,657	24,711	1,370,393	1,423,761	58,631	517,730	1,500	2,025,051
1979 <sup>c</sup> Catch	140	36,940	53,972	140,390	1,320,851	1,515,213	32,121	320,856	0	1,905,270
Escapement	6,000	46,700 <sup>d</sup>	97,200	300	1,013,000	1,110,500	5,000	360,100	3,000	1,531,300
Total	6,140	83,640 <sup>d</sup>	151,172	140,690	2,333,851	2,625,713	37,121	680,956	3,000	3,436,570
1980 <sup>c</sup> Catch	46	24,628	121,574	130,653	741,861	994,088	10,460	318,526	0	1,347,748
Escapement	30,000	47,000 <sup>d</sup>	100,000	0	751,000	851,000	1,500	352,600	3,900	1,286,000
Total	30,046	71,628 <sup>d</sup>	221,574	130,653	1,492,861	1,845,088	11,960	671,126	3,900	2,633,748
1981 <sup>c</sup> Catch	24	3,847	24,334	44,559	1,327,219	1,396,112	18,610	374,722	0	1,793,315
Escapement	100,000	26,600 <sup>d</sup>	151,000	<sup>d</sup>	741,500	892,500	600	251,000	4,000 <sup>d</sup>	1,274,700
Total	100,024	30,447 <sup>d</sup>	175,334	44,559	2,068,719	2,288,612	19,210	625,722	4,000 <sup>d</sup>	3,068,015
1982 <sup>c</sup> Catch	0	8,782	35,088	107,418	1,009,291	1,151,797	11,336	229,203	419	1,401,537
Escapement	13,000 <sup>d</sup>	62,000 <sup>d</sup>	41,700	1,300	361,300	404,300	500	179,600	6,000	665,400
Total	13,000	70,782 <sup>d</sup>	76,788	108,718	1,370,591	1,556,097	11,836	408,803	6,419	2,066,937
1983 <sup>c</sup> Catch	71	68	390,883	338,730	1,122,976	1,852,589	15,007	192,947	5	2,060,687
Escapement	9,000	8,600	40,000	100	358,000	398,100	500	128,800	2,600	547,600
Total	9,071	8,668	430,883	338,830	1,480,976	2,250,689	15,507	321,747	2,605	2,608,287
1984 <sup>c</sup> Catch	0	1,746	409,883	333,832	637,400	1,381,115	31,447	118,756	48	1,533,112
Escapement	16,000	31,100	22,300	0	414,000	436,300	700	251,000	600	735,700
Catch	16,000	32,846	432,183	333,832	1,051,400	1,817,415	32,147	369,756	648	2,268,812
1985 <sup>c</sup> Catch	333	5,090	508,887	469,267	821,312	1,799,466	4,519	703,546	0	2,512,954
Escapement	12,600	45,500	22,700	0	451,500	474,200	700	314,800	3,700	851,500
Total	12,933	50,590	531,587	469,267	1,272,812	2,273,666	5,219	1,018,346	3,700	3,364,454

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Table 2. (page 4 of 6)

Year	Outer Port Heiden <sup>a</sup> and Cinder River	Inner Port Heiden	Ilnik	Three Hills	Bear River <sup>b</sup>	Combined Ilnik, Three Hills, & Bear R. Sections	Port Moller Bight & Herendeen-Moller Bay	Nelson Lagoon	Caribou Flats & Black Hills	Northern District Totals
1986 <sup>c</sup> Catch	689	38,042	560,339	588,501	938,177	2,087,017	1,294	178,401	2	2,305,445
Escapement	25,700	26,400	66,800	100	279,400	346,300	300	117,900	2,300	518,900
Total	26,389	64,442	627,139	588,601	1,217,577	2,433,317	1,594	296,301	2,302	2,824,345
1987 <sup>c</sup> Catch	214	2,359	506,916	212,435	213,958	933,309	679	128,471	62	1,065,094
Escapement	15,300	28,300	30,700	0	266,700	297,400	700	155,700	8,700	506,100
Total	15,514	30,659	537,616	212,435	480,658	1,230,709	1,379	284,171	8,762	1,571,194
1988 <sup>c</sup> Catch	690	9,951	494,616	258,982	494,951	1,248,549	3,850	186,616	0	1,449,656
Escapement	2,000	35,900	26,900	0	347,500	374,400	400	142,500	6,900	562,100
Total	2,690	45,851	521,516	258,982	842,451	1,622,949	4,250	329,116	6,900	2,011,756
1989 <sup>c</sup> Catch	3,044	11,365	149,399	599,588	557,100	1,306,087	5,670	324,979	14,266	1,665,411
Escapement	4,000	11,200	16,600	100	487,000	503,700	500	206,800	7,600	733,800
Total	7,044	22,565	165,999	599,688	1,044,100	1,809,787	6,170	531,779	21,866	2,399,211
1990 <sup>c</sup> Catch	1,246	9,701	753,030	189,870	876,248	1,819,148	4,250	410,417	13,265	2,258,027
Escapement	14,000	26,800	35,700	100	564,300	600,100	400	269,200	5,700	916,200
Total	15,246	36,501	788,730	189,970	1,440,548	2,419,248	4,650	679,617	18,965	3,174,227
1991 <sup>c</sup> Catch	296	5,439	610,975	253,880	1,044,660	1,909,515	4,587	273,960	16,382	2,210,179
Escapement	47,400	26,500	135,000	200	681,200	816,400	500 <sup>d</sup>	279,200	9,000	1,179,000
Total	47,696	31,939	745,975	254,080	1,725,860	2,725,915	5,087 <sup>d</sup>	553,160	25,382	3,389,179
1992 <sup>c</sup> Catch	4,472	8,023	740,992	959,223	1,398,253	3,098,468	5,911	378,706	878	3,496,458
Escapement	15,200	33,100	45,100	0	471,200	516,300	200	179,700	16,600	761,100
Total	19,672	41,123	786,092	959,223	1,869,453	3,614,768	6,111	558,406	17,478	4,257,558
1993 <sup>c</sup> Catch	8,903	518	868,790	411,277	2,041,716	3,321,783	10,045	452,842	4,005	3,798,096
Escapement	20,000 <sup>d</sup>	50,000 <sup>d</sup>	70,000	300	501,900	572,200	400	267,200	10,200	920,000
Total	28,903	50,518 <sup>d</sup>	938,790	411,577	2,543,616	3,893,983	10,445	720,042	14,205	4,718,096

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Table 2. (page 5 of 6)

Year	Outer Port Heiden <sup>a</sup> and Cinder River	Inner Port Heiden	Ilnik	Three Hills	Bear River <sup>b</sup>	Combined Ilnik, Three Hills, & Bear R. Sections	Port Moller Bight & Herendeen-Moller Bay	Nelson Lagoon	Caribou Flats & Black Hills	Northern District Totals	
1994 <sup>c</sup>	Catch	5,197	633	838,945	481,600	1,089,249	2,409,794	2,244	329,212	1,202	2,748,282
	Escapement	83,400	44,900	75,300	4	581,200	656,500	400	333,400	5,100	1,123,700
	Total	88,597	45,533	914,245	481,600	1,670,449	3,066,294	2,644	662,612	6,302	3,871,982
1995 <sup>c</sup>	Catch	1,280	768	320,473	931,168	1,536,039	2,787,680	5,936	448,281	3,569	3,247,514
	Escapement	47,500	85,600	39,000	400	430,400	469,800	2,000	338,700	3,700	947,300
	Total	48,780	86,368	359,473	931,568	1,966,439	3,257,480	7,936	786,981	7,269	4,194,814
1996 <sup>c</sup>	Catch	3,726	3,603	612,761	188,556	592,413	1,393,730	1,546	445,335	5,077	1,853,017
	Escapement	60,000 <sup>d</sup>	60,000	62,500	0	431,100	493,600	6,000	257,000	8,500	885,100
	Total	63,726	63,603	675,261	188,556	1,023,513	1,887,330	7,546	702,335	13,577	2,738,117
1997 <sup>c</sup>	Catch	8,342	2,222	762,638	263,089	642,461	1,668,188	8,693	384,370	20,741	2,092,556
	Escapement	33,000	40,000 <sup>d</sup>	83,000	400	398,000	481,400	900	190,100	6,100	751,500
	Total	41,342	42,222 <sup>d</sup>	845,638	263,489	1,040,461	2,149,588	9,593	574,470	26,841	2,844,056
1998 <sup>c</sup>	Catch	8,321	249	470,560	106,856	251,327	828,743	799	161,441	36,684	1,036,237
	Escapement	57,000	59,200	50,600	300	469,100	520,000	700	165,300	7,700	809,900
	Total	65,321	59,449	521,160	107,156	720,427	1,348,743	1,499	326,741	44,384	1,846,137
1999 <sup>c</sup>	Catch	19,004	877	617,330	200,239	557,805	1,375,374	2,397	237,293	25,324	1,660,269
	Escapement	12,400	76,000	75,000	100	408,000	483,100	2,500	223,300	11,300	808,600
	Total	31,404	76,877	692,330	200,339	965,805	1,858,474	4,897	460,593	36,624	2,468,869
2000 <sup>c</sup>	Catch	7,984	68	769,548	403,470	473,631	1,646,649	4,090	193,694	13,951	1,866,436
	Escapement	51,000	184,600	95,000	0	275,000	370,000	500	182,700	8,400	797,200
	Total	58,984	184,668	864,548	403,470	748,631	2,016,649	4,590	376,394	22,351	2,663,636
2001 <sup>c</sup>	Catch	5,482	0	205,041	165,878	527,284	898,203	1,975	174,363	16,263	1,096,286
	Escapement	33,000	115,000	59,000	300	351,000	410,300	500	207,100	8,600	774,500
	Total	38,482	115,000	264,041	166,178	878,284	1,308,503	2,475	381,463	24,863	1,870,786

-Continued-

Table 2. (page 6 of 6)

Year	Outer Port Heiden <sup>a</sup> and Cinder River	Inner Port Heiden	Ilnik	Three Hills	Bear River <sup>b</sup>	Combined Ilnik, Three Hills, & Bear R. Sections	Port Moller Bight & Herendeen-Moller Bay	Nelson Lagoon	Caribou Flats & Black Hills	Northern District Totals
2002 <sup>c</sup> Catch	1,548	111	121,054	251,377	596,270	968,701	1,022	325,904	35,744	1,333,030
Escapement	11,500	54,100	43,000	650	275,000	318,650	1,500	338,400	12,000	736,150
Total	13,048	54,211	164,054	252,027	871,270	1,287,351	2,522	664,304	47,744	2,069,180
2003 <sup>c</sup> Catch	2,775	0	267,495	238,674	491,125	997,294	44	372,937	40,126	1,413,176
Escapement	102,700	114,000	69,000	300	432,000	501,300	500	364,211	11,100	1,093,811
Total	105,475	114,000	336,495	238,974	923,125	1,498,594	544	737,148	51,226	2,506,987
1994-2003 Average <sup>c</sup>										
Catch	6,366	853	498,585	323,091	675,760	1,497,436	2,875	307,283	19,868	1,834,680
Escapement	49,150	83,340	65,140	272	405,080	470,465	1,550	260,021	8,250	872,776
Total	55,516	84,193	563,725	323,336	1,080,840	1,967,901	4,425	567,304	28,118	2,707,456

<sup>a</sup> Outer Port Heiden Section catches occurred only between 1986 and 1989. This section has been closed since 1989.

<sup>b</sup> Escapement includes all sockeye systems, mainly Bear and Sandy Rivers combined with post weir estimates.

<sup>c</sup> Escapements are indexed totals except for Bear, Sandy, Ilnik, and Nelson Rivers where weir and tower counts are used.

<sup>d</sup> These figures are extrapolated estimates.

<sup>e</sup> Ilnik Section and Three Hills Section combined.

Table 3. Sockeye salmon escapement goals and objectives by system, the 1994-2003 average indexed escapement, and the 2003 escapement within the vicinity of the Nelson Lagoon to Strogonof Point reach.

System	Escapement Goals or Objectives	1994-2003 Average <sup>a</sup> Indexed Escapement	2003 Escapement
Nelson River System <sup>b</sup>	114,000-178,000	255,611	364,211
Bear River			
Early Run	120,000-135,000	213,053	226,156
Late Run	80,000-115,000	132,310	139,844
Total	200,000-250,000	345,363 <sup>c</sup>	366,000
Sandy River	40,000-60,000	65,800	66,000
Ilnik River	40,000-60,000	64,800	69,000
Meshik River	10,000-20,000	67,671	94,000
Total	404,000-568,000	799,245	959,211

<sup>a</sup> Includes post weir estimates, exception Meshik River.

<sup>b</sup> Includes the Nelson, David's, and Caribou Rivers and Southwest Lakes.

<sup>c</sup> Includes 1994-2003 average weir estimate of 29,447 jack (age x.1) sockeye salmon.

<sup>d</sup> Includes weir estimate of more than 89,000 jack (age x.1) sockeye salmon. Post season actual jack component based on age composition data was 120,000.

Table 4. North Peninsula salmon runs by species, 1962-2003.

Year		Number of Fish <sup>a</sup>					Total
		Chinook	Sockeye	Coho	Pink	Chum	
1962	Catch	5,400	249,700	35,200	31,200	34,900	356,400
	Escapement	4,400	351,200		4,000	150,900	
	Total	9,800	600,900		35,200	185,800	
1963	Catch	3,600	225,200	40,500	6,900	49,900	326,100
	Escapement	6,200	351,000		4,400 <sup>b</sup>	203,200	
	Total	9,800	576,200		11,300 <sup>b</sup>	253,100	
1964	Catch	3,600	250,800	36,600	6,800	139,000	436,800
	Escapement	25,900	419,900		15,100	156,100	
	Total	29,500	670,700		21,900	295,100	
1965	Catch	6,100	199,500	34,500	2,100	69,700	311,900
	Escapement	22,100	238,400		900	49,300	
	Total	28,200	437,900		3,000	119,000	
1966	Catch	5,600	245,300	37,300	16,000	82,800	387,000
	Escapement	8,200	283,300		2,000	149,000	
	Total	13,800	528,600		18,000	231,800	
1967	Catch	5,500	224,700	46,800	700	41,300	319,000
	Escapement	12,200	299,700		700	122,600	
	Total	17,700	524,400		1,400	163,900	
1968	Catch	4,500	237,100	64,900	200	73,500	380,200
	Escapement	15,800	251,300		26,500	250,800	
	Total	20,300	488,400		26,700	324,300	
1969	Catch	4,800	321,300	49,100	100	28,100	403,400
	Escapement	19,500	575,000		4,400	146,800	
	Total	24,300	896,300		4,500	174,900	
1970	Catch	3,829	187,793	26,327	7,904	47,989	273,842
	Escapement	8,300	451,500		11,100	169,800	
	Total	12,129	639,293		19,004	217,789	
1971	Catch	2,187	353,784	8,222	297	64,154	428,644
	Escapement	5,200	435,100		8,600	109,400	
	Total	7,387	788,884		8,897	173,554	
1972	Catch	1,790	179,325	9,684	129	84,687	275,615
	Escapement	5,000	190,200		1,300	124,000	
	Total	6,790	369,525		1,429	208,687	
1973	Catch	2,569	165,388	19,776	143	152,773	340,649
	Escapement	4,300	180,200		200	122,400	
	Total	6,869	345,588		343	275,173	
1974	Catch	2,710	246,209	16,799	10,599	34,417	310,734
	Escapement	3,000	332,800		23,000	105,100	
	Total	5,710	579,009		33,599	139,517	

-Continued-

Table 4. (page 2 of 4)

Year		Number of Fish <sup>a</sup>					Total
		Chinook	Sockeye	Coho	Pink	Chum	
1975	Catch	2,093	233,293	28,349	295	8,770	272,800
	Escapement	4,600	516,800		600	109,200	
	Total	6,693	750,093		895	117,970	
1976	Catch	4,947	641,134	26,061	672	73,589	746,403
	Escapement	6,000	532,600		37,300	293,400	
	Total	10,947	1,173,734		37,972	366,989	
1977	Catch	5,489	472,006	34,137	888	129,168	641,688
	Escapement	7,100	541,100		8,500	681,200	
	Total	12,589	1,013,106		9,388	810,368	
1978	Catch	13,524	896,616	63,341	485,224	163,804	1,622,509
	Escapement	13,700	1,213,500		96,800	310,500	
	Total	27,224	2,110,116		582,024	474,304	
1979	Catch	15,704	1,979,167	112,835	4,994	65,711	2,178,411
	Escapement	15,800	1,574,000		9,300	305,300	
	Total	31,504	3,553,167		14,294	371,011	
1980	Catch	16,627	1,397,118	127,878	301,672	700,196	2,543,491
	Escapement	11,000	1,387,600		103,600	769,500	
	Total	27,627	2,784,718		405,272	1,469,696	
1981	Catch	18,385	1,844,335	155,420	11,217	706,818	2,736,175
	Escapement	12,400	1,347,900		6,100	535,200	
	Total	30,785	3,192,235		17,317	1,242,018	
1982	Catch	29,770	1,435,277	238,016	12,321	331,133	2,046,517
	Escapement	20,000	718,400		51,700	457,600	
	Total	49,770	2,153,677		64,021	788,733	
1983	Catch	29,006	2,090,142	75,138	3,404	348,307	2,545,997
	Escapement	25,700	580,300		4,000	392,600	
	Total	54,706	2,670,442		7,404	740,907	
1984	Catch	22,770	1,798,780	200,482	46,369	805,132	2,873,533
	Escapement	17,700	826,000		56,600	870,200	
	Total	40,470	2,624,780		102,969	1,675,332	
1985	Catch	23,403	2,596,073	176,118	3,054	666,616	3,465,264
	Escapement	12,900	898,100		1,400	344,200	
	Total	36,303	3,494,173		4,454	1,010,816	
1986	Catch	11,735	2,463,734	164,071	22,630	271,216	2,933,386
	Escapement	8,700	580,300		13,300	243,600	
	Total	20,435	3,044,034		35,930	514,816	
1987	Catch	14,186	1,209,435	171,784	3,486	368,696	1,767,587
	Escapement	10,700	556,000		100	510,900	
	Total	24,886	1,765,435		3,586	879,596	
1988	Catch	16,721	1,528,107	233,966	65,242	393,075	2,237,111
	Escapement	11,700	614,900	200-300 <sup>b,c</sup>	43,500	500,300	
	Total	28,421	2,143,007		108,742	893,375	

-Continued-

Table 4. (page 3 of 4)

Year		Number of Fish <sup>a</sup>					Total
		Chinook	Sockeye	Coho	Pink	Chum	
1989	Catch	10,698	1,718,001	227,551	4,103	156,992	2,117,345
	Escapement	5,600	814,400	150-250 <sup>b,c</sup>	1,900	212,300	
	Total	16,298	2,532,401		6,003	369,292	
1990	Catch	12,320	2,416,047	192,978	517,724	126,113	3,265,182
	Escapement	7,100	1,032,200	140-175 <sup>b,c</sup>	132,200	226,400	
	Total	19,420	3,448,247		649,924	352,513	
1991	Catch	9,359	2,391,406	218,274	4,249	191,278	2,814,566
	Escapement	9,600	1,317,300		6,300	303,300	
	Total	18,959	3,708,706		10,549	494,578	
1992	Catch	13,136	3,575,507	206,813	194,395	341,616	4,331,467
	Escapement	6,600	861,300		207,600	351,700	
	Total	19,736	4,436,807		401,995	693,316	
1993	Catch	22,417	3,866,479	64,376	5,328	134,957	4,093,557
	Escapement	13,700	1,003,800		72,800	402,400	
	Total	36,117	4,870,279		78,128	537,357	
1994	Catch	18,508	2,783,156	241,913	226,315	83,897	3,353,789
	Escapement	38,400	1,211,400		133,200	480,200	
	Total	56,908	3,994,556		359,515	564,097	
1995	Catch	7,540	3,272,748	135,639	12,171	99,293	3,527,391
	Escapement	24,400	1,077,000		8,200	756,300	
	Total	31,940	4,349,748		20,371	855,593	
1996	Catch	4,941	1,911,126	157,313	53,842	67,956	2,195,178
	Escapement	25,700	967,900		382,600	823,100	
	Total	30,641	2,879,026		436,442	891,056	
1997	Catch	10,352	2,151,010	94,776	50,701	97,380	2,404,219
	Escapement	19,500	820,000		25,000	388,200	
	Total	29,852	2,971,010		75,701	485,580	
1998	Catch	5,928	1,087,552	134,724	34,810	69,516	1,332,530
	Escapement	15,000	894,000		300,000	729,500	
	Total	20,928	1,981,552		334,810	799,016	
1999	Catch	4,886	1,783,804	53,907	4,367	50,120	1,897,084
	Escapement	10,900	897,300		25,000	666,300	
	Total	15,786	2,681,104		29,367	716,420	
2000	Catch	3,904	1,968,882	83,655	34,373	93,696	2,184,510
	Escapement	9,600	927,200		70,900	594,700	
	Total	13,504	2,896,082		105,273	688,396	

-Continued-

Table 4. (page 4 of 4)

Year		Number of Fish <sup>a</sup>					Total
		Chinook	Sockeye	Coho	Pink	Chum	
2001	Catch	4,412	1,147,030	22,162	12,469	174,523	1,360,596
	Escapement	13,300	875,400		24,300	692,700	
	Total	17,712	2,022,430		36,769	867,223	
2002	Catch	3,852	1,415,872	28,751	21,461	51,040	1,520,976
	Escapement	18,900	894,500		24,900	679,900	
	Total	22,752	2,310,372		46,361	730,940	
2003	Catch	4,545	1,476,344	53,874	18,666	39,177	1,592,606
	Escapement	11,078	1,231,411		20,000	447,960	
	Total	15,623	2,707,755		38,666	487,137	
1994-2003 Average							
	Catch	6,887	1,899,752	100,671	46,918	82,660	2,136,888
	Escapement	18,678	979,611		101,410	625,886	
	Total	25,565	2,879,364		148,328	708,546	

- <sup>a</sup> Escapements are indexed totals.  
<sup>b</sup> These figures are extrapolated estimates.  
<sup>c</sup> Numbers of fish are in thousands.

Table 5. North Peninsula coho salmon catches by district and section, 1994-2003.

Section	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	1994-2003 Average
Dublin Bay	0	0	0	0	0	0	0	0	0	0	0
Urilla Bay	4,885	2,201	6,442	0	3,561	1,686	5,601	0	0	0	2,438
Swanson Lagoon	82	1,755	835	270	126	486	27	0	0	0	358
Bechevin Bay <sup>a</sup>	108	0	0	42	0	30	0	0	0	0	18
Izembek - Moffet Bay <sup>a</sup>	12,250	1,681	0	0	0	0	0	23	25	37	1,402
Northwestern District Total	17,325	5,637	7,277	312	3,687	2,202	5,628	23	25	37	4,215
Black Hills	16	0	11	212	533	250	259	86	335	423	213
Caribou Flats	0	0	0	0	0	0	0	0	0	0	0
Nelson Lagoon	62,224	44,118	76,777	32,260	33,700	8,536	25,017	2,918	6,712	30,620	32,288
Herendeen - Moller Bay <sup>b</sup>	727	58	127	256	78	297	19	42	29	7	164
Bear River	14,493	15,502	11,742	6,330	6,011	14,029	10,111	10,031	13,080	11,116	11,245
Three Hills	11,160	9,548	6,174	6,048	10,221	9,298	5,630	3,135	5,863	3,982	7,106
Ilnik	20,706	12,611	9,860	5,377	23,886	17,468	12,584	4,488	2,387	5,617	11,498
Inner Port Heiden	25,017	12,115	27	18,544	5,705	835	11,623	0	0	0	7,387
Outer Port Heiden	0	0	0	0	0	0	0	0	0	0	0
Cinder River	90,245	36,050	45,318	25,437	50,903	992	12,784	1,439	320	2,072	26,556
Northern District Total	224,588	130,002	150,036	94,464	131,037	51,705	78,027	22,139	28,726	53,837	96,456
<b>NORTH PENINSULA</b>											
<b>TOTAL</b>	<b>241,913</b>	<b>135,639</b>	<b>157,313</b>	<b>94,776</b>	<b>134,724</b>	<b>53,907</b>	<b>83,655</b>	<b>22,162</b>	<b>28,751</b>	<b>53,874</b>	<b>100,671</b>

<sup>a</sup> Statistical area 311-58 was moved from the Bechevin Bay Section, to the Izembek-Moffet Bay Section in 2001.

<sup>b</sup> Includes Port Moller Bight Section.

Table 6. Estimated run potential of four sockeye salmon systems on the North Peninsula.

System	1999-2003 Avg. Escapement	Estimated run using R/S x average escapement <sup>a</sup>		
		Estimated Total Run Potential <sup>b</sup>	Estimated Range Using Using 80% Confidence Interval	
			low	high
Bear River				
Early Run	193,000	771,000	291,000	1,251,000
Late Run	115,000	461,000	174,000	748,000
Nelson River	249,000	390,000	146,000	635,000
Sandy River	52,000	209,000	79,000	339,000
Ilnik River	68,000	270,000	102,000	438,000
Totals	677,000	2,101,000	792,000	3,411,000

<sup>a</sup> Run potential for Bear (early and late), Sandy, and Ilnik River runs is based on the 5 year average escapement and average return per spawner of 3.99:1, which is the actual R/S for the late Bear River run from 1992-96. The Bear River late run 10-year R/S average of 4.98:1 was not used. Nelson River run potential is based on the 1992-96 average R/S of 1.57:1, the 10-year average R/S of 2.41:1 was not used.

<sup>b</sup> Does not include potential production from sockeye systems in the Northern District other than Nelson, Bear, Sandy, and Ilnik Rivers which have averaged 165,052 sockeye salmon escapement from 1999-2003.

Table 7. Selected Northern District Alaska Board of Fisheries regulation changes.

Year	Board of Fisheries Regulation Changes
1988	Reduced the weekly fishing period in the Ilnik Section 24 hours to 6:00 AM Monday to 6:00 PM Wednesday over concern for Unangashak River coho salmon and Ilnik River sockeye salmon stocks.
1990	<p>Closed the Outer Port Heiden Section to Area M and Area T permit holders over interception concerns for migrating coho salmon into Port Heiden.</p> <p>Closed the outer portion of the Ilnik Section to Area T permit holders.</p> <p>Delayed the season opening in that portion of the Ilnik Section between Unangashak Bluffs and Strogonof Point from July 5 to July 15, over sockeye salmon interception concerns with Bristol Bay.</p>
1992	The minimum gillnet mesh size restriction of 5¼" was removed in the Bear River Section after July 20. The remainder of the North Peninsula minimum 5¼" gillnet mesh restriction remains in effect.
1996	The minimum gillnet mesh restriction of 5¼" was removed in the Bear River, Port Moller Bight and Nelson Lagoon Sections to fully utilize local salmon stocks.
1998	<p>The minimum gillnet mesh restriction of 5¼" was removed after July 24 in the Three Hills and Ilnik Sections.</p> <p>The Northern District Salmon Fisheries Management Plan (5 AAC 09.369) was adopted. Early fishing time in the Ilnik Section southwest of Unangashak Bluffs between June 25 and July 4 is permitted if certain strong Ilnik River escapement levels are met. If early fishing is permitted, the maximum continuous fishing time is 24 hours, followed by at least a 24 hour closure, a sockeye salmon cap of 100,000 fish, and that portion of the Ilnik Section northeast of Unangashak Bluffs to Strogonof Point will remain closed from July 15 to July 25. Ugashik River sockeye salmon considered in the management of the Ilnik Section prior to July 20.</p>
2001	The minimum gillnet mesh size restriction of 5¼" was removed from the entire North Peninsula to fully utilize local stocks and provide management tool to control escapement quality.

Table 8. Sockeye salmon stocks used to manage three sections in the Northern District.

Section	Stocks	
	Pre-July 21	Post July 20
Bear River	Bear R., Sandy R.	Bear R., Sandy R.
Three Hills	Bear R., Sandy R., Ilnik R.	Bear R., Sandy R.
Ilnik	Ilnik R., Bear R., Ugashik R. <sup>a</sup>	Bear R., Ilnik R. <sup>b</sup>

<sup>a</sup> Bear and Ugashik Rivers will be considered if management concern exists.

<sup>b</sup> Bear and Ilnik Rivers will be considered post July 20 if the runs are late and escapement requirements are not being met.

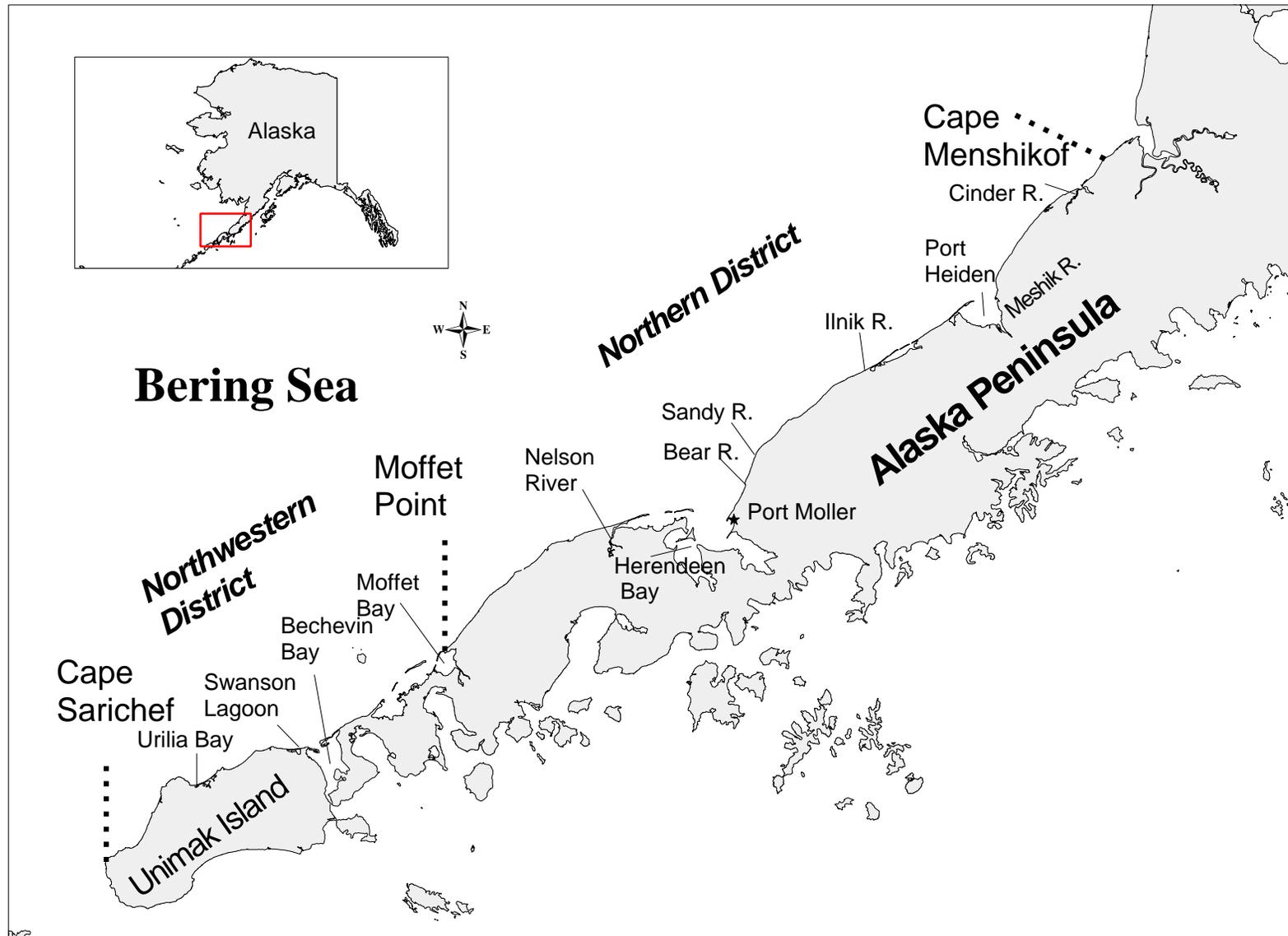


Figure 1. Map of the North and South Alaska Peninsula with the North Peninsula commercial salmon fishing districts depicted.

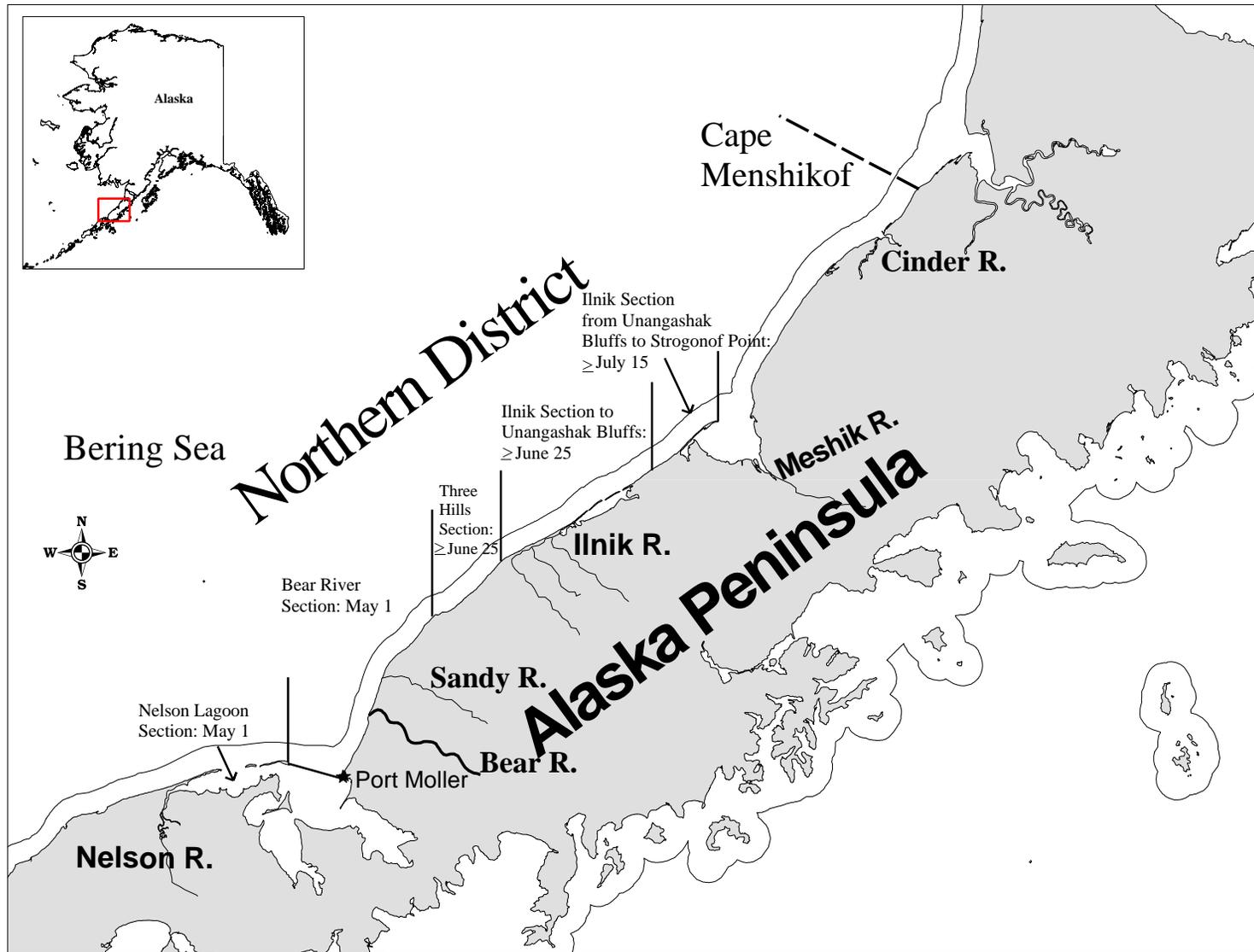


Figure 2. Map of the Nelson Lagoon to Strogonof Point reach of the Northern District with sections, commercial salmon season opening dates, and major sockeye salmon systems depicted.

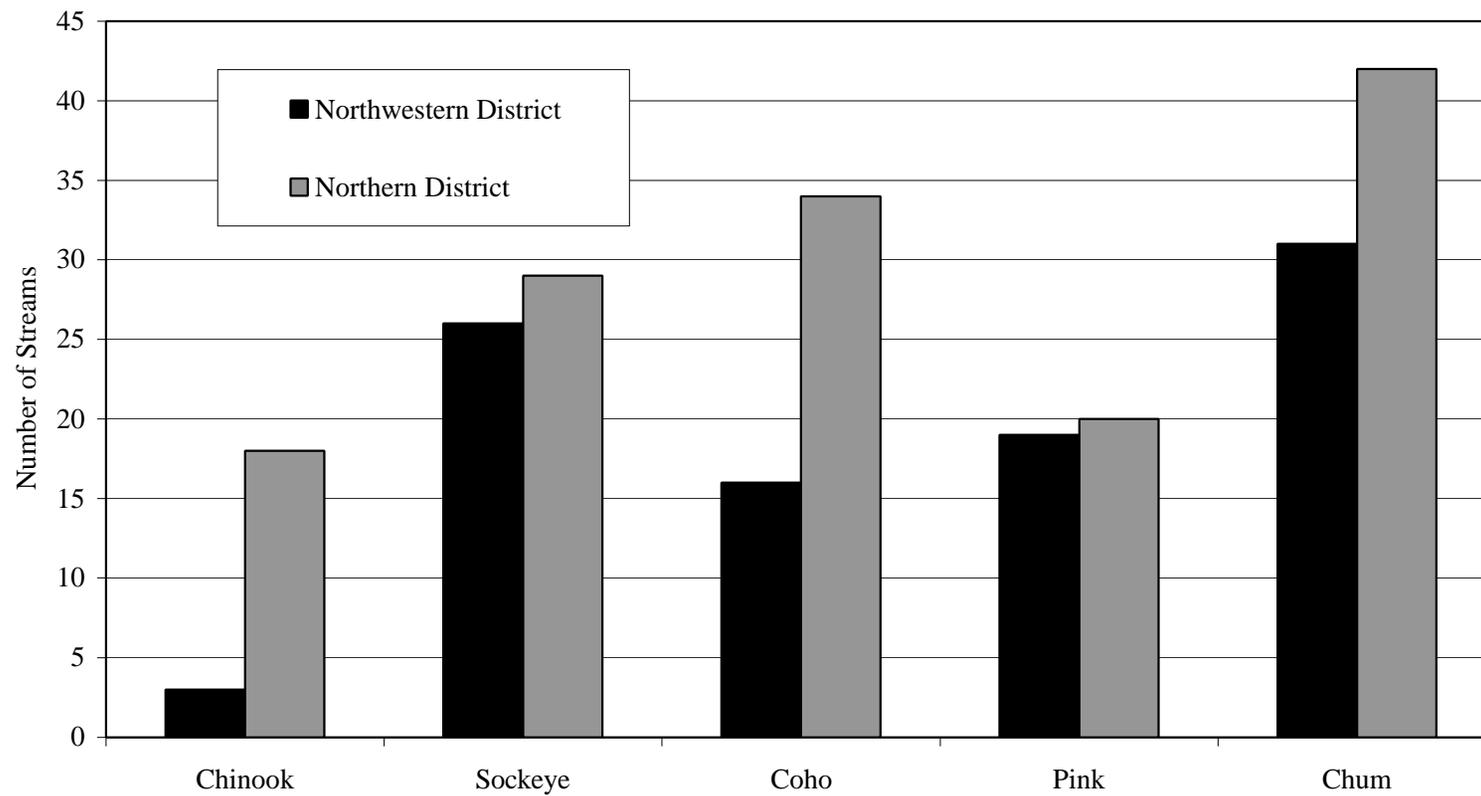


Figure 3. Number of salmon streams by species in the Northwestern and Northern Districts of the North Peninsula.

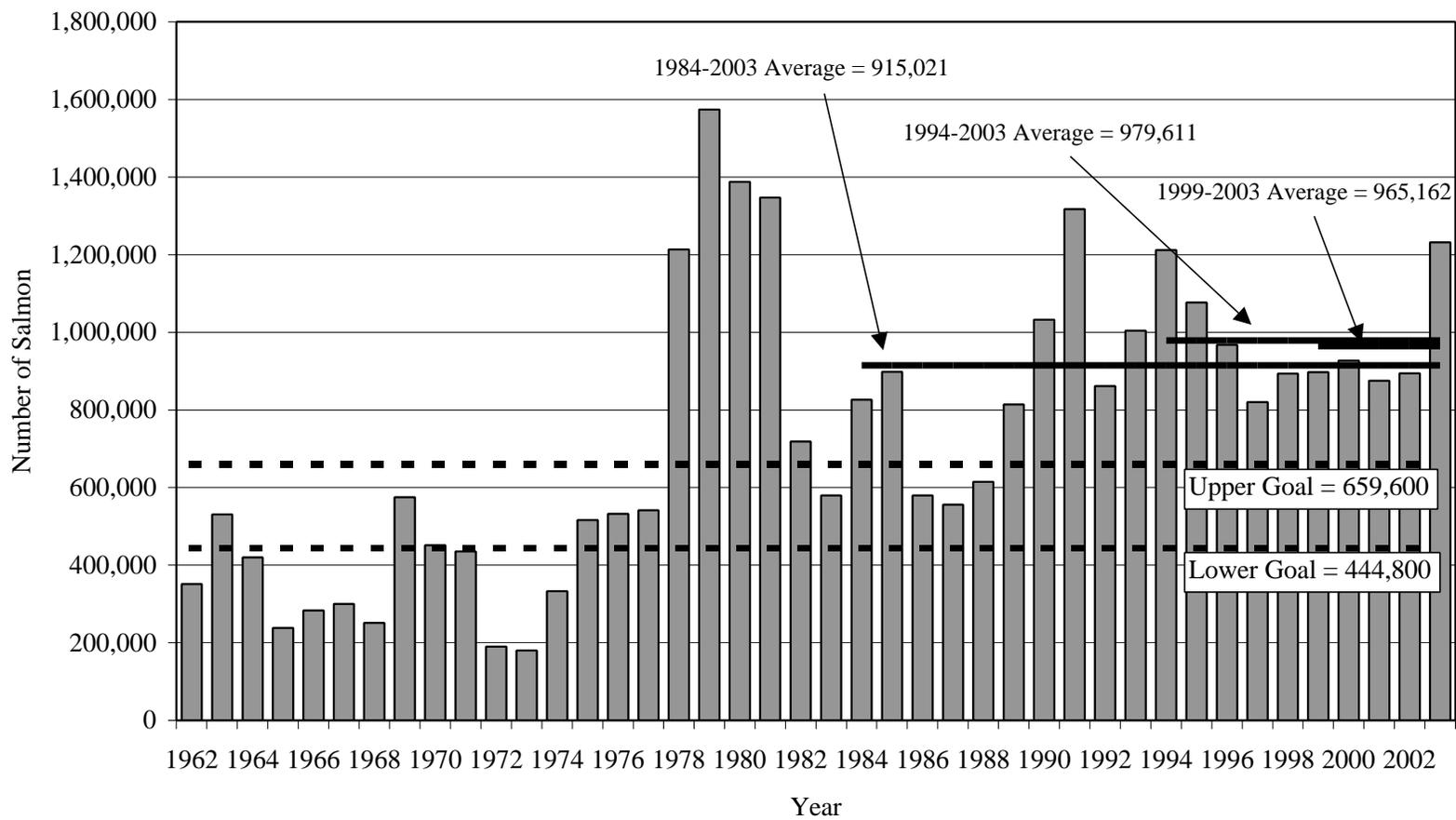


Figure 4. North Peninsula indexed sockeye escapement, 1962-2003.

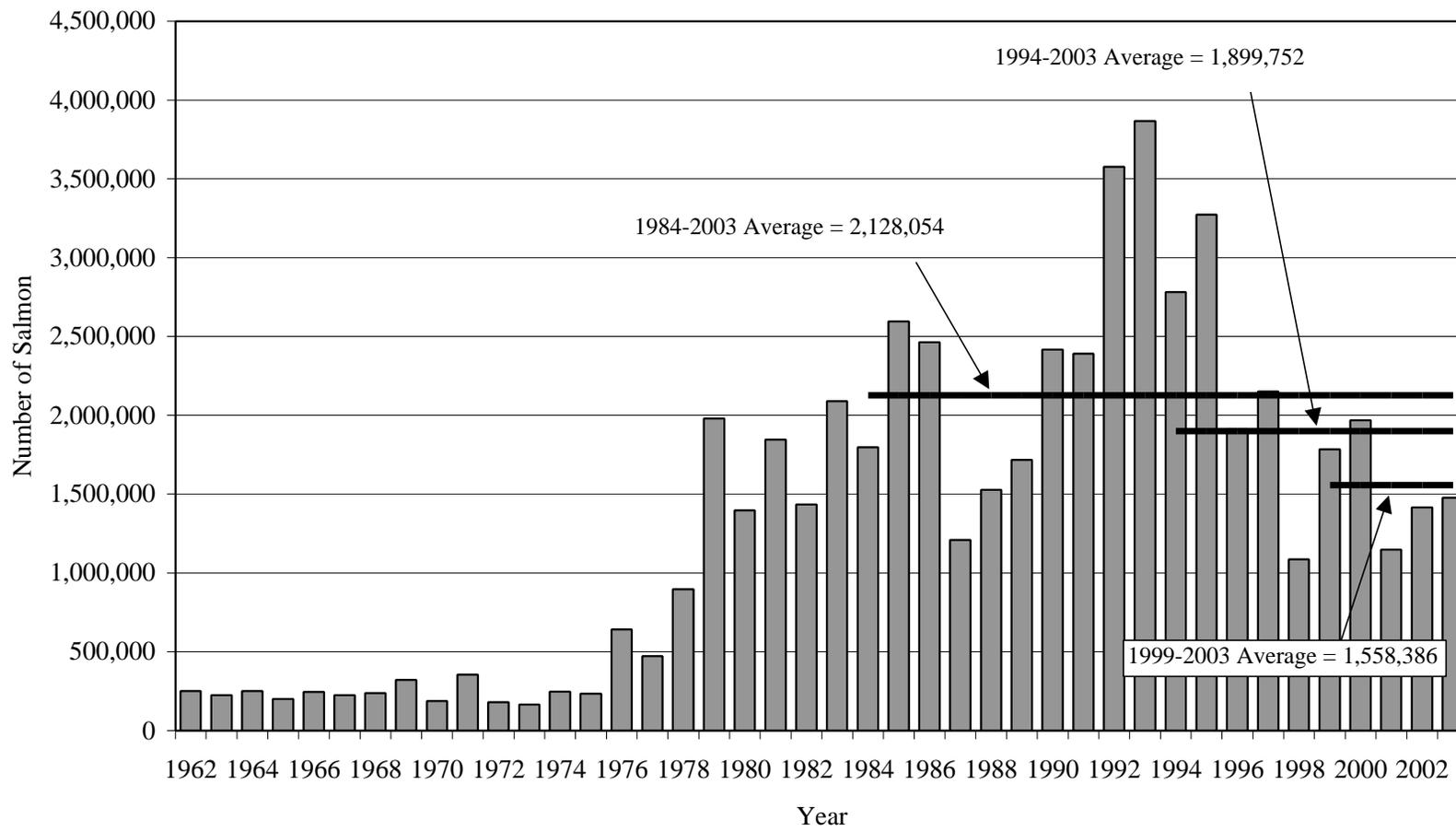


Figure 5. North Pacific commercial sockeye salmon harvest, 1962-2003.

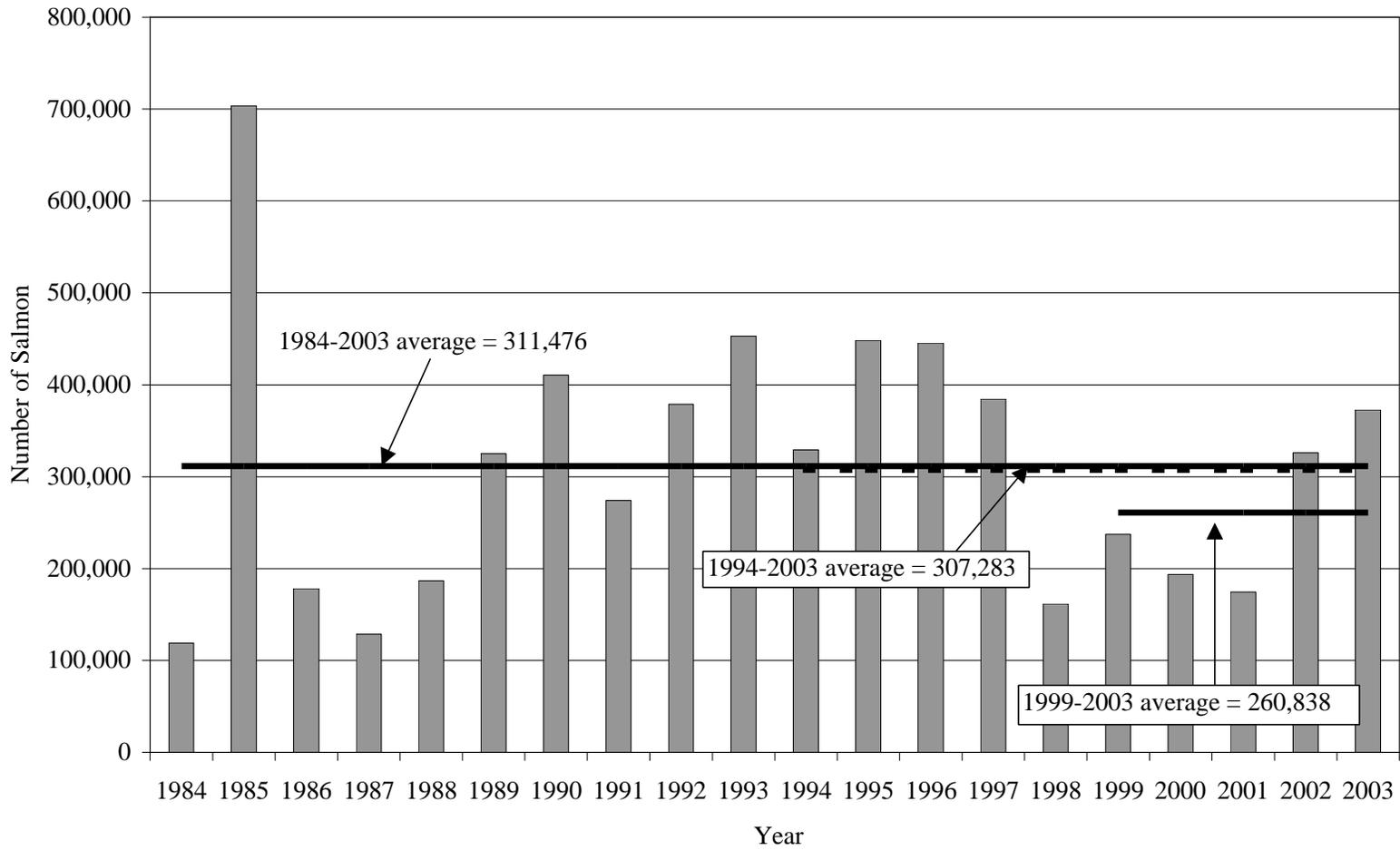


Figure 6. Nelson Lagoon commercial sockeye salmon harvest, 1984-2003.

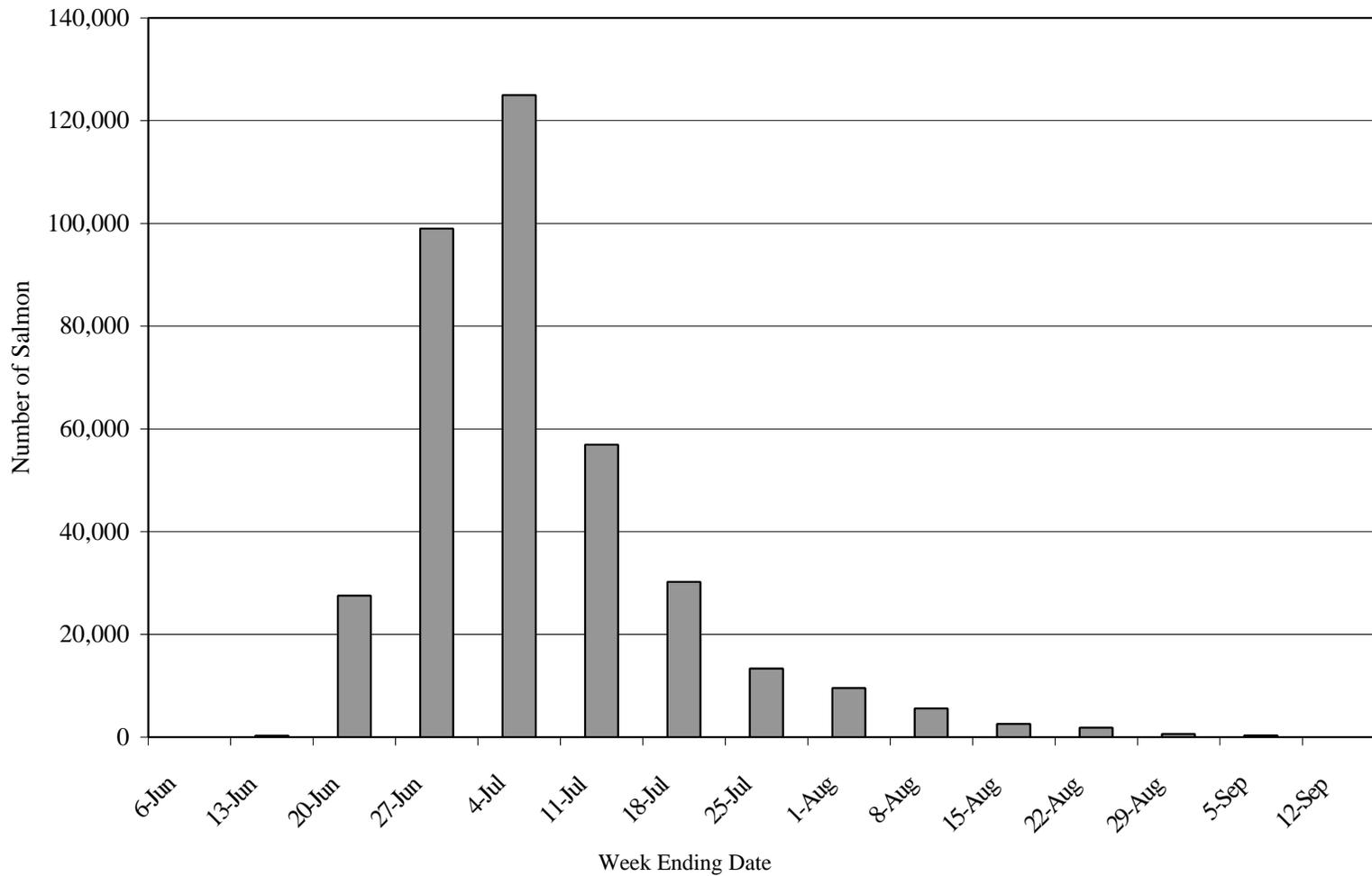


Figure 7. Nelson Lagoon commercial sockeye salmon harvest by week, 2003.

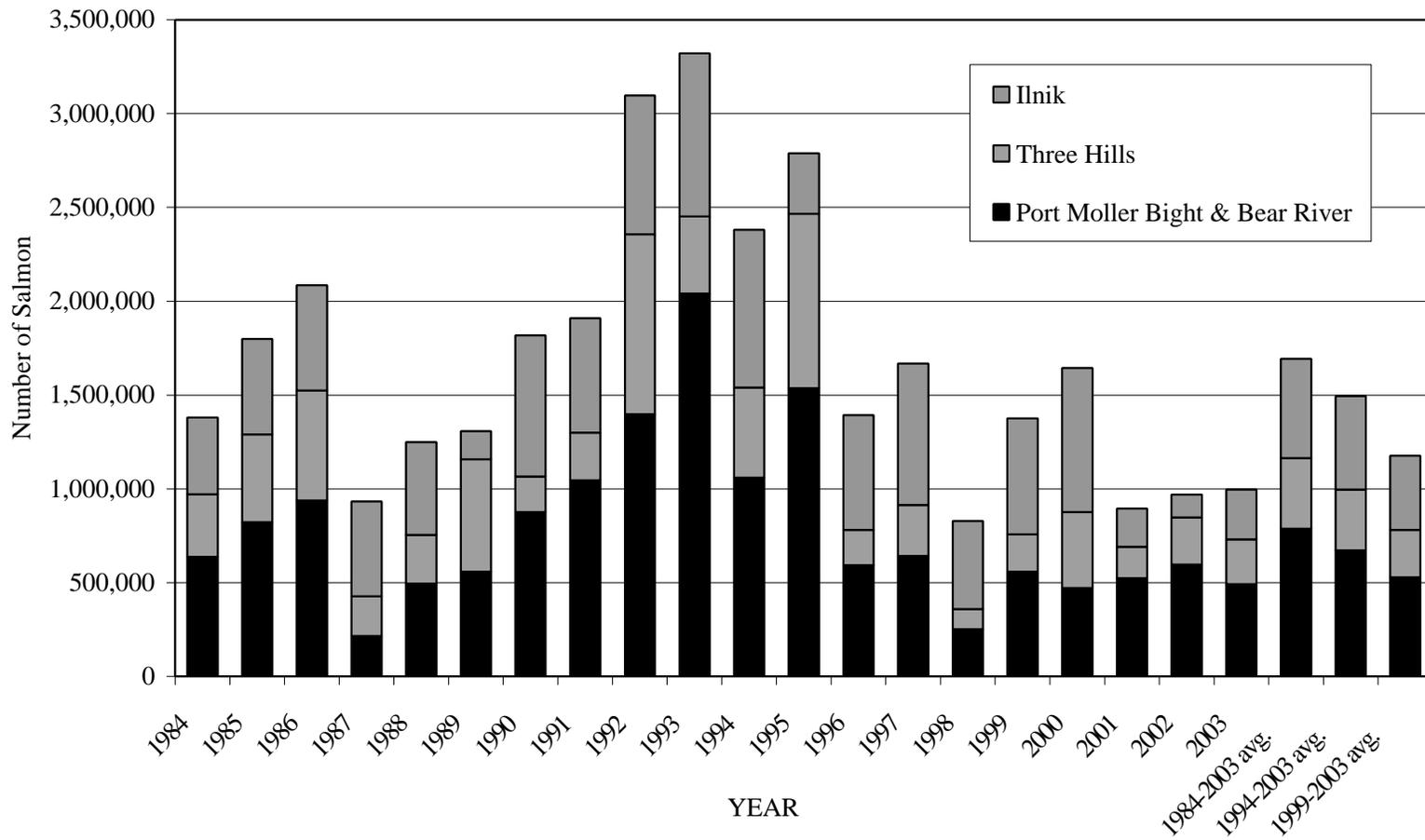


Figure 8. Port Moller Bight and Bear River, Three Hills, and Ilnik Sections commercial sockeye salmon harvest, 1984-2003.

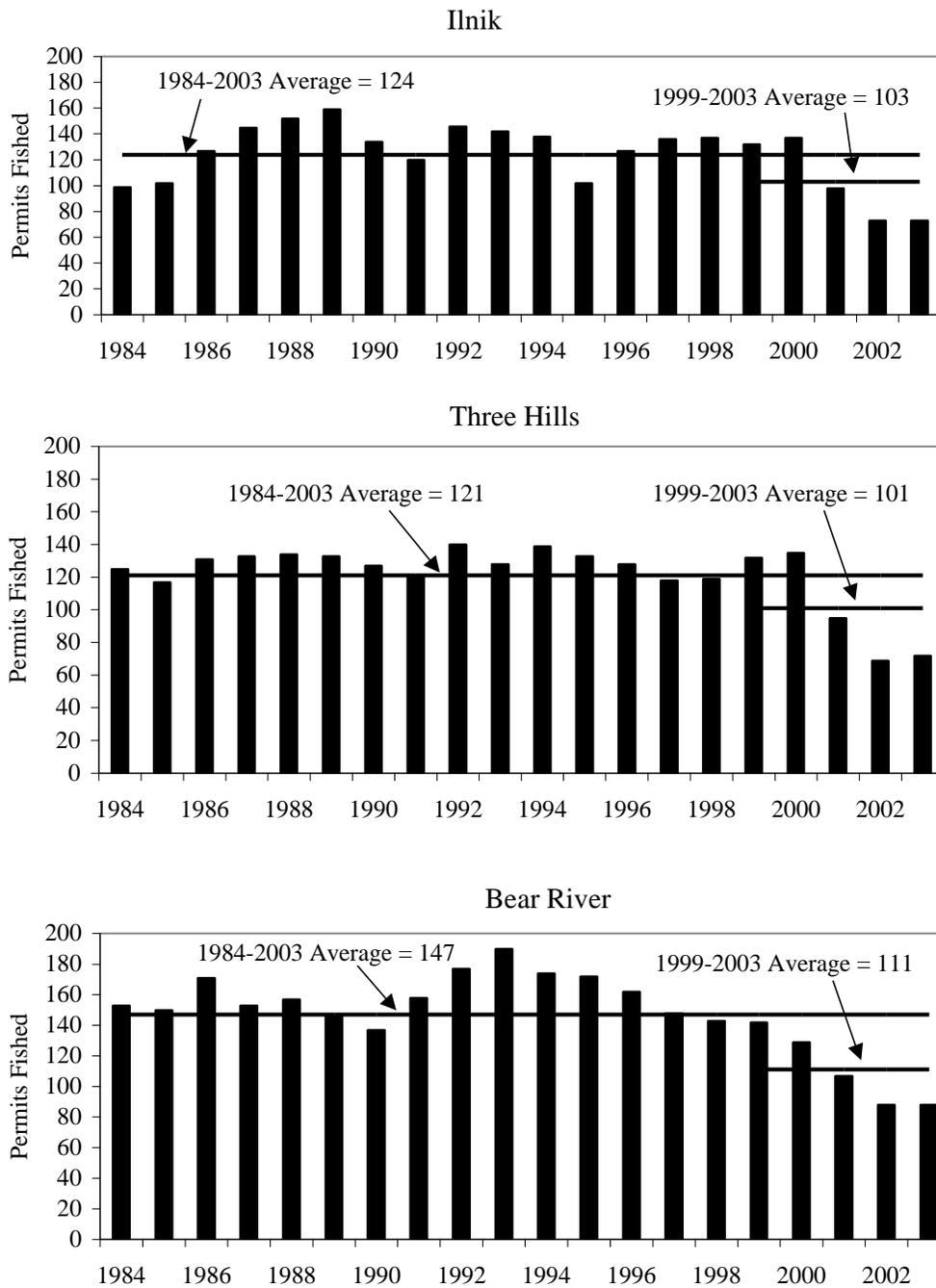


Figure 9. Number of commercial salmon permits fished in the Bear River, Three Hills, and Ilnik Sections, 1984-2003.

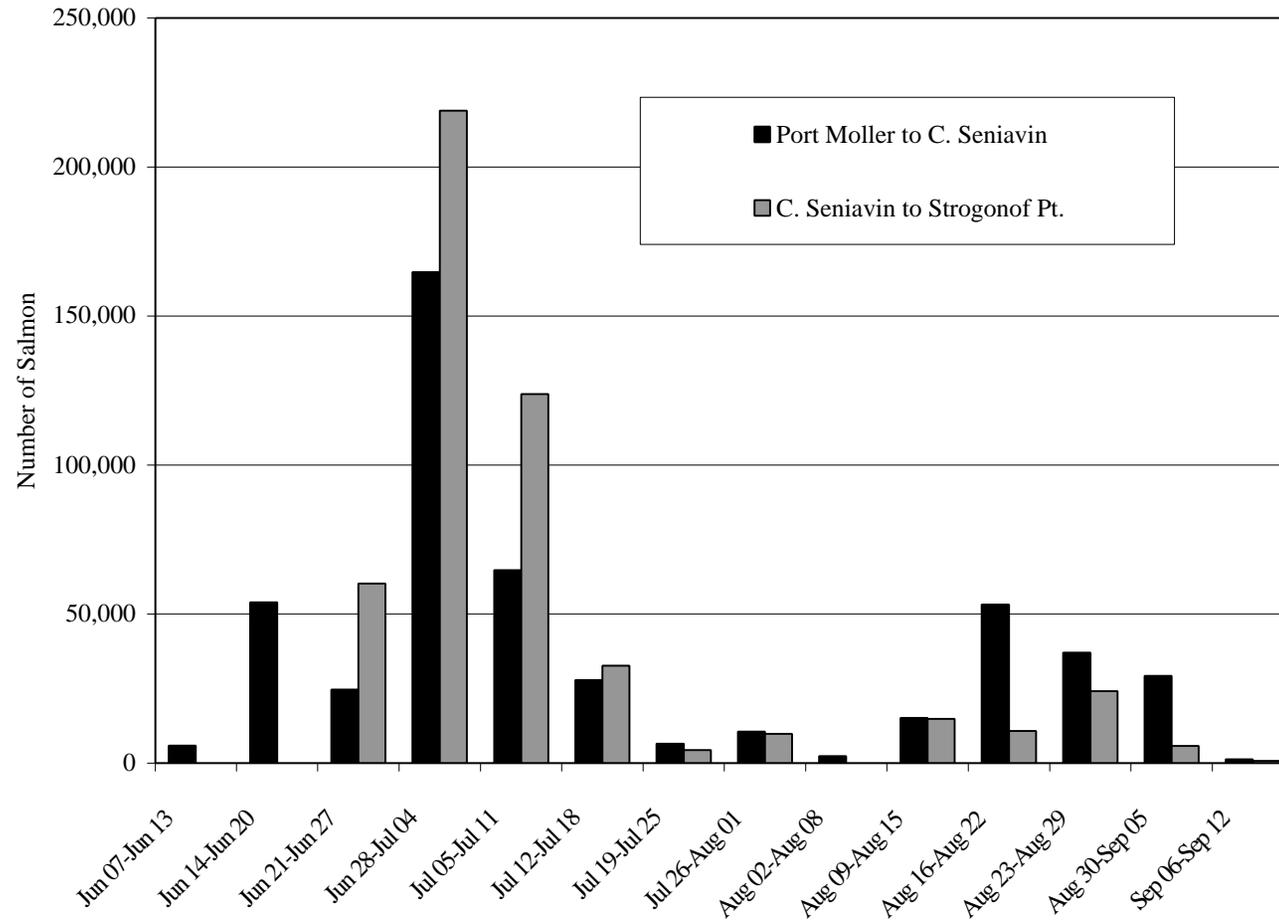


Figure 10. Port Moller to Strogonof Point sockeye salmon harvest by week, 2003.

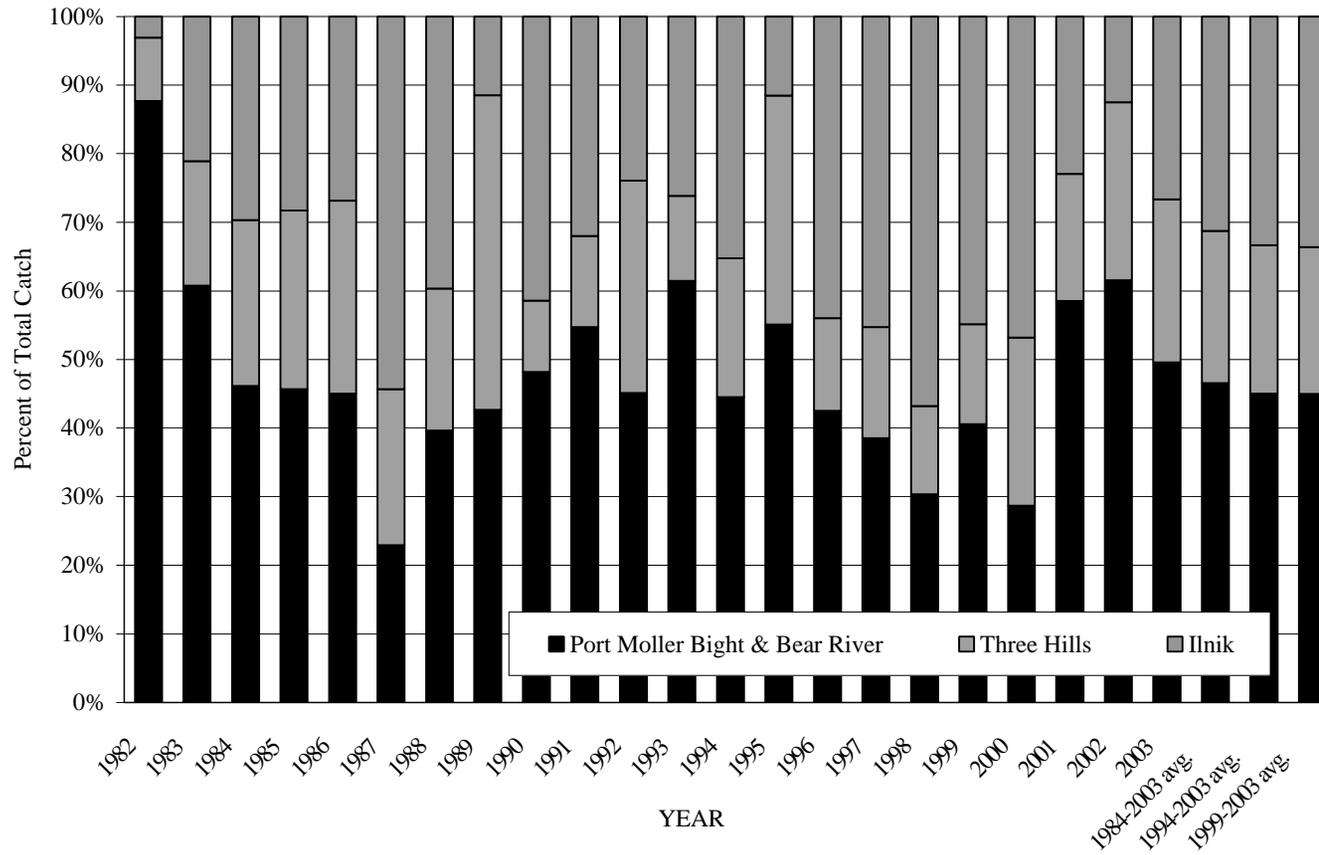


Figure 11. Percent of the commercial sockeye salmon harvest from the Port Moller Bight and Bear River, Three Hills, and Ilnik Sections, 1982-2003.

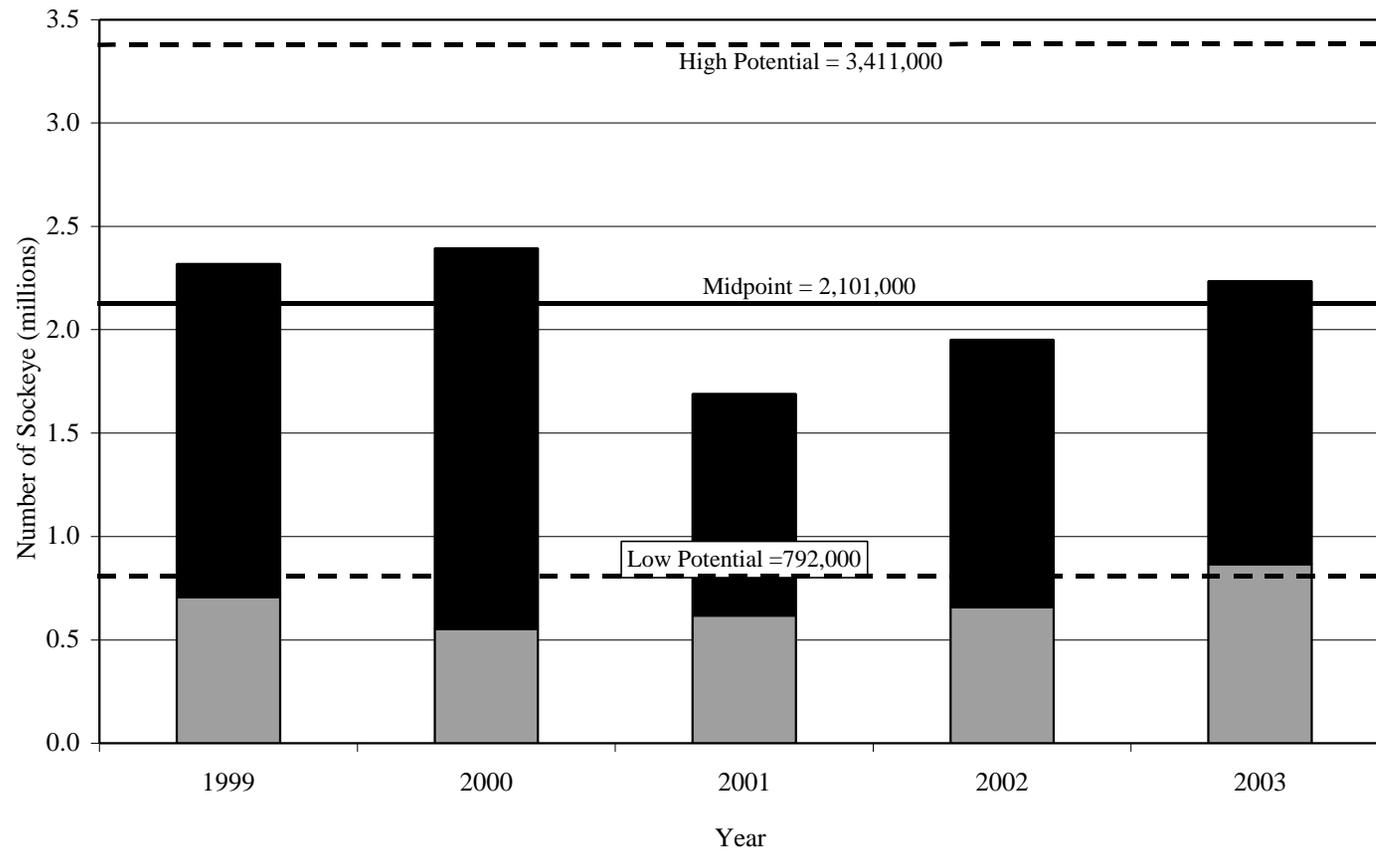


Figure 12. Nelson Lagoon to Strogonof Point actual sockeye salmon escapement (hatched bar) and catch (dark bar), and estimated run potential with low and high range estimates (dotted lines) for 1999-2003.

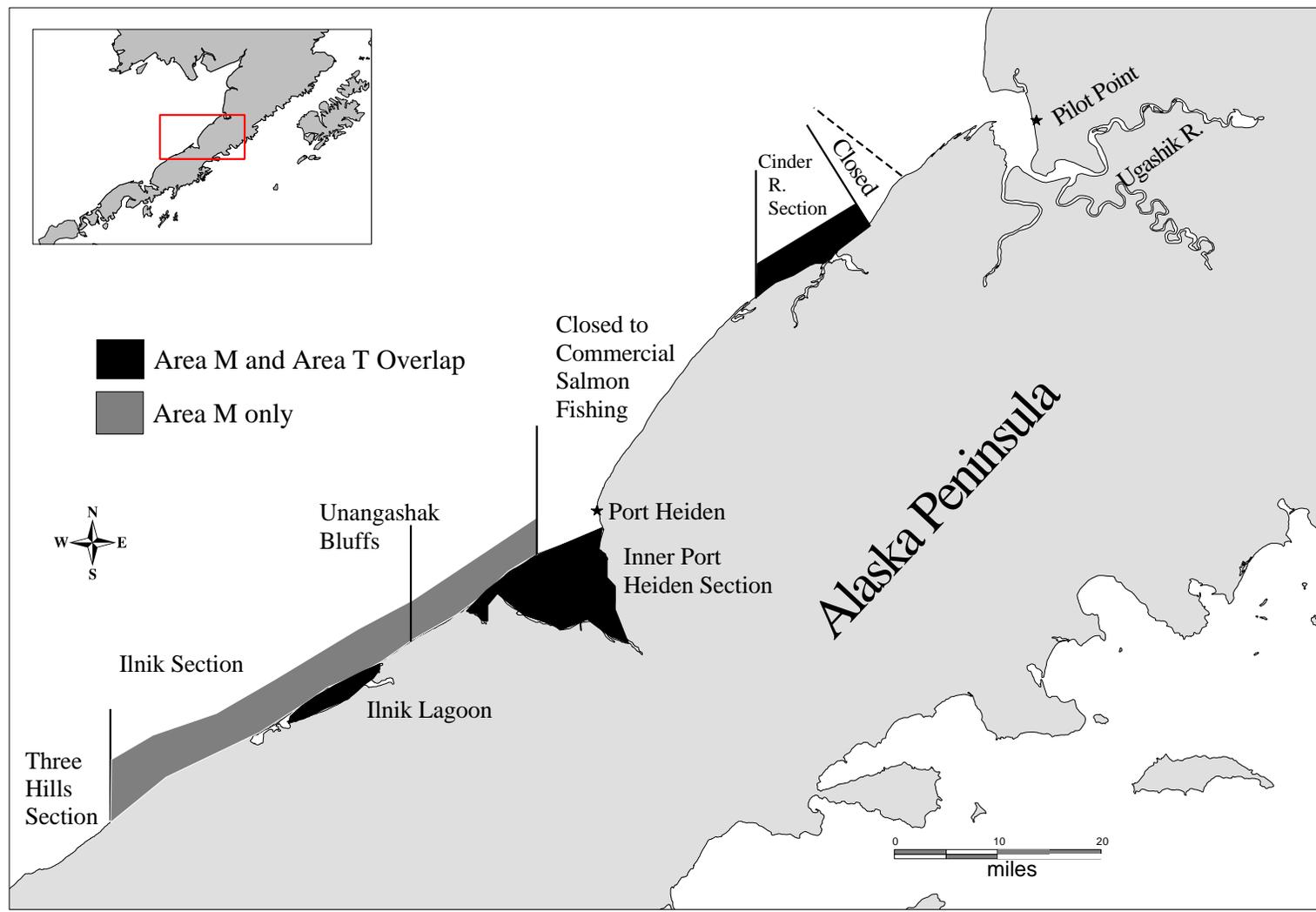
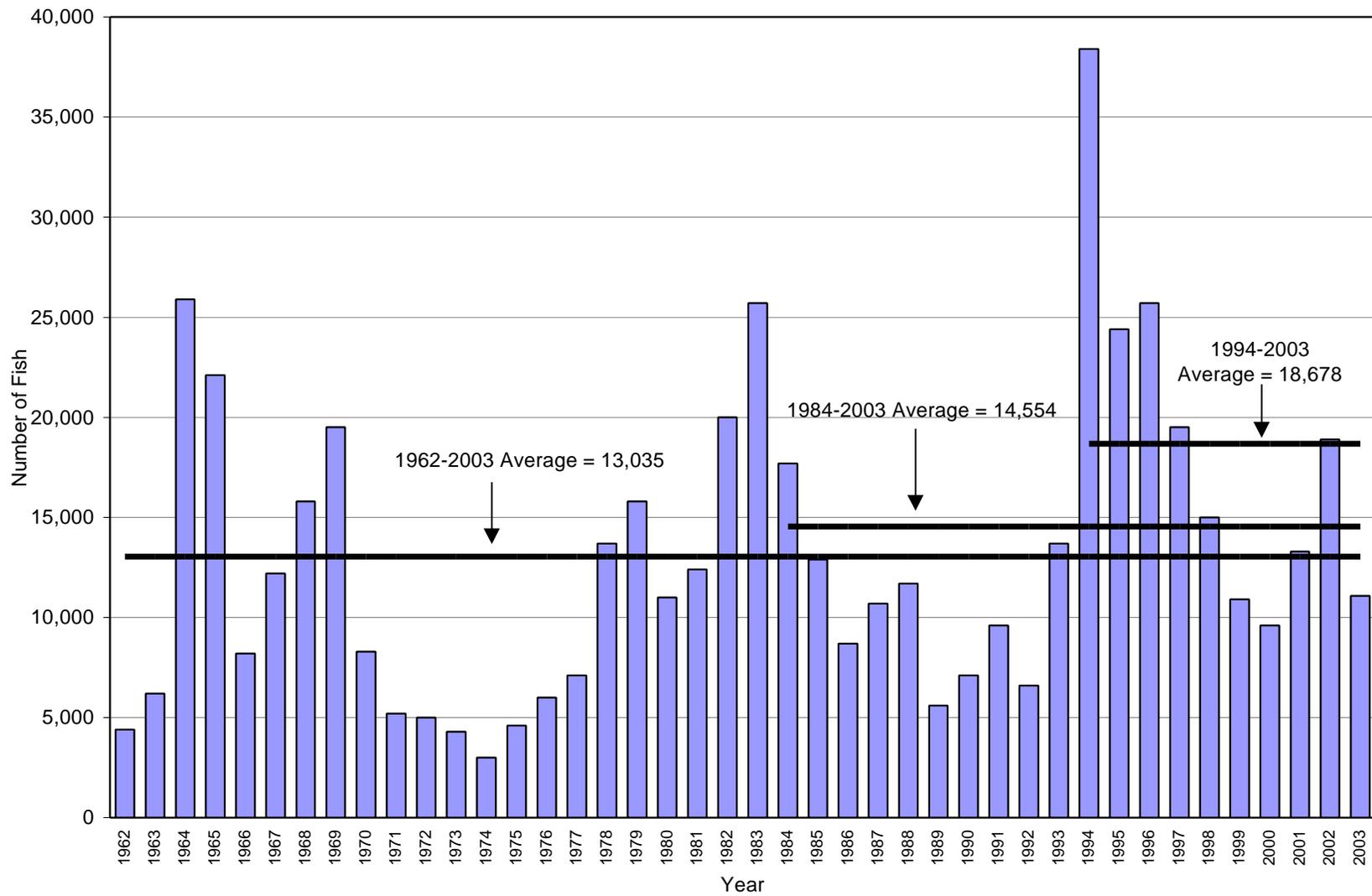
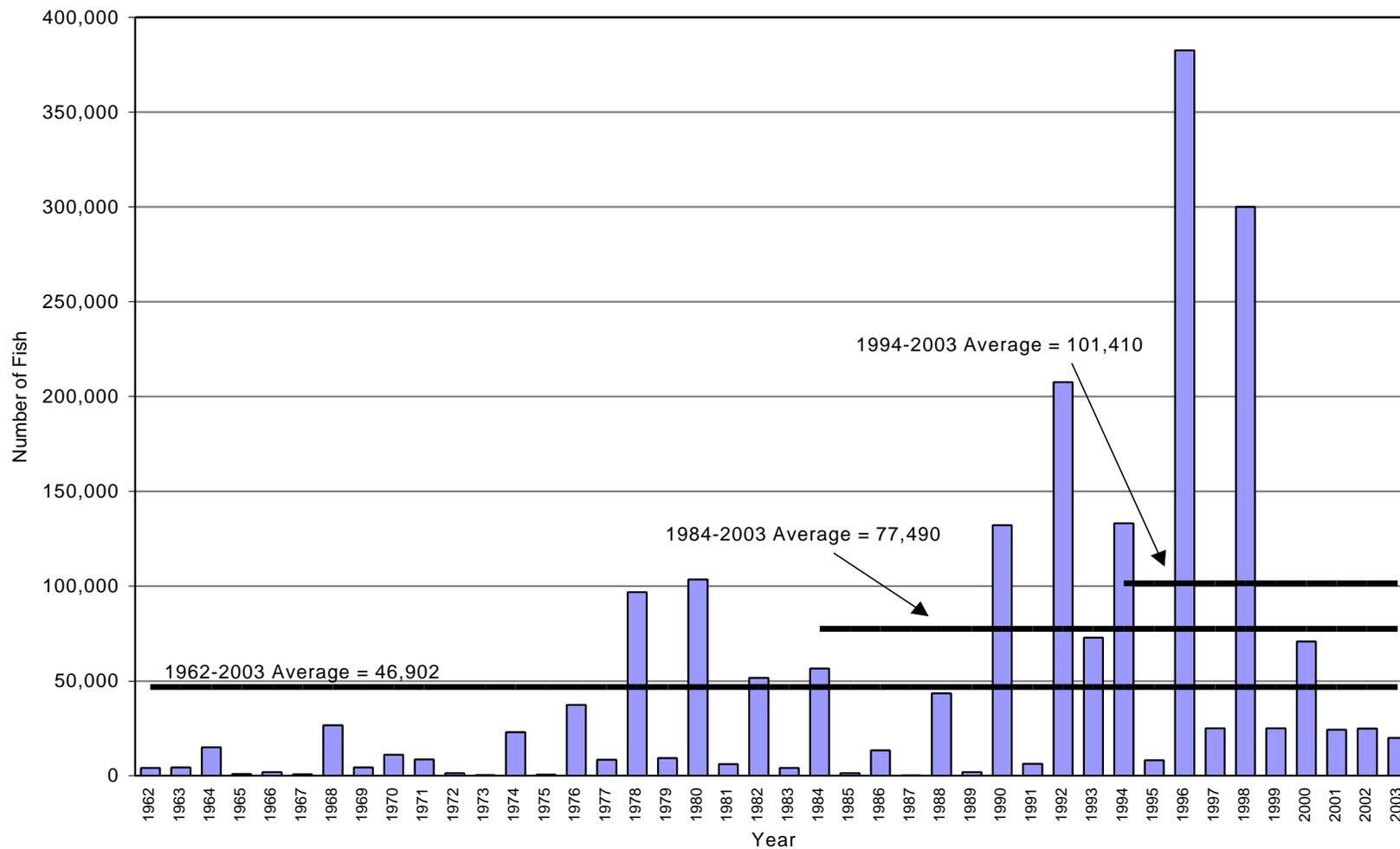


Figure 13. Map of the Alaska Peninsula (Area M) and Bristol Bay (Area T) commercial salmon fishing overlap areas.

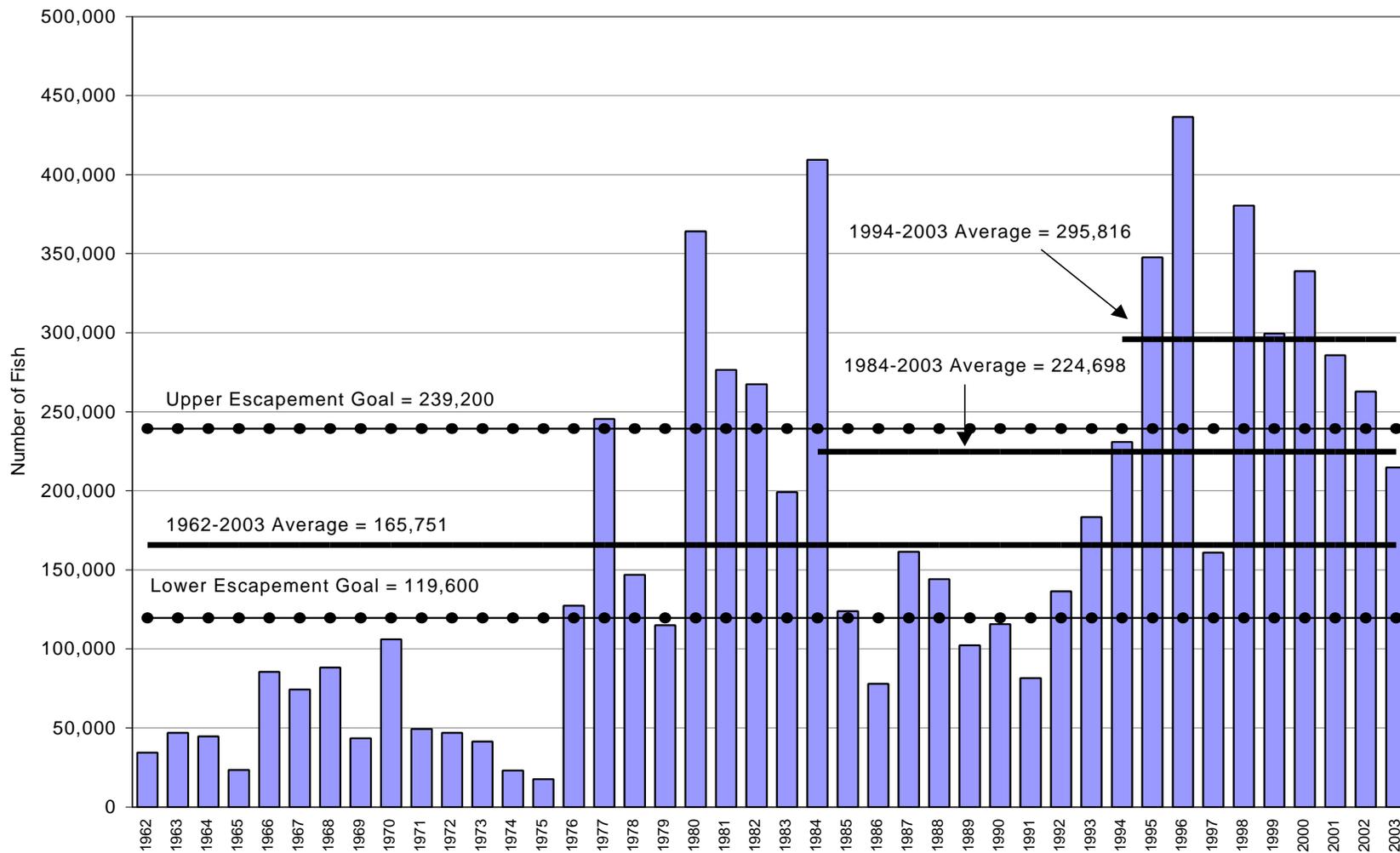
## **APPENDIX**



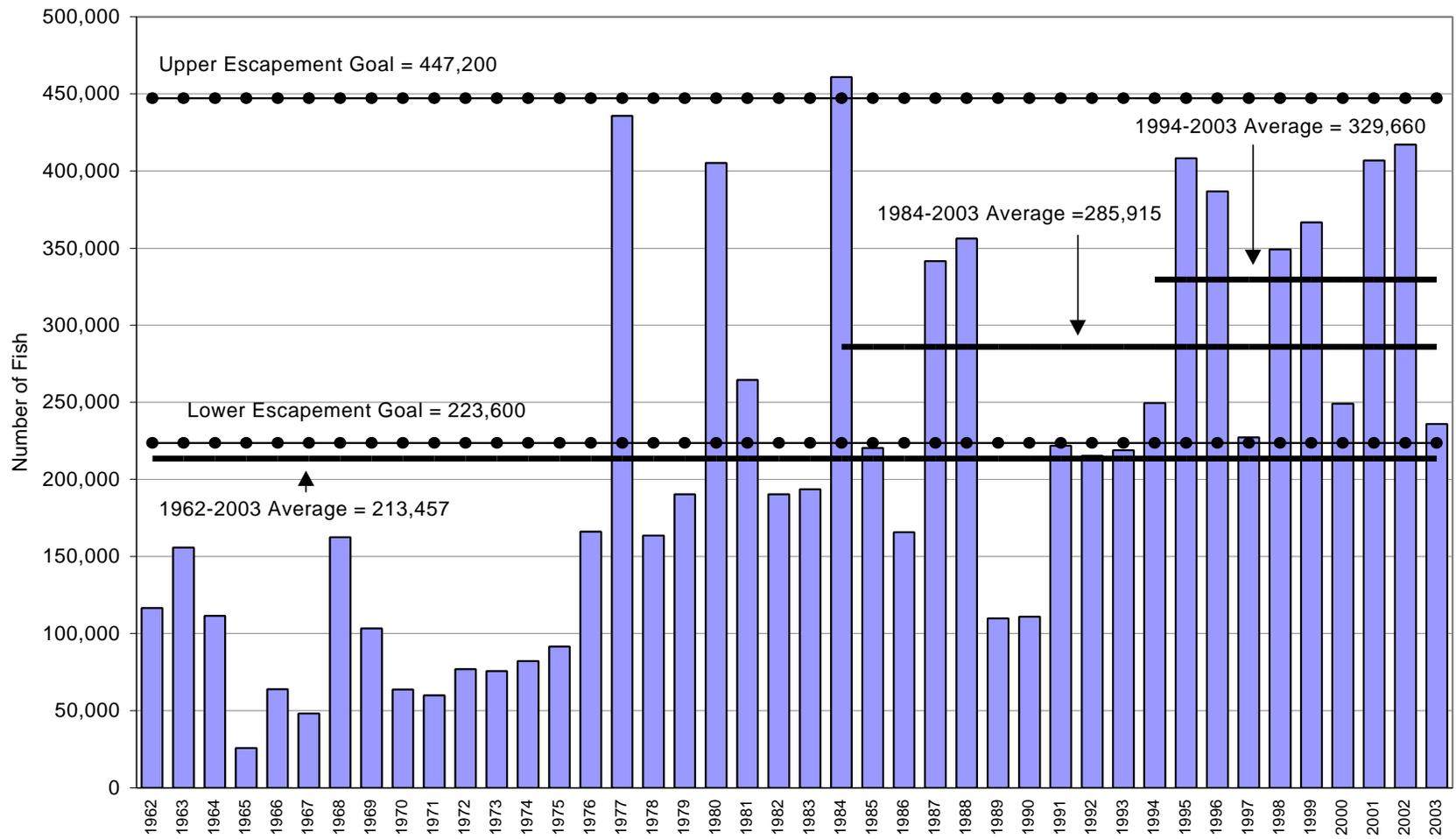
Appendix A.1. North Peninsula chinook salmon escapement by year, 1962-2003.



Appendix A.2. North Peninsula pink salmon escapement by year, 1962-2003.



Appendix A.3. Northern District chum salmon escapement, 1962-2003.



Appendix A.4. Northwestern District chum salmon escapement, 1962-2003.

Appendix A.5. Bear Lake late run (post July 31) sockeye salmon brood table, 1980-2003.

Year	Post 7/31	Ages																	Total	Return/
	Escapement	0.1	0.2	1.1	0.3	1.2	2.1	0	1.3	2.2	3.1	1.4	2.3	3.2	2	2.4	3.3	3	Return	Spawner
1980	238,038							0	12,754	400,014	90	54	132,036	330	0	205	17	0	545,500	2.29
1981	214,728				1,134	43,049	9,594	0	6,463	210,579	0	2	47,413	18	0	41	93	0	318,386	1.48
1982	104,503		0	0	657	1,324	1,333	0	7,344	70,269	0	91	197,258	488	0	1,259	847	0	280,870	2.69
1983	172,143	0	0	0	147	5,044	176	0	16,802	134,380	0	488	160,027	2,093	0	89	0	0	319,246	1.85
1984	108,151	0	0	0	429	2,887	19,898	0	23,787	301,375	0	185	142,790	11,014	0	1,261	0	0	503,626	4.66
1985	170,739	0	0	1	592	24,407	14,756	0	138,603	538,445	0	1,058	217,073	38	0	2,789	2,074	0	939,836	5.50
1986	98,921	0	0	172	2,512	62,610	2,269	0	77,677	412,258	0	1,252	301,036	5,751	0	416	4,290	0	870,243	8.80
1987	83,395	0	0	0	910	77,886	17,721	57	19,211	451,063	1,000	321	490,594	25,598	0	1,909	2,341	0	1,088,611	13.05
1988	140,660	0	0	2,101	256	15,096	29,363	77	18,515	370,999	0	109	250,503	224	0	2,886	143	0	690,272	4.91
1989	204,804	0	0	2,599	1,932	6,504	40,756	0	52,714	638,148	0	2,223	322,645	1,191	0	439	67	0	1,069,218	5.22
1990	262,946	0	0	0	1,037	35,887	11,911	82	77,905	795,302	0	94	250,526	13,215	0	751	1,370	0	1,188,080	4.52
1991	173,913	0	0	1,123	211	39,738	15,637	90	32,615	192,725	146	979	91,586	1,564	0	0	1	0	376,415	2.16
1992	195,830	0	0	247	741	7,789	19,961	226	44,890	356,357	0	0	73,155	339	0	44	215	0	503,964	2.57
1993	197,988	0	189	122	7,940	6,631	30,910	1	6,601	366,291	123	184	114,578	5,819	0	100	1,299	32	540,788	2.73
1994	204,441	0	316	1,705	312	20,444	21,371	0	18,139	566,411	0	55	156,901	1,098	32	714	229	0	787,727	3.85
1995	107,961	0	24	1,279	497	30,943	27,553	0	47,482	455,680	0	860	147,895	32	0	1,149	351	0	713,745	6.61
1996	119,629	0	217	1,208	1,287	37,755	8,026	32	15,639	271,516	0	301	143,781	19,931	0	427	2,902	0	503,022	4.20
1997	145,311	0	0	527	1,095	5,718	28,904	50	2,606	198,531	201	196	103,665	7,107						
1998	193,420	0	2,749	202	1,549	13,224	10,321	0	13,909	162,867	0									
1999	127,890	211	2,058	347	1,304	5,863	27,608													
2000	90,947	15	722	7,755																
2001	122,505	135																		
2002	95,520																			
2003	139,844																			
5-yr Avg.	115,341	72	1,149	2,008	1,146	18,701	20,482	16	19,555	331,001	40	319	133,364	6,797	6	487	999	6	609,849	3.99
10-yr Avg.	134,747	36	628	1,452	1,597	20,399	20,220	48	31,250	400,383	47	500	165,524	5,052	3	842	892	3	746,184	4.98

Appendix A.6. Nelson River sockeye salmon brood table, 1978-2003.

Year	Escapement	Ages																Total Return	Return/Spawner	
		0.1	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2	2.4	3.3			
1978															##	2,942	779			
1979																				
1980								299	107,873	492,648	0	131	185,282	202	0	239	44			
1981	251,000				1,759	36,372	46,924	72	41,812	47,275	0	660	13,678	35	0	59	0			
1982	179,600		314	65	5,608	11,464	2,635	67	45,490	143,389	0	123	125,841	1,572	0	963	8	337,539	1.88	
1983	128,800	0	852	0	5,740	43,856	23,711	244	72,682	53,532	0	936	66,102	210	0	2,964	2,751	273,580	2.12	
1984	251,000	0	624	6,638	1,912	59,603	12,678	206	59,696	276,557	154	449	275,013	10,624	0	17	0	704,171	2.81	
1985	314,000	0	168	671	976	77,339	8,037	171	110,618	238,924	0	0	109,028	0	0	1,632	46	547,610	1.74	
1986	117,500	40	187	353	4,370	33,650	13	0	188,884	175,014	0	7,801	140,116	285	0	1,817	1,979	554,509	4.72	
1987	155,700	0	57	0	1,588	71,043	4,221	143	112	151,270	0	2,986	287,652	7,874	0	3,054	288	530,288	3.41	
1988	142,900	0	574	3,357	3,441	132,457	9,261	0	126,716	257,895	0	4,422	129,241	2,311	0	1,025	1,051	671,751	4.70	
1989	206,800	0	520	394	3,029	21,813	8,550	0	42,705	422,926	333	510	129,324	2,124	0	104	0	632,332	3.06	
1990	269,200	0	274	0	1,836	39,391	15,830	47	104,895	490,010	0	770	66,012	0	0	0	388	719,453	2.67	
1991	279,200	0	43	57	850	27,591	29,153	13	93,773	397,612	0	1,059	117,254	0	0	0	0	667,405	2.39	
1992	179,700	177	372	367	7,022	101,543	16,002	35	88,011	138,846	0	270	65,466	1,950	0	0	323	420,384	2.34	
1993	262,200	0	588	696	6,168	32,200	0	0	101,468	68,567	0	757	43,961	0	0	247	822	255,474	0.97	
1994	333,400	0	0	66	1,784	56,338	25,719	0	55,711	278,510	0	187	64,812	2,238	0	396	850	486,611	1.46	
1995	338,700	0	408	1,225	9053	40189	8048	45	40,011	159,412	0	443	59,776	0	0	427	1,805	320,842	0.95	
1996	241,600	0	487	369	4,798	103,080	373	1,351	127,901	121,449	179	258	116,142	29,140	0	284	5,141	510,952	2.11	
1997	183,000	0	28	336	11,403	40,783	5,776	0	36,770	364,391	234	781	188,100	3,880						
1998	159,810	0	5,419	603	8,105	49,739	8,673	0	88,210	248,385	1,082									
1999	202,067	0	23,892	284	13,776	47,362	104,402													
2000	182,694	234	10,599	2,296																
2001	201,962	2152																		
2002	315,689																			
2003	343,511																			
5-yr Avg.	249,185	477	8,085	778	9,427	56,231	25,454	279	69,721	234,429	299	485	94,558	7,052	0	271	1,788	398,853	1.57	
10-yr Avg.	250,243	256	4,184	630	6,480	53,822	21,398	149	77,946	269,011	183	946	98,009	4,164	0	554	1,067	521,549	2.41	

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