

NORTON SOUND SALMON INFORMATION DATABASE
FILE INVENTORY AND PROBLEM REVIEW



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ABSTRACT

Management decisions depend upon timely interpretation and comparisons of current year and historical data. The current system of processing and organizing salmon data within Norton Sound Area is outdated. Paper records and computer spreadsheets are most commonly used. As a result, sharing information with other parties or to respond to specialized requests is often difficult. The overall objective of this project is to provide managers, researchers and public entities involved in salmon fisheries management in Norton Sound Area a system to enter and process new data and retrieve historical data. This new system would provide managers and researchers timely access to critical information needed to make informed management decisions. A database of this complexity must be developed in stages. This report is an inventory of historical salmon data and review of the data processing methods in Norton Sound Area.

KEY WORDS: Norton Sound Area, chum salmon, fisheries management, Nome, fisheries database, Port Clarence, western Alaska

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INTRODUCTION

The Norton Sound and Port Clarence areas include the southern Seward Peninsula and surrounding waters in western Alaska (Figures 1 - 3). Subsistence salmon harvests have been integral to the indigenous residents in this area for centuries, and “nearly all of the local residents are dependent to varying degrees on the fish and game resources for their livelihood” (Bockstoe, 1979; ADF&G, 2001). Over the last two decades salmon returns in the area have declined sharply. Population dynamics of several salmon species appear to be undergoing substantial change, perhaps in response to large-scale environmental influences.

The introduction of federal regulation in subsistence fisheries and growing involvement of community-based groups has also increased the complexity of the management process. Effectiveness of fishery management is enhanced when full use is made of existing information. Management decisions depend upon timely interpretation and comparisons of current year and historical data. The existing data management system is not well suited to such a dynamic management environment.

Existing data summaries are rigid. Modifications made to view data in response to changing management needs or research questions are often laborious. Various types of related data are stored in diverse formats and locations. Consequently, it is difficult to address complex questions requiring integration of multiple data sources. There is also a danger of losing data during staff transitions and from degradation in electronic media.

Historical data needs to be accessible in a flexible and easy to use database. In addition, field and office personnel need an efficient means of entering, editing, summarizing, and archiving the large quantity of new data collected each year. With the exception of commercial and subsistence catch data, no programs to enter, edit and summarize data have been developed.

The Norton Sound Information Database project includes development of a database management system (DBMS) for querying and retrieval of salmon fishery and stock assessment data and entry of new data. This database would be made available through a user-friendly interactive interface to fisheries managers and research biologists. An integrated system of fisheries-related data that can be easily queried would be invaluable to fisheries management and research in the Norton Sound/Port Clarence Area.

The overall objective of this project is to provide managers, researchers and public entities involved in managing salmon fisheries in the Norton Sound/Port Clarence Area, a system to enter and process new data and to retrieve historical data. This system would provide managers and researchers timely access to critical information necessary for informed management decisions.

OBJECTIVES

The overall objective of this project is to provide managers, researchers and public entities involved in managing salmon fisheries in the Norton Sound Area, a system to enter and process new data and to retrieve historical data. The proposal review committee stated escapement and age, sex, and length (ASL) data were to be given higher priority than harvest data, therefore a database consisting of these higher priority data will be created first. Other data sets will be incorporated if possible as requested by users. Maintenance and continued development of the database system will be an annual task. Objectives for the entire project are listed below; however this report completes the first objective of an inventory of Norton Sound Area salmon data. Currently, data are being aggregated as possible, fulfilling the second objective.

Project Objectives

1. Create an inventory of Norton Sound salmon data.
2. Aggregate and correct data as necessary.
3. Convert data to a standard format in a relational database.
4. Meet with users to decide on desired products and needs.
5. Develop data entry, editing and summaries so that data can continue to be added to the database.
6. Develop database queries and reports.

Specific Objectives of Steering Committee and Scientific & Technical Committee Met by this Project

This database will contain historical data needed to answer some questions asked by the Steering Committee (SC) and Scientific & Technical Committee (STC). Studies on size and age of maturity of Norton Sound Area salmon need to have historical ASL data organized and accessible. Researchers must be able to correctly identify where these fish were caught. Currently these data are in hundreds of individual ASCII files with a separate file for each project, gear, species and year. Dates and codes for project, gear, and species will be verified

as these data are incorporated into a database. Researchers will have a flexible query system for grouping and selecting data. These data would also be needed for any stock identification study using scale pattern analysis or fish length.

Similarly, historical escapement data are needed to assess run timing and escapement levels for stocks and evaluate escapement goals. Data collected sporadically could be used for identifying spawning streams and species distribution. Data of insufficient quality to estimate escapement may be of use for indicating presence or absence of a species in a particular area.

Historical commercial and subsistence catch and effort data are necessary for calculating and evaluating exploitation rates, characterizing these fisheries and documenting changes in participation.

METHODS

Major data categories were identified as subsistence and commercial harvests, escapements, and biological data. An inventory of existing data sources, including data format, storage media, and primary contact information, was conducted and is documented in this report. Brief descriptions of all historical and current salmon projects for the Norton Sound Area are also included.

The proposal review committee stated escapement and ASL data were to be given higher priority than harvest data. In addition, data needing immediate rescue was given highest priority. ASL data was collected from project leaders and aggregated into a common format. Original data forms were recovered for scanning where electronic records did not exist. This task is currently underway.

An escapement database was created under a federally-funded statewide GIS project. However this project ended before aerial survey was added to the database. In addition, escapement data collected since 1997 needs to be reformatted and added. The database needs some revision and we need to ensure the data are complete and correct. Summary reports and data entry and error-checking routines need to be added for this purpose.

RESULTS

Tasks completed for this project are listed in Table 1. Detailed descriptions for each data type are included below.

Age, Sex and Length

ASL data have been collected since 1962 in the Norton Sound Area (Table 2). To create an inventory of this data, salmon scales stored on gum cards and imprinted on acetates were organized by year, species and project in file cabinets located in the Anchorage and Nome scale archives. Next, an electronic inventory was created for these scales. An effort was made to find corresponding electronic data for each species, project and year combination. This task has taken much time partly because of the volume of scales and data collected over the past 40 years but mostly because the electronic data lacks an archive system. As files were found and added to the inventory, files were organized on modern media. All files are stored on the Commercial Fisheries Division file server and are backed up on tape nightly.

Hundreds of 5¼ disks were collected from the Nome ADF&G office, sent to Anchorage and transferred by a data recovery company or Department staff to CD and the Commercial Fisheries Division file server. Many of these disks were hard-sectored diskettes using an obsolete, pre-DOS operating system, CP/M. An obsolete Vector III computer with this CP/M operating system was found in storage and hardwired to an IBM-type machine. Computer programs were written to enable transfer between the two systems. Files were scanned to find ASL data.

Chinook, chum, sockeye, coho, and pink salmon ASL data files for Norton Sound/Port Clarence Area are listed in Appendices A1 – A5. These tables also include the type of found information such as gum cards with scales, acetate imprints, ASL data form, and electronic file name and type. Various ASL codes including project, and gear type are listed in Appendix B and corresponding location codes are listed in Appendices C1 – C2. Nearly half the electronic files of Norton Sound ASL data, particularly those collected before 1988, are missing. Gaps exist in the ASL electronic data inventory for several reasons. In some cases, paper data have not been transferred over to electronic media, 5¼ floppy disks containing archived files are missing, and many disks have become corrupted or are unreadable with current equipment.

Two types of electronic ASL data exist: individual observations of the age, sex and length of a fish (raw data) or summarized data expressed as percent age composition of a fish population. Summarized age, sex, and length data are often allocated and weighted by a specific population, such as a district's commercial harvest. Both types, including files names, are listed in the tables. Reports containing age, sex, and length summaries are listed in Appendix D.

Raw Data

Over the years, multiple formats for raw data and programs to read raw data have been

created. Six types of raw data file formats have been identified (Appendices E1 - E6).

In 1985, an optical scanning reader (OPSCAN), which scans and records data from ASL forms, was introduced to improve data processing. Accuracy of the OPSCAN's reading depends on the type of information provided and how that information was entered on ASL forms; blank spaces and incorrect coding cause disruption of OPSCAN's data reader (see Table 3). Species, project and gear types were often miscoded or omitted in the historical data files. Many mistakes were found in the district, sub-district, and location codes. Occasionally, the year had been incorrectly entered on the ASL form and misread by OPSCAN. Also, many wrong scale card numbers caused faulty recording on the ASL form or incorrect reading by OPSCAN.

Since many Norton Sound electronic data files cannot be found, original paper data forms are being located. Project researchers have repaired an obsolete OPSCAN machine to read these forms. Data collected before the introduction of OPSCAN forms not located in a digital format will be manually re-entered.

Inconsistent file naming conventions caused problems locating and recognizing files. Almost all the files had to be opened to accurately identify their contents. Numerous, identical raw data and summary files were named differently, depending on the purpose of the file (e.g. age or length tables). Some file names were consistent but their extensions were changed. Some ASCII data files had been imported into spreadsheets, their format changed and the original not saved. In other cases, a portion of the data, such as age, was entered into a spreadsheet and other data such as the project type and location were not included. In most cases, determining which files had been updated most recently was difficult because the file's date of last modification was dependent on an individual computer's internal clock.

Summary Tables

FORTRAN ASL programs have been used by AYK (Arctic-Yukon-Kuskokwim) Region to create ASCII summary files read with any text editor program. Some files were left in this format while others were transferred to a spreadsheet program to make tables of report quality. Files were archived in either or both formats.

Escapement

Escapements of returning salmon are monitored through various methods including aerial surveys, weirs, counting towers, fish wheels, sonar, and test fisheries. Table 4 lists escapement projects, years of operation, and primary contact agency and person for salmon escapement projects. Descriptions of escapement projects are included in Table 5.

The locations of historical tower, weirs and sonar projects are shown in Figure 4. Raw or detailed escapement data, such as hourly counts, are generally entered and stored in spreadsheets separated by each project and year. These files are created and maintained by project leaders. Area managers may also maintain integrated spreadsheets of current-year daily counts and historical averages from numerous escapement projects to use for inseason management. Graphs are created regularly during the fishing season to compare the current year with historical averages.

SASPOP/GIS Statewide Escapement Database

Spreadsheets of daily counts from escapement projects for all of AYK Region were standardized under a NOAA-funded GIS project, SASPOP, for data collected through 1998. In addition, these data were imported into database client-server software (Oracle) and are also available in Access. Table 6 describes the spreadsheets and fields used to populate the Oracle database.

The project was terminated before all data were edited, reformatted and incorporated into the database. Therefore, not all escapement projects and data were included in SASPOP. A preliminary editing of most data was completed; however, a more thorough check is still needed. The SASPOP database does not have data entry, editing or reporting capabilities. Data collected after the termination of the project has not been included.

SASPOP includes 34 relational tables and 150 columns. The database was initially developed for southeast Alaska; fields and structure are most suited to the types of data collected in that region. Later, the database was modified to incorporate escapement data for the entire state; the end result reflects a preliminary compromise among the four regions.

Some portions of the project were not completed because agreement was not reached on tasks such as creating a standard method of computing indices of escapement or a system of usage codes defining the appropriate use of the data. Many of the fields are not applicable to Norton Sound data and the database may be overly complicated for use in this area. Since escapement projects in the database are geo-referenced, projects that have changed locations, such as moving to the opposite bank of the river, are treated as separate projects although managers treat these as the same project. However, any new escapement database efforts should strive to incorporate as many of the standards and naming conventions developed during this project to maintain compatibility.

Some data required extensive reformatting and therefore was not included in the database. These include spreadsheets for the Norton Sound Area aerial, foot and boat surveys (see Aerial Survey Catalog section below). Both text and numbers included in the spreadsheets complicated incorporation into the database.

Status of most escapement data and specific problems encountered during the SASPOP project were well documented. Specific problems with data are not included in this report but will be included in the database.

Aerial Survey Catalog

Raw aerial survey data are included in the Norton Sound Area aerial survey catalog. These data primarily consist of daily aerial survey observations; however, other survey types such as boat and foot surveys may be included.

Aerial survey data conform to a standard regional format. Each survey includes information on latitude and longitude for the mouth of each surveyed stream; date (month, day and year); stream name and associated drainage; survey methods; and aerial survey conditions such as glare, air craft type, observer and agency. The observation section includes live and dead counts for all five species of salmon, number of chinook redds and number of unidentified salmon. The observation is identified by stream section.

A report of aerial survey data for the Norton Sound Area is included in the regional information report series. Portions of this data are also included in the Norton Sound Annual Management Report. The Norton Sound Area maintains separate spreadsheets for each stream, with approximately 100 spreadsheets. These electronic spreadsheet data need to be reformatted and added to the existing SASPOP escapement database. Reformatting and transfer programs and summary reports will be written for this purpose. This task is currently in progress.

Subsistence Fisheries

Systematic surveys of subsistence harvests have been conducted annually since 1960 in Norton Sound Area. Surveys during the early years only documented chinook and small salmon (all other salmon species combined). Most surveys included the number of fishing families, type of gear and number of dogs per village. Detailed information on harvests by species, number of people and dogs in each household and other information is reported and maintained by the ADF&G Subsistence Division. Figure 5 shows surveyed communities in AYK Region including Norton Sound.

From 1960 to 1982, the department has conducted annual household surveys in communities in Norton Sound Area with substantial subsistence harvests. In 1994, annual subsistence harvest assessment effort in northwest Alaska provided more extensive, complete and reliable salmon harvest estimates than previously existed. In 1998, ADF&G continued its subsistence harvest assessment program by conducting household surveys

in ten communities within Norton Sound Area. In Nome, subsistence harvest has been determined through fishing permits and catch calendars.

Commercial Fisheries

Norton Sound District is divided into six subdistricts: Subdistrict 1, Nome; Subdistrict 2, Golovin; Subdistrict 3, Moses Point; Subdistrict 4, Norton Bay; Subdistrict 5, Shaktoolik; and Subdistrict 6, Unalakleet (Figure 2). Commercial fishing in Norton Sound began in the Unalakleet and Shaktoolik Subdistricts in 1961. Chinook and coho salmon were the primary focus of the fishery. Harvested salmon were flown to Anchorage for processing. In 1962, commercial fishing extended into Norton Bay, Moses Point and Golovin Bay Subdistricts. Since 1963, markets for Norton Sound salmon have been sporadic.

Salmon buyers are required to submit sales receipts or fish tickets from individual deliveries. Information from fish tickets provides managers with the number of fishers (effort) fishing during each opening, area of catch, and number and pounds of each species harvested. Before introduction of personal computers, this information was hand-tallied during the fishing season and entered post season into mainframe or mini computers located in Anchorage or Juneau. Electronic records of fish tickets exist back to 1969 and are archived by the Division's Computer Services section in Juneau. In the Nome office, fish ticket data has been entered during the fishing season since 1981. However, all fish ticket data, both fish tickets and electronic data, are archived post season in Juneau. The number of fish tickets by area and district or subdistrict is summarized in Appendix F.

Beginning in 2000, fish ticket information was entered and archived in a centralized Oracle database located on a server in the Computer Services Section of Commercial Fisheries Division Headquarters in Juneau. A project is ongoing to import and correct historical data for the years 1969 through 1999 into the new data system. This new system will be more user-friendly and ultimately allow more flexible data queries and reports.

Discrepancies are known to exist between the official fish ticket database maintained by Headquarters at the Division's Computer Services in Juneau and records of harvests maintained by area staff reported in Area Management Reports. Files of historical fishing periods were created and given to the Computer Services Section, which could be checked against fish ticket data loaded into the new system. At the time of this publication, this work is continuing and differences between Area and Headquarters fish ticket tallies still need to be resolved.

The Norton Sound/Port Clarence/Kotzebue Sound AMR includes harvest data since 1962, which is contained in annual AMRs (Appendix G). These reports are maintained in Nome and Anchorage libraries.

Test Fisheries

Managers can get timely information on salmon abundance, distribution and timing from test fisheries, which can monitor salmon migrations 24 hours per day and 7-days per week using standardized fishing gear. Test fish projects are listed in Table 4 and described in Table 5. A list of sources for summarized Norton Sound test fish data is included in Appendix H.

Fishery management decisions in Norton Sound have historically been based on commercial catch data and escapement indices provided by aerial surveys and counting towers. An exception is the Unalakleet District where a test fishery has operated on the Unalakleet River since the early 1980's.

Genetics

The use of genetics to identify salmon stocks is still in development but will become increasingly important in the near future. Genetic studies will allow researchers to recognize behavioral differences between simultaneously returning salmon populations. Norton Sound related-genetics studies are listed in Table 7.

DISCUSSION

This project is the first attempt to develop a comprehensive inventory of historical projects and associated data in Norton Sound Area. In the past 40 years, a large volume of salmon data has been collected in this area; however a system of processing and archiving data does not exist. A large number of projects are currently operating, with new projects added each year, each collecting additional data on salmon abundance, distribution, timing, biological attributes and stock composition. Generally, data processing needs such as programming and data archiving are not addressed in project operational plans. It is increasingly evident that data processing, including data entry, error checking, reporting and querying capabilities, needs to be modernized for most projects.

The overall long-term goal of this project is to provide managers and researchers the means to query historical fisheries data. As other agencies and the public become involved in management of these fisheries, the need to access this data has increased. In addition, data stored on obsolete media in various locations and during staff transitions may be resulting in data loss. A higher priority should be placed on maintaining an

archive for storage and retrieval of this important and expensive information. The development of a data management system including data entry, editing, reporting and archiving is a long-term project requiring dedicated staff and funding.

Note in some cases, codes for species, fisheries, or projects, that were developed and more rigorously enforced during the mainframe era have been neglected with personal computer use. Currently, project leaders generally identify data by file name. As data is loaded into a regional database, codes will need to be checked. Other problems exist because there is not a good system of checking data for errors. These issues will need to be addressed when combining historical data from several areas, years and projects into a single database. A system needs to be developed for logging and archiving data from all projects at the end of the field season.

Two examples of database management systems are already in use by state fisheries managers. These represent two extremes in the type of data included. The Integrated Fisheries Database (IFDB) has been in use since 1988 in Region I. IFDB integrates all information related to Region I fisheries management into one database system. The initial database containing primarily escapement data was available to managers in 1989. Currently, IFDB includes fish ticket catch data with fishery openings, inseason catch estimates, escapement, pink sex ratios, troll and seine fishery CPUE, port sampling and logbook, ASL data and text documents related to fisheries management. IFDB can import data from other systems such as fish tickets, ASL data, coast-wide coded-wire-tag mark/recovery data, and CFEC vessel and permit data. A modern interface, Alexander (Alex) was added in 1997. Alex provides graphic capabilities and allows for requested data to be exported to spreadsheet (Excel), statistical (SAS) and geo-referencing software (ArcView). The development and maintenance of this system has required a full-time staff of four to five programmers and data quality control staff. US/Canada treaty funds provided the funding for this project.

Mariner is an inseason salmon management system used in the Bristol Bay and Cook Inlet salmon fisheries and primarily contains daily catch and escapement data for the current year. In addition to the management tool used by department staff, Mariner is accessible to the public via the Internet. Historical data and additional data tools will gradually be added.

The tasks listed in Table 8 will be completed as possible. Both the project investigator and a research analyst will continue working on aggregating, correcting and reformatting data. As historical data files are collected, they will be organized and transferred to modern media. Intermediate systems to facilitate data entry, correction and reporting will be ongoing. Features to export data sets to other software for further analysis will be included.

Data will be geo-referenced to stream mouth or if possible to a specific location on a stream, and to the Anadromous Stream Catalog reference to be incorporated into a GIS (geographic information system) in the future.

DATA PROCESSING RECOMMENDATIONS

1. Develop a system of archiving project and ASL data and scales in a central location.
2. Update the database developed through the statewide GIS escapement project.
3. Modernize and standardize data collection, error-checking and reporting programs to minimize errors.
4. Enforce use of standard codes and format. Enforcement can be accomplished through programming so to minimize impact on biologists.
5. Include data processing methods in Operational Plans.
6. Add data processing and technical support costs in submitted proposals.
7. Write proposals specifically to address database and programming development.
8. Involve other regions of the state in database development to minimize redundancy and maximize efficiency.

LITERATURE CITED

- ADF&G (Alaska Department of Fish and Game). 2001. Norton Sound, Port Clarence, and Kotzebue annual management report, 1999. Alaska Dept. of Fish & Game, Commercial Fisheries Division, Regional Information Report 3A01-05. Anchorage, AK.
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Table 1. Tasks completed for Norton Sound data inventory and aggregation phase.

- Overall
 - ✓ List of historical and current Norton Sound Area projects including project name, years of operation, source agency, and contact person, compiled.
 - ✓ Map of the AYK Region, including Norton Sound Area, created (color, black/white, several file formats)
- Subsistence Harvest and Effort
 - ✓ Map of surveyed villages in Norton Sound created.
- Commercial Harvest and Effort
 - ✓ Detailed data: An inventory of historical fish tickets was created listing district, subdistrict, statistical area, and number of tickets by year.
 - ✓ Summarized data: Historical fishing period information was entered or reorganized from spreadsheets so that commercial fishing period numbers, dates and species/gear could be rechecked when fish tickets are transferred to the new Oracle fish ticket database. An inventory of area catch and effort files was created.
 - ✓ Map of the commercial statistical areas for Norton Sound was created.
- Escapement
 - ✓ Standardized spreadsheet and Access data files of daily and annual escapement observations inventoried and described.
 - ✓ Project descriptions written. Or A paragraph, describing each project. was written
 - ✓ Map of historical and current escapement projects for the Norton Sound Area, was created.
- Age-Sex-Length Data
 - ✓ Forty years of physical scale cards organized and inventoried in Anchorage and Nome offices. These were used as a reference to find matching electronic data.
 - ✓ Detail data: electronic ASL files were aggregated and inventoried. Approximately 1,000 thousand 5 ¼ inch and CP/M operating system

Table I. (continued).

diskettes transferred to CD. Identified and sorted all electronic files retrieved from outdated data storage media to match scale card inventory.

- ✓ Summarized data: ASL summary tables aggregated and inventoried.

Table 2. Number of age-sex-length files in the Norton Sound Area by species, area and years.

<i>Area</i>	<i>Species</i>	<i>Years</i>	<i>Approximate Total Number of Files^a</i>	<i>Number of Located Electronic Files^b</i>	<i>Number of "Missing" Electronic Files^c</i>	<i>% Files Found</i>
Norton Sound	Chum	1962-2000	162	62	100	38.30%
	Chinook	1966-2000	95	43	52	45.30%
	Coho	1963-2000	53	32	21	60.40%
	Sockeye	1963-1999	8	3	5	37.50%
	Pink	1965-1979	9	0	9	0.00%
	Total Files		328	140	188	42.70%

^a Number of ASL files is approximated and only includes raw data files. Number of both raw and summary tables combined would nearly double the number reported above.

Table 3. Known problems with electronic ASL files.

Category	Specific Problem	Problem Details	Implemented or Potential Solutions
Missing/Incorrect Header Codes*	Location Codes	Location codes often missing, incorrect, inconsistent, or improperly entered (location in stream code, no sub-district, etc.)	Match files to scale inventory using other data, fix location codes
	Species	Species code missing or incorrect	Match files to scale inventory using other data, fix species code
	Project	Project code missing or incorrect	Match files to scale inventory using other data, fix project code
	Dates	File dates often do not match scale card, sometimes day data not entered	Match files using other data, interpolate missing dates
	Other Codes	Gear codes, mesh sizes, length types sometimes omitted	Match files to inventory using other data, fix data
Card number	Type C files	4 Cards per page, so headers jump from 1 to 5 to 9, etc. Could make matching data to scales difficult.	Could write a parsing program to insert headers with the correct card numbers between the appropriate samples
Data redundancy	File combinations	Data combined from several locations/projects for summary purposes sometimes mistaken as unique data	Look for inconsistent location codes/dates, find original files and delete combination or extract and separate combined data
File type	Data in Excel spreadsheets	Loader programs can only extract data from text files for loading into database	Export data from spreadsheets into text files, name appropriately
Mark Sense Forms	Miscoding	Coded data differs from values written in margins or data entered twice in same column	Establish better post-season data sheet review practices, interpolate missing data or delete miscoded samples
	Scanner Errors	OPSCAN "stutters" on last card, adds garbage characters and repeats some samples on last card OPSCAN or DOS software breaks transmission of data; scan continues but no further data is recorded	Manually review files and remove garbage characters and redundant data Manually review files and ensure all cards are recorded, rescan as needed

Indicates primary data used to sort and inventory files and will identify data in the database. Errors in these data categories could have major consequences if not corrected.

Table 4. Historical and current salmon projects in the Norton Sound Area.

Project Name (current or last used)	Years of Operation	Main Agency ²	Contact Person
<u>Harvests</u>			
Commercial Fisheries			
* Catch and Effort Assessment	61-current	ADFG/CF	Jim Menard
Age-Sex-Size Sampling			
* Unalakleet District	62-63,67-current	ADFG/CF	Wes Jones
* Shaktoolik District	86,89-91,94,96,98	ADFG/CF	Wes Jones
* Moses Point District	62-63,67-69,75,77-78,82-83,85-91	ADFG/CF	Wes Jones
* Golovin District	63,85-86	ADFG/CF	Wes Jones
* Nome District	78,80	ADFG/CF	Wes Jones
Subsistence Fisheries			
* Catch and Effort Assessment	63-82,94-current	ADFG/S	Jim Magdanz, Susan Georgette
Sport Fisheries			
Catch and Effort Assessment	Current	ADFG/SF	Fred DeCicco
<u>Escapement¹</u>			
Chirosky River Tower	75-76	ADFG/CF	Jim Menard
* Eldorado River Tower	95-current	KC, ADFG/CF	Gary Todd
* Glacial Lake Weir	79, 2001-current	BLM	Dave Parker
Kachauvik River Tower	77-78	ADFG/CF	Jim Menard
* Kwiniuk River Tower	65-current	ADFG/CF	Wes Jones
* Niukluk River Tower	79,95-current	ADFG/CF	Wes Jones
Nome River Tower	93-95	ADFG/CF	Wes Jones
* Nome River Weir	96-current	ADFG/CF	Gary Todd
* North River Tower	72-74,84-86,96-current	Unalakleet IRA, ADFG/CF	Gary Todd
Nunakogak Tower	92	ADFG/CF	Jim Menard
Pikmiktalik Tower	92	ADFG/CF	Jim Menard
* Pilgrim River Tower	97-98, 2000, current	KC, ADFG/CF	Gary Todd
Pilgrim River Weir	95-96	ADFG/CF	Gary Todd
Shaktoolik River Tower	96-98	BLM, ADFG/CF	Jim Menard
* Snake River Tower	95-current	KC, ADFG/CF	Gary Todd
Tubutulik River Tower	80	ADFG/CF	Jim Menard
Unalakleet Sonar	83-85	ADFG/CF	Carl Pfisterer
<u>Test Fishing</u>			
* Unalakleet River Set Gillnet	81-current	ADFG/CF	Wes Jones

** denotes current project.

Table 4 (Continued).

Project Name (current or last used)	Years of Operation	Main Agency ²	Contact Person
<u>Population Estimates</u>			
Tagging			
Nome/Unalakleet Subdistrict Chum Salmon Mark-Recapture	78-79	ADFG/CF	Jim Menard
Shaktoolik King and Chum	79	ADFG/CF	Jim Menard
Unalakleet and North Rivers Radio Telemetry Mark-Recapture	97-98	ADFG/SF	Fred DeCicco
Unalakleet River King & Chum Salmon Mark-Recapture	72-75,78-79,98-99	ADFG/CF	Jim Menard
Smolt Enumeration			
* Smolt Enumeration-Pilgrim River	97-current	ADFG/CF	Tom Kohler
<u>Stock Identification</u>			
Genetic (GSI)			
Historical genetic studies listed in Table 6			
Scale Patterns Analysis (SPA)			
Norton Sound Chum	78	ADFG/CF	Jim Menard
<u>Enhancement</u>			
Incubation Boxes			
Hobson Creek Nome River	98-99	ADFG/CF	Tom Kohler
Boulder Creek Snake River	91-98	ADFG/CF	Tom Kohler
Kwiniuk River	98	ADFG/CF	Tom Kohler
Coral Creek Kwiniuk River	91-98, 2000	ADFG/CF	Tom Kohler
Anvil Creek Ponds Snake River	98-2000	ADFG/CF	Tom Kohler
Salmon Lake	97-2000	ADFG/CF	Tom Kohler
Shovel Creek Solomon River	95-98	ADFG/CF	Tom Kohler
Sinuk River	98	ADFG/CF	Tom Kohler
Lake Fertilization			
* Salmon Lake	97-2001	ADFG/CF	Gary Todd

* denotes current project.

¹ Most escapement projects collect ASL samples.

² Agency abbreviations:

ADFG/CF =	Commercial Fisheries Division	USFWS =	U.S. Fish and Wildlife Service
ADFG/SF =	Sport Fish Division	BSFA =	Bering Sea Fishermen's Association
ADFG/S =	Subsistence Division	BLM =	Bureau of Land Management
		KC =	Kawerak Corporation

Table 5. Descriptions of Norton Sound Area salmon projects

WEIRS

Glacial Lake Weir

In 1979 the Glacial Lake weir was operated by the Nome High School and in 2001 BLM reinstated the project. The weir to monitors salmon escapement into Glacial Lake. Information from the Glacial Lake weir project can be obtained from BLM.

Nome River Weir

In 1996, ADF&G, in cooperation with NSEDC, installed a fixed weir on Nome River to provide daily and seasonal run timing and magnitude estimates for chinook, chum, pink, and coho salmon. The weir count data are also compared with aerial survey totals to improve survey accuracy.

Pilgrim River Weir

In 1995 and 1996 ADF&G, in cooperation with BLM and Norton Sound Economic Development Corporation (NSEDC) operated a rigid picket weir at the outlet of Salmon Lake to enumerate the spawning population of sockeye salmon in the Salmon Lake/Pilgrim River drainage, and to collect ASL data. The weir counts were also used to “calibrate” aerial survey counts in Salmon Lake and the Grand Central River, and to estimate spawner success through fry/smolt survival with the smolt enumeration project and fall fry hydroacoustic studies.

TOWERS

Chirosky River Tower

In 1975 and 1976, a counting tower on the Chirosky River was operated by ADF&G. The purpose of this tower was to determine indices for chinook and chum salmon abundance and run timing for the Unalakleet River. Project personnel enumerated escapement into the Chirosky and provided a base line of data for that river, but the tower was discontinued in 1977 because the site did not reflect escapement for the whole Unalakleet River.

Eldorado Tower

In 1995, the Kawerak Corporation initiated a counting tower project on the Eldorado River in cooperation with ADF&G, BSFA, Sitnasuak Corporation, and Nome Eskimo. The project provides daily and seasonal run timing and magnitude estimates for chinook, chum, pink, and coho salmon.

Kachauvik River Tower

In 1977 and 1978, ADF&G operated the Kachauvik tower in the Golovin Subdistrict with the goal of being able to use the project for inseason management. This was not realized because (1) the late run timing of the Kachauvik River and (2) a delay in upstream

Table 5. (Continued)

TOWERS (Continued)

migration of spawners. Consequently, timely escapement information could not be obtained.

Kwiniuk River Tower

Initiated by the Alaska Department of Fish and Game (ADF&G) in 1965, the Kwiniuk River counting tower provides daily and seasonal run timing and magnitude estimates for chinook, chum, and pink salmon. The project also provides age-sex-length information for chinook (rarely) and chum salmon in the Moses Point Subdistrict commercial harvest and Kwiniuk River escapement.

Niukluk River Tower

In 1979, ADF&G operated a tower on the Niukluk River to enumerate migrating chum and pink salmon. The project was reactivated by ADF&G in 1995 in cooperation with NSEDC. The project provides daily and seasonal run timing and magnitude estimates for chinook, chum, pink, and coho salmon, and age-sex-length data.

Nome River Tower

ADF&G operated a counting tower on the Nome River from 1993 to 1995. The project provided daily and seasonal run timing and magnitude estimates for chinook, chum, pink, and coho salmon. In 1996 the project was converted to a weir (see pg. 24).

North River Tower

ADF&G operated a counting tower on the North River from 1972 to 1974 and from 1984 to 1986. In 1996, the Kawerak Corporation reactivated the project in cooperation with ADF&G, Norton Sound Economic Development Corporation (NSEDC), and Bering Sea Fishermen's Association (BSFA). The project provides daily and seasonal run timing and magnitude estimates for chinook, chum, pink, and coho salmon.

Nunakogak River Tower

In 1992, the villages of Stebbins and St Michael obtained a grant to enumerate salmon in the Pikmiktalik and Numakogak River. Villagers hoped that information gathered at these sites would support the opening of a commercial fishery in the area. Personnel at this tower enumerated chinook, chum pink and coho salmon escapements. These projects operated in 1992 only.

Pikmiktalik River Tower

In 1992, the villages of Stebbins and St Michael obtained a grant to enumerate salmon in the Pikmiktalik and Numakogak River. Villagers hoped that information gathered at these sites would support the opening of a commercial fishery in the area. Personnel at this

Table 5. (Continued)

TOWERS (Continued)

tower enumerated chinook, chum pink and coho salmon escapements. These projects operated in 1992 only.

Pilgrim River Tower

In 1997, the Kawerak Corporation operated a counting tower on Pilgrim River in cooperation with ADF&G, NSEDC, and U.S. Bureau of Land Management (BLM). Daily and seasonal run timing and magnitude estimates were provided for chinook, pink, and coho salmon; counts for chum and sockeye salmon were combined due to speciation problems. The project operated in 1998, but produced no data. The project was operational in 2000 and 2002.

Shaktoolik River Tower

In 1996, ADF&G established a counting tower on the Shaktoolik River to provide daily and seasonal run timing and magnitude estimates for chinook, chum, pink, and coho salmon. The tower count data are also compared with aerial survey totals to improve survey accuracy.

Snake River Tower

In 1995, the Kawerak Corporation established a counting tower on the Snake River in cooperation with ADF&G and BSFA. The project provides daily and seasonal run timing and magnitude estimates for chinook, chum, pink, and coho salmon. A brood stock program is also operated at the site.

Squirrel River Tower

The Squirrel River is a tributary of the Kobuk River. In 1982 and again in 1984, ADF&G operated a counting tower to: 1) evaluate the operational feasibility of a counting tower at this site, 2) evaluate escapement estimates based on aerial surveys by comparison with tower counts, 3) periodically sample the subsistence catch in the Kiana area and gather age, sex, and length data, 4) aid in tag recovery and 5) determine run timing for salmon in the Squirrel River Drainage. This project was discontinued.

Tubutulik River Tower

In 1980, ADF&G operated a tower on the Tubutulik River. The tower was placed approximately 12 miles from the mouth of the River. The purpose of the counting tower was to enumerate pink and chum salmon escapement to determine the proportion of salmon harvested in the Moses Point commercial and subsistence fisheries. The project was discontinued after the first year because the information obtained was not effective for inseason management of the Moses Point fisheries.

Table 5. (Continued)

SONAR

Unalakleet River Sonar

Hydroacoustic counting techniques were used unsuccessfully from 1983 to 1985 in the Unalakleet River. This project utilized side-scan Bendix sonar units.

TEST FISHERIES

Kobuk River Drift Gillnet

In 1993, ADF&G initiated a drift gillnet test fishing project operated in the lower Kobuk. Because of the Kobuk River's tannic stain, test fishing is less susceptible to net avoidance by salmon than in clear water systems. The Kobuk River drift gillnet test fishery is designed to obtain abundance and run timing information for chum salmon.

Unalakleet River Set Gillnet

In 1981, ADF&G initiated a set gillnet test fishery in the Unalakleet River. Run strength indices and run timing for chinook, chum, coho, and pink salmon are the primary objectives for the ongoing project.

TAGGING

Area M

Tagged salmon were caught from the Area M release in 1960 and 1987 by ADF&G.

Hooper Bay Mark-Recapture

In 1985, BSFA initiated a one-year mark-recapture project designed to assess migration patterns for fall chum salmon in the Hooper Bay area. Set gillnets were used to capture fall chum salmon for tagging. Information on this project may be obtained by contacting BSFA.

Nome/Unalakleet Subdistrict Chum Salmon Mark-Recapture

A Norton Sound stock separation tagging project was initiated in 1978 by ADF&G to determine the streams of origin for chum salmon captured in commercial fisheries in Norton Sound. This project tagged chum salmon in the Nome and Unalakleet commercial fishing subdistricts. Fish were captured using set gillnets at five locations, three locations in the Nome Subdistrict and two locations in the Unalakleet subdistrict. In 1979, the last year of the project, a set gillnet was added in the Shaktoolik commercial subdistrict to capture chum salmon for tagging in that area.

Shaktoolik King and Chum Salmon Tagging

In 1979, ADF&G conducted a one-year tagging project at Shaktoolik on king and chum salmon.

Table 5. (Continued)

TAGGING (Continued)

Unalakleet River King and Chum Salmon Mark-Recapture

From 1972 to 1975, ADF&G operated a mark-recapture project in Norton Sound and the Unalakleet River. During the first phase of the tagging project salmon were marked with tags in Norton Sound and the Unalakleet River to determine migration pattern in the Unalakleet commercial fishing area. Marking operations in the Norton Sound were discontinued in 1973 after determination was made that the fish tagged were primarily Unalakleet River stocks. The data obtained by this project in 1974 was lost in a flood at Nome. The project operated through 1975. The objectives of the project were to determine relative abundance of salmon, run timing, and migration patterns of salmon in the Unalakleet commercial fishing area.

Unalakleet and North Rivers Radio Telemetry Mark-Recapture

The ADF&G Division of Sport Fish conducted a chinook salmon radio tagging and tracking project in 1997 and 1998. This project estimated proportions of the escapement migrating up the mainstem of the Unalakleet River and the North River.

STOCK ENHANCEMENT PROJECTS

Incubation Boxes

Incubation boxes were placed in several streams in the Norton Sound area to enhance the spawning populations of salmon in those streams during the 1990s. No report on the enhancement project is currently available. Information on the incubation boxes may be obtained by contacting ADF&G, Commercial Fisheries in Nome, Alaska.

Lake Fertilization

From 1997 to 2001, ADF&G applied liquid fertilizer to Salmon Lake in an effort to restore sockeye populations to historical levels. This project also obtained limnological and biological data to evaluate the effectiveness of fertilizer applications and estimate of carrying capacity (fry rearing capacity).

AERIAL/GROUND SURVEYS

Aerial Surveys

Annual aerial surveillance of selected salmon spawning streams during both the summer and fall seasons, are conducted for the purpose of monitoring spawner distribution and relative abundance of chinook, chum, and coho salmon throughout the Norton Sound since 1958.

Table 6. Standardized spreadsheets and format for escapement files collected for GIS project.

Data updated through 1998. Note this data was loaded into Oracle database software.

- Norton Sound/Kotzebue (NS/K) Escapement Project Files
 - **Arctic\arcdailycount.xls** = daily count data for NS/K projects.
 - **Worksheets:** Kwiniuk-tower, North-tower, Niukluk-tower, Eldorado-tower, Nome-tower, Nome-weir, Snake-tower, Shaktoolik-tower, Pilgrim-tower, Noatak-sonar.

Standard Daily Count Spreadsheet Format

- col. **A** = stream_cfmd_code
- col. **B** = project_code (presently coded with project name)
- col. **C** = site_code (presently blank)
- col. **D** = bank (where L=left, R=right, M=mid-channel, U=unspecified)
- col. **E** = species_code (standard fish ticket codes, 499=unspecified)
- col. **F** = run (summer or primary)
- col. **G** = maturity (adult or jack)
- col. **H** = project_count_type (where CL=counted live, EL=estimated live, e.g., expanded counts, CV=calculated value, e.g., interpolated counts)
- col. **I** = obs_date (observation date)
- col. **J** = number (daily count)
- col. **K** = footnote (daily comment, letter code)
- col. **L** = footnote code (footnote code explanation)

Status

- **Norton Sound:** received comments from area staff. Generally looked OK but needs more thorough editing.

➤ **Project listings and information**

- **arcprojlst.xls** = Norton Sound/Kotzebue project list
 - **worksheet** = ns-kotz_proj

Standard Project List Spreadsheet Format

- col. **A** = drainage
- col. **B** = mainstem RM (river miles from mouth of mainstem to project site or tributary)
- col. **C** = stream
- col. **D** = trib RM (tributary river miles from mouth of tributary to project site)
- col. **E** = stream ID (blank)
- col. **F** = site_name (project name)

col. G = project_type (tower, weir, sonar)
Table 4 (continued).

col. H = type (SB=split beam, DB=dual beam, floating=floating weir,
fixed=fixed weir)
col. I = years of operation
col. J = lead agency
col. K = species
col. L = data collected (ASL=age-sex-length, GSI=genetic stock index,
esc=escapement, clim=climatological, hydro=hydrological)
col. M = remarks (annual operation comments and assisting agencies)
col. N-Q = data storage information (location, medium, years, report names)

status: edited and finalized on 1/29/99

▼ **Project Descriptions**



- Arcprojnarr.xls=Norton Sound/Kotzebue project descriptions
-

Standard Project List Spreadsheet Format

col. A = project name
col. B = narrative

status: received comments from management biologist, edited and finalized on
1/25/99

▼ **Project site coordinates**



- arccoord.xls= Norton Sound/Kotzebue project site coordinates
-

Standard Project Site Coordinates Format

col. A = mainstem RM RM (river miles from mouth of mainstem to project site or
tributary)

col. B = stream

col. C = trib RM (tributary river miles from mouth of tributary to project site)

col. D = site_name

col. E = project type

col. F = right bank latitude

col. G = right bank longitude

col. H = left bank latitude

col. I = left bank longitude

col. J = mid-channel latitude

col. K = mid-channel longitude
Table 4 (continued).

col. L = verified (checked if verified by project leader based on project site maps)
col. M = changed (checked if coordinates were changed based on input from project leaders)

➤ **Observer/Agency/Division Codes and Definitions**

□ **Arcobserv.xls=Norton Sound/Kotzebue**

Standard Project List Spreadsheet Format

worksheets: observer

col. A = observer code
col. B = observer code
col. C = agency code
col. D = agency division code

worksheet: agency

col. A = agency code
col. B = agency

worksheet: agency_division

col. A = agency code
col. B = agency division code
col. C = agency division

status: finalized

Table 7. Genetics projects relating to salmon stocks in Norton Sound.

Project		Reference
Population subdivision		
chinook salmon/statewide/allozymes	1982-1987	Gharrett et al. 1987
	1991-1996	Seeb et al. 1995a Crane et al. 1996
chum salmon/statewide/allozymes	1978-1982	Davis and Olito 1982
	1987-1994	Wilmot et al. 1994
	1991-1995	Seeb et al. 1995b
		Seeb et al. 1997
Seeb and Crane 1999a		
chum salmon/statewide/DNA	1993	Park et al. 1993
Fishery composition		
chum salmon/South Peninsula	1993-1997	Seeb et al. 1995b
		Seeb et al. 1997
		Seeb and Crane 1999b
chum salmon/Bering Sea	1996-1997	Crane and Seeb 2000
chum salmon/Gulf of Alaska	1994-1996	Wilmot et al. 1998
	1998-2000	Urawa et al. 2000

Table 8. Remaining tasks for inventory and aggregation of data.

- Overall
 - ✓ Contact Sportfish and Subsistence Divisions, DFO, USFWS, and other fishery agencies for complete listings of historical projects, data format and storage media and location.

- Subsistence Harvest and Effort
 - ✓ Complete reference or description of databases in the Norton Sound/Port Clarence Area.
 - ✓ Summarize problems with data.

- Commercial Harvest and Effort
 - ✓ Organize area catch and effort data.
 - ✓ Summarize problems with data.

- Escapement
 - ✓ Problems with escapement data described.
 - ✓ Aggregate data collected since 1998.
 - ✓ Update database for projects begun after 1998.

- Age-Sex-Length Data
 - ✓ Copy data to CD organized by detailed, summary, area and year.
 - ✓ Missing files-locate and rescan OPSCAN forms or enter hand written data to match scale card inventory.

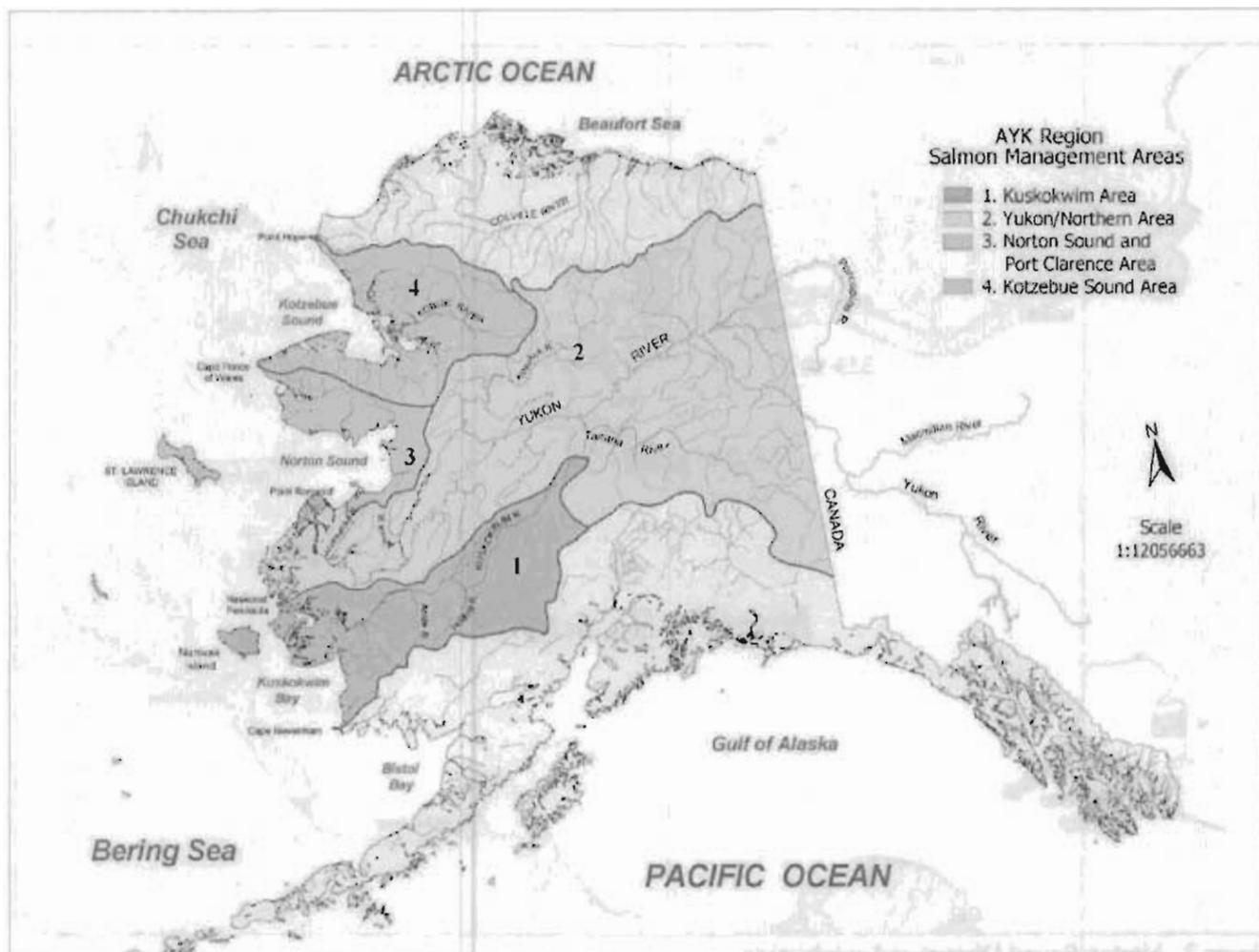


Figure 1. AYK Region management areas.

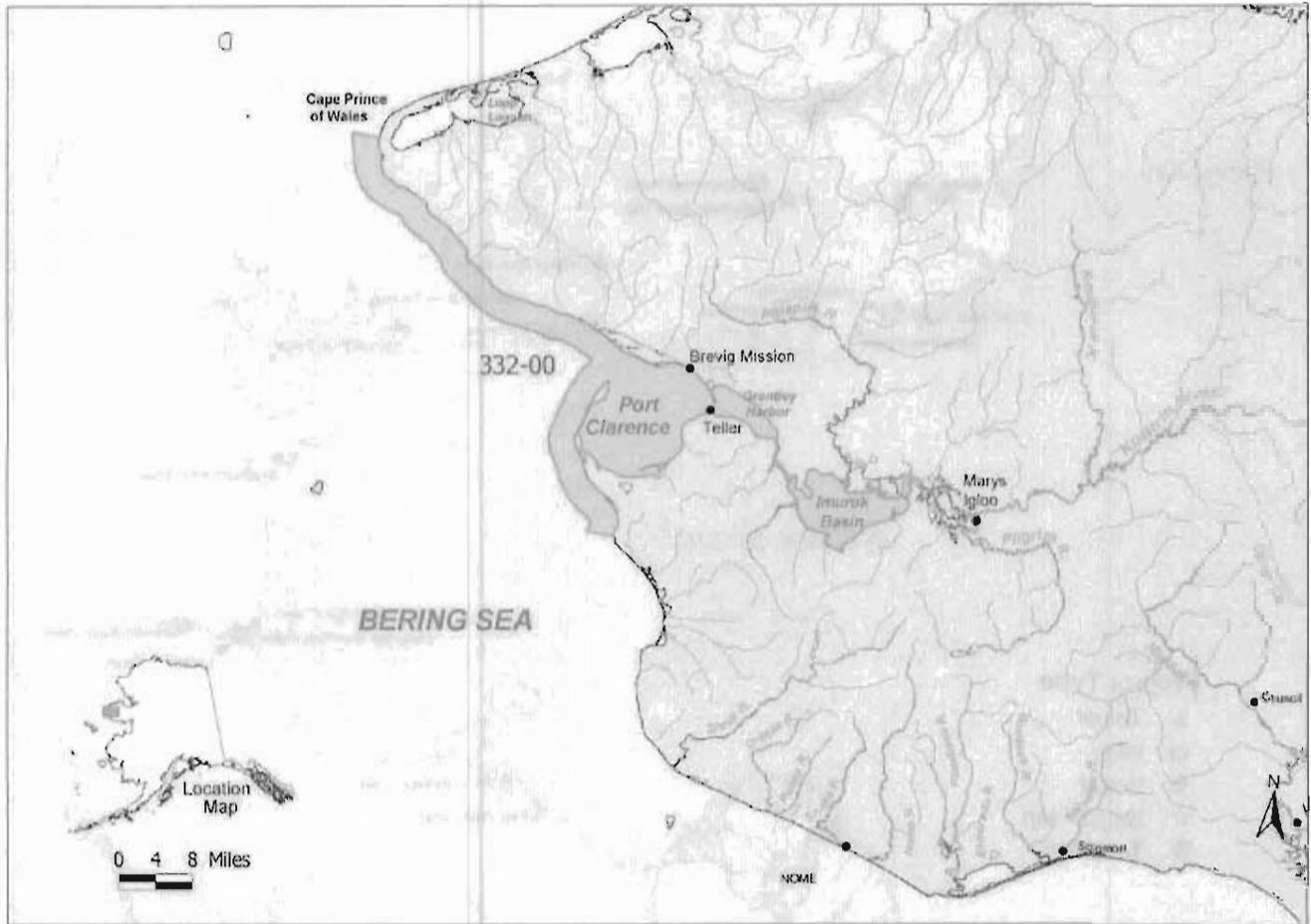


Figure 3. Port Clarence District.

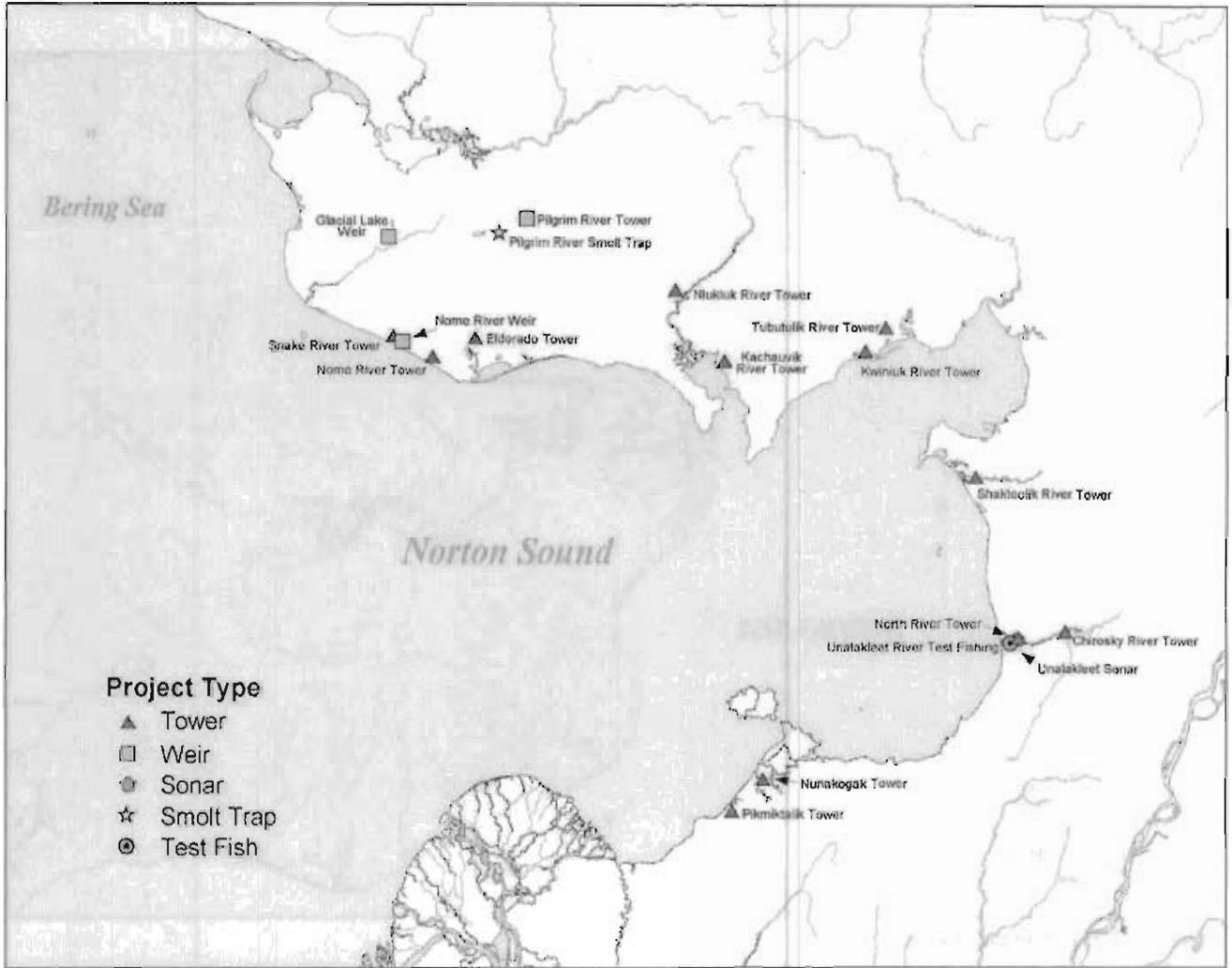


Figure 4. Historical salmon escapement projects in the Norton Sound/Port Clarence Area.



Figure 5. Communities in the Norton Sound/Port Clarence Area surveyed for subsistence harvest information.

Year	Dates	Area	Subdistrict	Location Code	Location	Project	Gear	Card #s	Data Collected	Electronic Data ^a			# of Samples	# Aged	AWLs	Gum Cards	Acetates
										Raw	Age Comp. Summary	Length by age Summary					
2000	6/23 - 7/27	333	60	648	Unalakleet	1	4	1-12					120		x	x	x
2000	6/13 - 7/14	333	60	649	Unalakleet	5	4	1-20					45		x	x	x
1999	7/3 - 7/6	333	60	648	Unalakleet	1	4	1-16	S,L,A	UnakCFK99	UnakCFK99asl	UnakCFK99asl*	160		x	x	x
1998	7/1 - 7/21	333	60	649	Unalakleet	5	4	1-9	S,L,A	UnakTF99	UnakTFK99asl	UnakTFK99asl*	56		x	x	x
1998	6/16 - 6/26	333	60	648	Unalakleet	1	4	1-17	S,L,A	MISSING		see electronic *CEI	168	132		x	x
1998	6/27	333	50	547	Shaktoolik	1	4	1-12	S,L,A	MISSING			120	100		x	x
1998	6/12 - 7/27	333	60	649	Unalakleet River	5	4	1-26	S,L,A	MISSING			83	75		x	x
1997	6/17 - 6/24	333	60	648	Unalakleet	1	4	1-17	S,L,A	un41cm97	un41cm97as	un41cm97f	165	145		x	x
1997	6/12 - 7/18	333	60	649	Unalakleet River	5	4	1-30	S,L,A	un41f97	un41f97as	un41f97f	123	110		x	x
1997	8/3 - 8/4	333	60	655	North River			46 - 65		MISSING			200			x	x
1997	8/4	333	60	655	North River			67		MISSING			2			x	x
1997	6/20 - 7/31	333	60	650	Unalakleet River			1-45		MISSING			443			x	x
1997	8/4	333	60	650	Unalakleet River			66		MISSING			10			x	x
1996	6/25	333	50	547	Shaktoolik	1	4	1	S,L,A	sh41cm96	sh41cm96asl	sh41cm96aet	6	5			
1996	6/15 - 6/21	333	60	648	Unalakleet	1	4	1-16	S,L,A	un41cm96	un41cm96asl	un41cm96aet	148	128		x	x
1996	7/3 - 7/13	333	30	343	Kwiniuk River	3	2	1-3	S,L,A	kw41bs96	kw41bs96asl	kw41bs96aet	8	8		x	x
1996	6/6 - 7/6	333	60	649	Unalakleet	5	4	1-25	S,L,A	un41f96	un41f96asl	un41f96aet	129	118		x	x
1995	6/13 - 6/30	333	60	648	Unalakleet	1	4	1-27	S,L,A	un41cm95	un41cm95a		270	204		x	x
1995	7/11 - 7/21	333	30	345	Kwiniuk River	3	2	1-4	S,L,A	kw41bs95			6			x	x
1995	6/5 - 7/11	333	60	648	Unalakleet River	5	4	1-29	S,L,A	un41f95	un41f95a		85	75		x	x
1995									S,L,A	un41cmtp							
1994	6/24	333	50	547	Shaktoolik	1	4	1-4	S,L,A	sh41cm94	sh41cm94as		35	33		x	x
1994	6/21 - 7/1	333	60	649	Unalakleet	1	4	1-27	S,L,A	un41cm94	un41cm94as		270	240		x	x
1994	7/9	333	30	343	Kwiniuk River	3	2	3	S,L,A	kw41bs94	kw41bs94a		1	1		x	x
1994	6/16 - 7/13	333	60	649	Unalakleet	5	4	1-15	S,L,A	un41f94	un41f94as		35	32		x	x
1993	6/15 - 6/22	333	60	648	Unalakleet	1	4	1-16	S,L,A	un41cm93	un41cm93a		160	139		x	x
1993	7/10 - 7/14	333	30	343	Kwiniuk River	3	3	1-2	S,L,A	kw41bs93	kw41bs93a		6	4		x	x
1993	6/8 - 7/13	333	60	649	Unalakleet	5	4	1-31	S,L,A	un41f93	un41f93a		89	83		x	x
1992	7/7 - 7/15	333	60	648	Unalakleet	1	4	1-4	S,L,A	un41cm92	un41cm92a	un41cm92f	29	28		x	x
1992	6/27 - 8/3	333	60	649	Unalakleet	5	4	1-16	S,L,A	un41f92	un41f92a	un41f92f	24	24		x	x
1992	8/31	333	60	649	Unalakleet	5	4	50		MISSING			1			x	x
1991	6/25	333	33	346	Kwiniuk Inlet	1	4	1-3	S,L,A	mp41cm91	mp41cm91as	mp41cm91f	30	27		x	x
1991	6/21 - 6/28	333	50	547	Shaktoolik	1	4	1-8	S,L,A	sh41cm91	sh41cm91as	sh41cm91f	68	66		x	x
1991	6/18 - 6/28	333	60	648	Unalakleet	1	4	1-19	S,L,A	un41cm91	un41cm91as	un41cm91f	184	164		x	x
1991	7/13	333	30	343	Kwiniuk River	3	2	1	S,L,A	kw41bs91	kw41bs91as		5	5		x	x
1991	6/10 - 8/30	333	60	649	Unalakleet River	5	4	1-18	S,L,A	un41f91	un41f91as	un41f91f	34	32		x	x
1990	6/23 - 6/29	333	33	346	Kwiniuk Inlet	1	4	1 & 1-4	S,A	MISSING			40	27		x	x
1990	6/22 - 6/23	333	50	547	Shaktoolik	1	4	1-15	S,L,A	shcgkg90	shcgkg90as	Shcgkg90f	150	140		x	x
1990	6/15 - 6/19	333	60	648	Unalakleet	1	4	1-15	S,L,A	uncgkg90	uncgkg90as	uncgkg90f	150	140		x	x
1990	7/11	333	30	345	Kwiniuk River	2		1		MISSING			1			x	x
1990	6/16 - 7/7	333	60	649	Unalakleet	5	4	1-11	S,L,A	unrtkg90	unrtkg90as	unrtkg90f	41	39		x	x
1990	8/27	333	60	649	Unalakleet	5	4	1	S,L,A	unrtkg90	unrtkg90as		1	1		x	x
1989	8/24	333	50	547	Shaktoolik	1	4	1-2	S,L,A	shk1kg89	shk1kg89a			13			
1989	6/16 - 6/24	333	60	649	Unalakleet	1	4	1-31	S,L,A	unk1kg89	unk1kg89a			138			
1989	6/13 - 7/10	333	60	648	Unalakleet	5	4	1-17	S,L,A	unk5kg89	unk5kg89a			41			

(continued)

Year	Dates	Area	Subdistrict	Location Code	Location	Project	Gear	Card #s	Data Collected	Electronic Data ^a			# of Samples	# Aged	AWLs	Gum Cards	Acetates
										Raw	Age Comp. Summary	Length by age Summary					
1988	6/22 - 7/5	333	33	346	Kwiniuk - Moses Pt	1	4	1 - 3	S,L,A	mos1kg88			2				
1988	6/21 - 6/24	333	50	547	Shaktoolik	1	4	1 - 7	S,L,A	shk1kg88	shk1kg88a		71				
1988	6/21 - 7/27	333	60	649	Unalakleet	1	4	1 - 31	S,L,A	unk1kg88	unk1kg88a		390	298			
1988	7/9	333	30	344	Kwiniuk	2	2	1	S,L,A	kwi2kg88			1				
1988	6/20 - 8/2	333	60	648	Unalakleet	5	4	1 - 11	S,L,A	unk5kg88	unk5kg88a		14	14			
1987	6/27 - 7/15	333	33	346	Kwiniuk - Moses Pt	1	4	1 - 4	S,L,A	MISSING	mc87k	mc87k	3 aged	*5		X	
1987	7/1	333	50	547	Shaktoolik	1	4	1	S,L,A	MISSING			10 aged			X	
1987	6/26 - 7/28	333	60	649	Unalakleet	1	4	1 - 8	S,L,A	MISSING	UC87K	UC87K	31 aged	*162		X	
1987	6/24 - 7/1	333	60	649	Unalakleet	1			S,L,A	MISSING			500				
1987	6/20 - 7/17	333	60	648	Unalakleet	5,3	4	1	S,L,A	MISSING	UTF87K	UTF87K	0 aged	*39		X	
1986	7/1 - 7/11	333	33	346	Kwiniuk - Moses Pt	1	4	1 - 5	S,L,A	MISSING			16	*14			
1986	6/24 - 7/1	333	60	649	Unalakleet	1	4	1 - 50	S,L,A	Corcking			500	*468			
1986	7/5 - 7/11	333	30	343	Kwiniuk	2	2	1 - 3	S,L,A	MISSING			17	*15			
1986	6/18 - 7/14	333	60	649	Unalakleet	5	4	1 - 9	S,L,A	Unkling			49	*47			
1985	6/29 - 7/19	333	33	346	Kwiniuk - Moses Pt	1	4	1 - 9	S,L,A	MISSING	Nsa6-18, Nschin	Nsa6-18	38	33		X	
1985	7/3	333	50	547	Shaktoolik	1	4	1 - 28	S,L,A	MISSING	Nsa6-18, Nschin	Nsa6-18	280	*249		X	
1985	6/28 - 7/6	333	60	649	Unalakleet	1	4	1 - 50	S,L,A	MISSING	Nsa6-18, Nschin	Nsa6-18	510	*441		X	
1985	7/8 -	333	30	343	Kwiniuk	4	2	1	S,L,A	MISSING			5			X	
1985	6/26 - 7/26	333	60	649	Unalakleet	5	4	1 - 29	S,L,A	MISSING	Nsa6-18, Nschin	Nsa6-18	168	*154		X	
1984	6/26 - 7/20	333	60	649	Unalakleet	1	4	1 - 53	S,L,W	UNKKCC84			505	*595		X	
1984	7/29	333	60	648	Unalakleet	2	4	1 - 15	S,L,W	UNKSUB84			117			X	
1984	8/24 - 9/27	331	30	320	Inmchuk	3	4	1 - 2	S,L,A	MISSING			2			X	
1984	6/24 - 7/5	333	60	648	Unalakleet	3	4,10	1 - 29	S,L,W	UNKKTN84			120			X	
1984	8/28	331	40	420	Wulik	4	12	1	S,L	MISSING						X	
1983	6/21 - 7/1	333	30	344	Kwiniuk	1	4	1 - 3,18	S,L,W	MISSING			16			X	
1983	6/10 - 6/19	333	50	547	Shaktoolik	1	4	1 - 14	S,L,W	MISSING			140			X	
1983	6/10 - 6/18	333	60	649	Unalakleet	1	4	1 - 49	S,L,W	MISSING			490			X	
1983	6/21 - 8/1	333	60	648	Unalakleet	3	10	1 - 6	S,L,W	MISSING			48			X	
1983	7/29	333	60	650	North R/Old Womar	4	12	1 - 2	S,L,A	MISSING			9			X	
1983	5/31 - 8/26	333	60	648	Unalakleet	5	4	1 - 27	S,L,W	MISSING			39			X	
1982	6/22 - 7/15	333	30	344	Kwiniuk (Moses Pt)	1	4	1 - 5	S,L,W	MISSING			18	15		X	
1982	6/22 - 6/25	333	60	649	Unalakleet	1	4	1 - 4	S,L,A	MISSING			100	100		X	
1982	5/10 - 7/13	333	60	649	Unalakleet	5	4	1 - 42	S,L,W	MISSING			39	39		X	
1981	6/8 - 6/23	333	60	649	Unalakleet	1	4	1 - 6	L,A	MISSING			122			X	
1981	6/30 - 7/22	333	60	648	Unalakleet	5	4	7,11,12	L,A	MISSING			5			X	
1981	5/21 - 7/7	333	60	648	Unalakleet	5	4	*	L,A	MISSING			20			X	
1981	6/4 - 9/12	333	60	648	Unalakleet	5	4	*	L,A	MISSING			16			X	
1980	6/20 - 7/1	333	30	343	Kwiniuk	1	4	1 - 5	L,A	MISSING			98			X	
1980	6/19 - 7/1	333	60	649	Unalakleet	1	4	1 - 5	L,A	MISSING			150			X	
1979		333	60	649	Unalakleet	1	4			MISSING							
1978		333	33	346	Kwiniuk - Moses Pt	1	4			MISSING							
1977		333	60	649	Unalakleet	1				MISSING							
1977		333	33	346	Kwiniuk - Moses Pt	1				MISSING							

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Year	Dates	Area	Subdistrict	Location Code	Location	Project	Gear	Card #s	Data Collected	Electronic Data ^a		# of Samples	# Aged	AWLs	Gum Cards	Accelerates
										Raw	Age Comp. Summary					
1976	6/27 - 7/8	333	60		Unalakleet		4		A,S	MISSING		7				
1976	6/27 - 7/11	333	60		Unalakleet		4		A,S	MISSING		15				
1976		333	60		Unalakleet	1	4		A,S	MISSING		127				
1976	6/26-30	333	50		Shaktoolik	1	4		A,S	MISSING		8				
1975	7/15	333	33	346	Kwiniuk - Moses Pt	1	4	1	L	MISSING		5			X	
1975	7/1 - 7/16	333	60	649	Unakakleet	1	4		A,S,L	MISSING		116				
1973	7/2-7/11	333	60	649	Unakakleet	1	4		A,S,L	MISSING						54

^a Not all historic electronic data has been located. Data may not have been transferred to electronic media; files may have been corrupted; or missing 5 1/4 disks still need to be located.

^b All raw data files are of ASCII type, with the exception of 1999-2000 Yukon files having the extension of JUN. These files have been created in Excel.

^c Refer to tables 1-6 for descriptions of corresponding file formats.

^d Age comp and length summary files may be opened with Kedit (PRN, AS, L), Word (DOC, WP, WP5), and Excel (WKAL, XLS, WK3, WK1, WKS)

^e RIR - Regional Information Report, TDR - Technical Data Report, TFR - Technical Fisheries Report, AWL - Age, Sex, and Size Composition Report, AMR - Annual Management Report, AAFI - Arctic Anadromous Fish Investigations

^f Refer to table 1 for listing of all ASL source reports.

Year	Dates	Area	Subdistrict	Location Code	Location	Project	Gear	Cast #s	Data Collected	Electronic Data*				# of Samples	# Aged	ANLA	Gum Cards	Available
										Raw	File Ext. ^b	File Format ^c	Age Comp. Summary					
2000	7/25 - 8/5	333	60	648	Unalakleet	1	4	1-9	S.L.A.					318	x	x	x	
2000	7/9 - 7/25	333	20	258	Nuukik R.	3	2	1-4	S.L.A.					78	x			
2000	8/15 - 8/28	333	20	258	Nuukik River	3	19/12	1-8	S.L.A.	nk4krsw	xls	C		107	x			
2000	7/8 - 7/22	333	30	343	Kwiniuk River	3	10/2	1-19	S.L.A.	kw4krsw	xls	C		342	x			
2000	6/15 - 8/29	333	60	649	Unalakleet	5	4	1-58	S.L.A.					537	x	x	x	
1999	7/9 - 7/18	333	60	648	Unalakleet	1	4	1-8	S.L.A.	un45cmgn99	CMC	C	un45cmgn99a	un45cmgn99	315	288	x	x
1999	7/19 - 8/17	333	20	258	Nuukik River	3	2/12	1-18	S.L.A.	nv45bca99	ESC	C	nv45bca99a	nv45bca99	431	350	x	x
1999	7/14 - 7/23	333	30	343	Kwiniuk River	3	2	7-9	S.L.A.	kw45b99	ESC	C	kw45b99a	kw45b99	81	x	x	x
1999	7/7 - 7/14	333	30	345	Kwiniuk River Tower	3	2	1-8	S.L.A.	kw45b99	ESC	C	kw45b99a	kw45b99	182	247	x	x
1999	6/27 - 8/23	333	60	649	Unalakleet	5	4	1-19	S.L.A.	un45ag99	TST	C	un45ag99a	un45ag99	360	338	x	x
1998	7/28 - 8/5	333	60	648	Unalakleet	1	4	1-5	S.L.A.					200	188	x	x	
1998	7/4 - 7/20	333	20	258	Nuukik R.	3			S.L.A.					138				
1998	6/26 - 7/22	333	30	345	Kwiniuk R.	3	2	1-12	S.L.A.					283	217	x	x	
1998	7/8 - 7/24	333	30	343	Kwiniuk River	3	2	1-9	S.L.A.					255	277	x	x	
1998	6/11 - 8/4	333	60	649	Unalakleet	5	4	1-27	S.L.A.					198	181	x	x	
1997	7/1 - 8/1	333	60	648	Unalakleet	1	4	1-8	S.L.A.	un45cm97	CMC	C	un45cm97a	un45cm97	277	249	x	x
1997	8/1	333	10	154	Snake River Tower	3	2	1-3	S.L.A.	un45b97	ESC	C	un45b97a	un45b97	114	82	x	x
1997	6/26 - 9/5	333	20	258	Nuukik River	3	2/12	1-71	S.L.A.	nv45b97	ESC	C	nv45b97a	nv45b97	1264	x	x	x
1997	7/4 - 7/24	333	30	343	Kwiniuk River	3	2	1-10	S.L.A.	kw45b97	ESC	C	kw45b97a	kw45b97	486	409	x	x
1997	7/25 - 7/31	333	10	050	Norne River	4	2	1-7	S.L.A.	nm45b97	ESC	C	nm45b97a	nm45b97	197	173	x	x
1997	6/15 - 7/30	333	60	649	Unalakleet	5	4	1-32	S.L.A.	un45f97	TST	C	un45f97a	un45f97	292	283	x	x
1996	6/25	333	60	647	Shaktovik	1	4	1-3	S.L.A.	sh45cm96	CMC	D	sh45cm96a	sh45cm96	138	115	x	x
1996	7/2 - 7/31	333	60	648	Unalakleet	1	4	1-5	S.L.A.	un45cm96	CMC	D	un45cm96a	un45cm96	175	152	x	x
1996	7/2 - 9/10	333	20	258	Nuukik River	3	12/2	1-34	S.L.A.	nv45b96	ESC	D	nv45b96a	nv45b96	486	418	x	x
1996	7/7	333	30	345	Kwiniuk R.	3	2	1	S.L.A.	*kw45b96	ESC	D	*kw45b96a	*kw45b96	13	57*	x	x
1996	7/3-7/13	333	30	343	Kwiniuk River	3	2	1-4	S.L.A.	*kw45b96	ESC	D	*kw45b96a	*kw45b96	47	57*	x	x
1996	7/13	333	30	343	Kwiniuk River	3	12	1	S.L.A.	*kw45b96	ESC	D	*kw45b96a	*kw45b96	4	57*	x	x
1996	6/5 - 7/29	333	60	648	Unalakleet	5	4	1-30	S.L.A.		TST	D	un45f96a	un45f96	595	503	x	x
1995	7/1 - 8/2	333	60	648	Unalakleet	1	4	1-6	S.L.A.	un45cm95	CMC	D	un45cm95a		220	189	x	x
1995	7/24	333	10	151	Norne River	2	2	1-5	S.L.A.	nm45b95	ESC	D	nm45b95a		150	86	x	x
1995	7/25 - 7/28	333	10	153	Snake River	3	2	1-7	S.L.A.	un45b95	ESC	D	un45b95a		151	60	x	x
1995	7/27 - 7/31	333	10	158	Solomon River	3	2	1-7	S.L.A.	un45b95	ESC	D	*un45b95a		155	157	x	x
1995	7/5 - 8/10	333	20	258	Nuukik River	3	2/12	1-33	S.L.A.	nv45b95	ESC	D	nv45b95a		803	772	x	x
1995	6/30 - 7/28	333	30	343	Kwiniuk River	3	2	1-15	S.L.A.	kw45b95	ESC	D	kw45b95a		486	341	x	x
1995	6/5 - 8/30	333	60	648	Unalakleet	5	4	1-84	S.L.A.	un45f95	TST	D	un45f95a		580	502	x	x
1994	7/26	333	30	343	Kwiniuk River	1	2	10	S.L.A.	mp45cm94	CMC	D	mp45cm94a		4	4	x	x
1994	7/26 - 8/5	333	60	648	Unalakleet	1	4	1-12	S.L.A.	un45cm94	CMC	D	un45cm94a		450	437	x	x
1994	7/26 - 8/5	333	10	151	Norne River	2	2	1-11	S.L.A.	nm45b94	ESC	D	nm45b94a		104	99	x	x
1994	7/29 - 8/10	333	10	153	Snake River	3	2	1-8	S.L.A.	un45b94	ESC	D	un45b94a		78	75	x	x
1994	7/8 - 7/14	333	30	343	Kwiniuk River	2	2	1-2, 4-9	S.L.A.	kw45b94	ESC	D	kw45b94a		105	96	x	x
1994	7/10	333	30	347	Tubutulik River	3	2	5-7	S.L.A.	tu45b94	ESC	D	tu45b94a		107	98	x	x
1994	6/8 - 9/1	333	60	649	Unalakleet	5	4	1-56	S.L.A.	un45f94	TST	D	un45f94a		480	475	x	x
1993	6/30 - 8/9	333	60	648	Unalakleet	1	4	1-14	S.L.A.	un45cm93	CMC	D	un45cm93a		451	441	x	x
1993	7/3 - 7/14	333	30	343	Kwiniuk River	2	2	1-4	S.L.A.	kw45b93	SUB	D	kw45b93a		75	88	x	x
1993	6/8 - 9/2	333	60	649	Unalakleet	5	4	1-20	S.L.A.	un45f93	TST	D	un45f93a		332	324	x	x
1992	7/3 - 7/28	333	60	648	Unalakleet	1	4	1-15	S.L.A.	un45cm92	CMC	D	un45cm92a		450	429	x	x
1992	7/15 - 7/28	333	30	343	Kwiniuk River	2	2	1-4	S.L.A.	kw45b92	SUB	D	kw45b92a		21	19	x	x
1992	6/23 - 9/18	333	60	649	Unalakleet	5	4	1-54	S.L.A.	un45f92	TST	D	un45f92a		574	562	x	x
1991	6/24	333	33	346	Kwiniuk - Moses Pt.	1	4	1-2	S.L.A.	mp45cm91	CMC	D	mp45cm91a		81	48	x	x
1991	6/28	333	60	647	Shaktovik	1	4	1-2	S.L.A.	sh45cm91	CMC	D	sh45cm91a		80	56	x	x
1991	6/28 - 8/2	333	60	648	Unalakleet	1	4	1-16	S.L.A.	un45cm91	CMC	D	un45cm91a		485	483	x	x
1991	7/13	333	30	344	Kwiniuk River	3	2	1	S.L.A.	kw45b91	ESC	D	kw45b91a		29	25	x	x
1991	6/11 - 8/6	333	60	649	Unalakleet	5	4	1-75	S.L.A.	un45f91	TST	D	un45f91a		738	738	x	x
1990	6/27 - 7/24	333	60	648	Unalakleet	1	4	1-17	S.L.A.	un45cm90	CMC	D	un45cm90a		470	455	x	x
1990	6/26 - 6/29	333	30	346	Kwiniuk - Moses Pt.	1	4	1-5	S.L.A.	mp45cm90	CMC	D	mp45cm90a		134	134	x	x
1990	6/14 - 9/12	333	60	649	Unalakleet	5	4	1-81	S.L.A.	un45f90	TST	D	un45f90a		321	285	x	x
1989	6/29	333	33	346	Kwiniuk - Moses Pt.	1	4	1	S.L.A.	ms1ch89	CMC	D	ms1ch89a	*kwiniuk	29			
1989	7/5	333	60	647	Shaktovik	1	4	1-4	S.L.A.	sh1ch89	CMC	D	sh1ch89a		159			
1989	7/4 - 8/5	333	60	649	Unalakleet	1	4	1-14	S.L.A.	un1ch89	CMC	D	un1ch89a		446			
1989	6/27 - 7/11	333	30	346	Kwiniuk - Moses Pt.	2	4	1-2	S.L.A.	ms2ch89	SUB	D	ms2ch89a					
1989	6/12 - 9/1	333	60	648	Unalakleet	5	4	1-84	S.L.A.	un45ch89	TST	D	un45ch89a		727			
1988	6/22 - 7/8	333	33	346	Kwiniuk - Moses Pt.	1	4	1-8	S.L.A.	ms1ch88	CMC	D	ms1ch88a		85			
1988	6/28 - 8/6	333	60	649	Unalakleet	1	4	1-39	S.L.A.	un1ch88	CMC	D	un1ch88a		8	1506		
1988	7/4 - 7/22	333	30	344	Kwiniuk	2	2	7-2	S.L.A.	kw2ch88	SUB	D						
1988	6/7 - 9/9	333	60	648	Unalakleet	5	4	1-82	S.L.A.	un45ch88	TST	D	un45ch88a		483			
1988	6/24 - 7/5	333	30	344	Kwiniuk	7	10	7-2	S.L.A.	kw7ch88	SPY	D			3			

(continued)

Year	Dates	Area	Subdistrict	Location Code	Location	Project	Clear	Card #s	Data Collected	Electronic Data*				# of Samples	# Agent	AWPL	Gum Cards	Accession
										Raw	File Ext. ^b	File Format ^c	Age Comp. Summary					
1987	6/27 - 7/15	333	33	346	Kwiniuk - Moses Pt.	1	4	1 - 8	S.L.A.	MISSING			me87ch	me87ch	216	200	X	
1987	7/7 - 8/19	333	60	649	Unalakleet	1	4	1 - 17	S.L.A.	MISSING			UC87CH	UC87CH	837	603	X	
1987	7/14 - 8/3	333	30	344	Kwiniuk	2	4		S.L.A.	MISSING						33	X	
1987	6/16 - 9/7	333	60	648	Unalakleet	5	4	1 - 96	S.L.A.	MISSING			UTF87CH	UTF87CH	609	607	X	
1986	7/10 - 7/11	333	20	241	Gokovin Bay	1	4	1 - 16	S.L.A.	MISSING							480	*462
1986	6/24 - 7/11	333	33	348	Kwiniuk - Moses Pt.	1	4	1 - 11	S.L.A.	MISSING							270	*223
1986	7/4	333	50	547	Shaktsook	1	4	1 - 4	S.L.A.	Comsch	CMC	D					140	*138
1986	7/5 - 8/1	333	60	649	Unalakleet	1	4	1-36	S.L.A.	Comsch	CMC	D					1514	*1362
1986	7/4 - 7/10	333	30	343	Kwiniuk	2	2	1 - 2	S.L.A.	MISSING							47	*43
1986	6/17 - 8/20	333	60	648	Unalakleet	5	4	1 - 88	S.L.A.	Unichum	TST	D					790	*760
1985	7/23 - 7/24	333	20	241	Gokovin Bay	1	4	1 - 7	S.L.A.	MISSING								
1985	6/29 - 7/22	333	33	346	Kwiniuk - Moses Pt.	1	4	1 - 19	S.L.A.	MISSING			Nsa6-18, Nschum	Nsa6-18	193	*186	X	
1985	6/28 - 7/31	333	60	649	Unalakleet	1	4	1 - 38	S.L.A.	MISSING			Nsa6-18, Nschum	Nsa6-18	450	*407	X	
1985	7/6 - 7/25	333	30	344	Kwiniuk	4	2	1 - 11	S.L.A.	MISSING			Nsa10a, Nschum	Nsa6-18	1450	*1299	X	
1985	7/25	333	30	347	Tubutuk	4	2	1	S.L.A.	MISSING			Nsa6-18, Nschum	Nsa6-18	146	*146	X	
1985	6/23 - 9/7	333	60	649	Unalakleet	5	4	1 - 109	S.L.A.	MISSING							7	X
1985	6/23 - 9/7	333	60	649	Unalakleet	5	4	1 - 109	S.L.A.	MISSING			Nsa6-18, Nschum	Nsa6-18	820	*800	X	
1984		333	33	346	Kwiniuk - Moses Pt.	1	4		S.L.A.	MISSING								**59
1984	7/7 - 7/28	333	60	649	Unalakleet	1	4	1 - 50	S.L.W.A	LNKCCCH	CMC	F					1489	**1377
1984	6/22 - 9/12	333	60	648	Unalakleet	3,5	4	1 - 76; 100 - 128	S.L.W.A	LNKCT(N,Y)84	TST	F					94, 103	**861
1983	6/21 - 7/20	333	33	346	Kwiniuk - Moses Pt.	1	4	1 - 12; 15 - 18	S.L.A.	MISSING								500
1983	6/19 - 7/6	333	50	547	Shaktsook	1	4	1 - 4	S.L.A.	MISSING								104
1983	6/18 - 7/29	333	60	649	Unalakleet	1	4	1 - 12	S.L.A.	MISSING								300
1983	6/27 - 7/29	333	30	344	Kwiniuk	2	2	1 - 5; 19 - 20	S.L.W.A	MISSING								136
1983	6/10 - 9/1	333	60	648	Unalakleet	5	4	1 - 133	S.L.W.A	MISSING								-700
1982	6/22 - 7/24	333	30	344	Kwiniuk - Moses Pt.	1	4	1 - 16	S.L.W.A	MISSING								480
1982	5/16 - 9/22	333	60	649	Unalakleet	1	4	* 6 - 135	S.L.W.A	MISSING								380+
1981	6/23 - 7/21	333	30	344	Kwiniuk - Moses Pt.	1	4	1 - 16	LA	MISSING								480
1981	6/23	333	60	649	Unalakleet	1	4	1	LA	MISSING								22
1981	6/30 - 7/2	333	60	648	Unalakleet - Site 1	5	4	* 6 - 149	LA	MISSING								385
1981	5/21 - 6/9	333	60	648	Unalakleet - Site 3	5	4	* 1 - 55	LA	MISSING								205
1981	6/22 - 8/31	333	60	648	Unalakleet - Site 4	5	4	* 1 - 70	LA	MISSING								126
1980	7/18	333	10	181	Nome	1	4	1 - 2	A.S.L.	MISSING								44
1980	6/20 - 7/18	333	30	344	Kwiniuk	1	4	101 - 118	A.S.L.	MISSING								540
1980	6/27 - 7/21	333	60	649	Unalakleet	1	4	1 - 10	A.S.L.	MISSING								300
1979	6/23 - 7/10	333	60	649	Unalakleet	1		1 - 9	A.S.L.	MISSING								285
1979	6/23 - 7/16	333	30	343	Kwiniuk	2	4	1 - 11	A.S.L.	MISSING								392
1979	7/13; 7/29	333	20	258	Niukuk	4	12	1 - 2	A.S.L.	MISSING								32
1978		333	10	181	Nome	1		1 - 3	A	MISSING								65
1978		333	20	241	Gokovin Bay	1		1 - 8	A	MISSING								145
1978	6/20 - 7/18	333	30	344	Kwiniuk	1	4	* 2 - 18	LA	MISSING								404
1978		333	30	343	Kwiniuk - Moses Pt.	1		1 - 18	A	MISSING								400
1978	6/20 - 7/19	333	60	649	Unalakleet	1	4	1 - 15	LA	MISSING								490
1978		333	10		Scotter Creek	4		1 - 4	A	MISSING								100
1978		333	10	187	Eldorado Creek	4		1 - 2	A	MISSING								41
1978		333	10	190	Nome	4		1 - 4	A	MISSING								132
1978		333	20	260	Fish River	4		1	A	MISSING								25
1978		333	20	251	Kachavik	4		1 - 2	A	MISSING								47
1978		333	20	258	Niukuk	4		1 - 2	A	MISSING								60
1978		333	50	547	Shaktsook	4		1 - 3	A	MISSING								84
1978	Aug	333	60	647	Shaktsook	4	12	1 - 2	A	MISSING								20
1978		333	60	648	Unalakleet	4	12	1	A	MISSING								10
1978		333	60	648	Unalakleet	4		1 - 15	A	MISSING								410
1978		333	00	054	Sinuk	4		1 - 3	A	MISSING								90
1977		333	10	181	Nome	1			A.S.L.	MISSING								
1977	6/25 - 7/27	333	30	344	Kwiniuk	1	4	* 1 - 22	LA	MISSING								600
1977		333	30	345	Kwiniuk - Moses Pt.	1			A.S.L.	MISSING								
1977	6/21 - 7/9	333	60	649	Unalakleet	1	4	* 1 - 29	LA	MISSING								362
1977		333	10	181	Nome	2			A.S.L.	MISSING								
1977		333	30	343	Kwiniuk	2		103-104	A	MISSING								176
1977		333	60	648	Unalakleet	2			A	MISSING								89
1976	6/28 - 7/29	333	30	344	Kwiniuk	1	4	1 - 9	LA	MISSING								213
1976	7/7 - 7/16	333	30	345	Kwiniuk	1	4	1 - 2; 4 - 8	LA	MISSING								128
1976	6/9	333	40	440	Ungalik River	1	4		A	MISSING								24
1976	6/28 - 7/18	333	10	187	Shaktsook	1	4		A	MISSING								60
1976	6/23 - 7/14	333	60	649	Unalakleet	1	4	1,4,7,11,15,17	LA	MISSING								167
1976	7/15-8/31	333			Chrosky River	3	2		A	MISSING								29
1976		333	30	345	Kwiniuk	4		* 1 - 6	A	MISSING								100
1976	6/28-7/17	333	60	648	Unalakleet	5	4		A	MISSING								42
1976	6/28-7/12	333	60	649	Unalakleet	5	4		A	MISSING								118

(continued)

Year	Dates	Area	Subdistrict	Location Code	Location	Project	Gear	Cant #s	Data Collected	Electronic Data *				# of Samples	# Aged	AWLA	Cum Cards	Anchovies
										Raw	File Ext. †	File Format ‡	Age Comp. Summary					
1975	7/3 - 7/16	333	30		Kwiniuk - Moses Pt.	1		1 - 12	A	MISSING				344				
1975	6/1-6/3	333	60	547	Shaktoolik	1			A	MISSING				215				
1975	7/1 - 7/16	333	60		Unalakleet	1		* 1 - 34	A	MISSING				118				
1975	7/27-8/5	333	60		Unalakleet	1			A	MISSING				249				
1975	7/5-7/25	333			Chitosek River	1			A	MISSING				291				
1975	7/8-9	333			Golovin	1			A	MISSING				107				
1975	7/3-8/6	333			Norton Bay	1			A	MISSING				262				
1975	7/22-7/24	333	30		Kwiniuk River	2	2		A	MISSING				96				
1974	6/21-6-29	333	30		Golovin	1	4		A.S.L.	MISSING				104				
1974	6/27-7/21	333	30		Kwiniuk - Moses Pt.	1	4		A.S.L.	MISSING				178				
1974	6/17-7/17	333	60	648	Unalakleet	1	4		A.S.L.	MISSING				223				
1974	6/27-7/11	333	30		Kwiniuk - Moses Pt.	2	2		A.S.L.	MISSING				151				
1973	6/29-8/3	333	30		Kwiniuk - Moses Pt.	1	4		A.S.L.	MISSING				343				
1973	6/29-7/28	333	60	649	Unalakleet	1	4		A.S.L.	MISSING				484				
1973	6/29-8/3	333	30		Kwiniuk River	3	2		A.S.L.	MISSING				327				
1969	6/23 - 7/19	333	30		Kwiniuk - Moses Pt.	1	4	1 - 44	S.L.A.	MISSING				1260				X
1969		333	60	649	Unalakleet	1	4	1 - 10		MISSING								
1968	6/22 - 7/14	333	33	348	Kwiniuk - Moses Pt.	1	4	* 1 - 45		MISSING								
1968	7/6 - 7/17	333	60	648	Unalakleet	1	4	* 1 - 33		MISSING								
1967		333	30	344	Kwiniuk - Moses Pt.	1	4	1 - 30		MISSING								
1966	6/24 - 7/12	333	30		Kwiniuk River				A	MISSING				588				
1963	7/2	333	20	241	Golovin Bay	1	4	* 4	L.A.	MISSING				95	86			X
1963	7/2 - 7/14	333	40	410	Norton Bay/Moses Pt.	1	4	* 4	L.A.	MISSING				50				X
1963	7/11 - 8/2	333	60		Unalakleet	1	2,4	* 8	L.A.	MISSING				1767	160			X
1962	7/3 - 7/18	333	30		Kwiniuk	1	4	1 - 12	L.A.	MISSING				340				X
1962	6/25 - 8/6	333	60	649	Unalakleet	1	4	* 1 - 34	L.A.	MISSING				280				X
1962	7/7 - 7/14	333	40	410	Norton Bay			* 3	L.A.	MISSING				59				X

* Not all historic electronic data has been located. Data may not have been transferred to electronic media, files may have been corrupted, or missing 5 1/4 disks still need to be located.
† All raw data files are of ASCII type, with the exception of 1999-2000 Yukon files having the extension of .JUN. These files have been created in Excel.
‡ Refer to tables 1-6 for descriptions of corresponding file formats.
§ Age comp and length summary files may be opened with Kedit (PRN, AS, LJ, Word (DOC, WP, WPS), and Excel (WKAL, XLS, WK3, WK1, WKS)
¶ RIR - Regional Information Report, TDR - Technical Data Report, TFR - Technical Fisheries Report, AWL - Age, Sex, and Size Composition Report, AMR - Annual Management Report, AAFI - Arctic Anadromous Fish Investigations
Refer to table 1 for listing of all ASL source reports.

Year	Dates	Area	Subdistrict	Location Code	Location	Project	Gear	Card #s	Data Collected	Electronic Data ^a			# of Samples	# Aged	AWLs	Gum Cards	Acetates
										Raw	Age Comp. Summary	Length by age Summary					
2000	7/28 - 8/23	333	60	648	Unalakleet	1	4	1 - 15		MISSING			250		x	x	x
2000	7/24 - 9/4	333	60	649	Unalakleet	5	4	1 - 41		MISSING			184		x	x	x
1999	8/3 - 8/17	333	60	648	Unalakleet	1	4	1-20	S,L,A	unk43cm99	unk43cm99as	unk43cm99i	200	186	x	x	x
1999	8/12	333	20	258	Niukluk River	3	10	11		MISSING			2			x	x
1999	7/30 - 9/2	333	60	649	Unalakleet	5	4	1-13	S,L,A	unk43fsgn99	unk43fsgn99as	unk43fsgn99i	111	103	x	x	x
1998	8/4 - 8/5	333	60	648	Unalakleet	1	4	1 - 16	S,L,A	MISSING			160	135		x	x
1998	7/29 - 9/4	333	60	649	Unalakleet	5	4	1 - 16	S,L,A	MISSING			126			x	x
1997	8/5 - 8/12	333	60	648	Unalakleet	1	4	1 - 16	S,L,A	un43cm97	un43cm97asi	un43cm97asi	160	135		x	x
1997	7/19 - 8/29	333	20	258	Niukluk River	3	2	1 - 21	S,L,A	ni43bs97	ni43bs97as	ni43bs97i	98	83	x	x	x
1997	8/4 - 8/29	333	60	649	Unalakleet	5	4	1 - 16	S,L,A	un43tf97	un43tf97asi	un43tf97asi	89	64		x	x
1996	7/31 - 8/3	333	60	648	Unalakleet	1	4	1 - 18	S,L,A	un43cm96	un43cm96asi	un43cm96asi	180	150		x	x
1996	7/16 - 8/26	333	60	649	Unalakleet	5	4	1 - 27	S,L,A	un43tf96	un43tf96asi	un43tf96asi	211	174		x	x
1996	7/28 - 8/21	333	20	258	Niukluk River	7	10	1 - 32	S,L,A	ni43mr96	ni43mr96asi	ni43mr96asi	233	202		x	x
1996	9/3 - 10/6	333	20	258	Niukluk River	7	12	33 - 68	S,L,A	ni43cr96	ni43cr96asi	ni43cr96asi	252	209		x	x
1995	8/2 - 8/9	333	60	648	Unalakleet	1	4	1 - 20	S,L,A	un43cm95	un43cm95a		200	176		x	x
1995	7/21	333	30	343	Kwiniuk River	3	2	1	S,L,A	kw43bs95			1			x	x
1995	7/24 - 9/11	333	60	649	Unalakleet	5	4	1 - 29	S,L,A	un43tf95	*un43tf95a		103	77		x	x
1995		333	20	258	Niukluk River				S,L,A	ni43h95			80				
1994	8/2 - 8/30	333	60	648	Unalakleet	1	4	1 - 30	S,L,A	un43cm94	un43cm94as		300	258		x	x
1994	7/11 - 9/7	333	60	649	Unalakleet	5	4	1 - 45	S,L,A	un43tf94	un43tf94as		209	183		x	x
1993	8/6 - 8/16	333	60	648	Unalakleet	1	4	1 - 18	S,L,A	un43cm93	un43cm93as		160	123		x	x
1993	7/26 - 9/8	333	60	649	Unalakleet	5	4	1 - 35	S,L,A	un43tn93	un43tn93as		142	116		x	x
1992	7/28 - 8/11	333	60	648	Unalakleet	1	4	1 - 20	S,L,A	un43cm92	un43cm92a	un43cm92i	200	180		x	x
1992	7/20 - 9/8	333	60	649	Unalakleet	5	4	1 - 50	S,L,A	un43tn92	un43tn92a	un43tn92i	275	253		x	x
1991	8/6 - 8/16	333	60	648	Unalakleet	1	4	1 - 16	S,L,A	un43cm91	un43cm91as	un43cm91i	160	143		x	x
1991	7/23 - 9/12	333	60	649	Unalakleet	5	4	1 - 40	S,L,A	un43tn91	un43tn91as	un43tn91i	176	167		x	x
1990	7/27 - 8/21	333	60	649	Unalakleet	1	4	1 - 34	S,L,A	uncgco90	uncgco90a		340	299		x	
1990	8/7 - 9/2	333	50	550	Shaktoolik R.	3	2	1 - 9	S,L,A	shxggh90		shxggh90i	59	52		x	x
1990	7/30 - 9/12	333	60	649	Unalakleet	5	4	1 - 44	S,L,A	unfcco90	unfcco90a		261	238		x	x
1989	7/26 - 8/5	333	60	649	Unalakleet	1	4	1 - 18	S,L,A	unk1co89	unk1co89a			156			
1989	7/30 - 8/21	333	50	547	Shaktoolik	4	4	1 - 9	S,L,A	shk7co89			29				
1989	7/13 - 9/10	333	60	648	Unalakleet	5	4	1 - 40	S,L,A	unk5co89	unk5co89a			142			
1988	7/29 - 8/13	333	60	649	Unalakleet	1	4	1 - 26	S,L,A	unk1co88	unk1co88a			248			
1988	7/7 - 9/9	333	60	648	Unalakleet	5	4	1 - 39	S,L,A	unk5co88	unk5co88a			141			
1987	7/28 - 8/28	333	60	649	Unalakleet	1	4	1 - 12	S,L,A	MISSING	UC87CO	UC87CO	456	278		x	
1987	7/30 - 9/7	333	60	648	Unalakleet	5	4	1 - 23	S,L,A	MISSING	UTF87CO	UTF87CO	134	119		x	
1986	8/1 - 8/22	333	60	649	Unalakleet	1	4	1 - 9	S,L,A	Comcoho			300	223			
1986	7/18 - 9/10	333	60	649	Unalakleet	5	4	1 - 23	S,L,A	Unkcoho				128			

(continued)

Year	Dates	Area	Subdistrict	Location Code	Location	Project	Gear	Card #s	Data Collected	Electronic Data ^a			# of Samples	# Aged	AWLs	Gum Cards	Acetates
										Raw	Age Comp. Summary	Length by age Summary					
1985	8/3 - 8/13	333	60	649	Unalakleet	1	4	1 - 9	S,L,A	MISSING	Nsa6-18, Nscoho		340	*243	X		
1985	7/24 - 9/21	333	60	649	Unalakleet	5	4	1 - 42	S,L,A	MISSING	Nsa6-18, Nscoho		183	*169	X		
1984	8/1 - 8/24	333	60	649	Unalakleet	1	4	1 - 11	S,L,A	MISSING			300	*153	X		
1984	7/13 - 9/24	333	60	648	Unalakleet	4	4	1 - 49	S,L,A	UNKCOT84			258	*227	X		
1983	7/29 - 8/23	333	60	649	Unalakleet	1	4	1 - 9	S,L,A	MISSING			300		X		
1983	7/24 - 9/23	333	60	648	Unalakleet	5	4	*1 - 78	S,L,W,A	MISSING			316		X		
1982	7/24 - 9/2	333	60	649	Unalakleet	5	4	54 - 138	S,L,W,A	MISSING			345+	228	X		
1982	7/24-9/10	333	60	649	Unalakleet	*				MISSING			92				
1981	7/28 - 9/20	333	60	648	Unalakleet Site 1	5	4	*53 - 158	L,A	MISSING			88		X		
1981	8/8	333	60	648	Unalakleet Site 3	5	4	53 - 54	L,A	MISSING			2		X		
1981	7/28 - 9/11	333	60	648	Unalakleet Site 4	5	4	57 - 74	L,A	MISSING			13		X		
1980	8/9 - 8/23	333	60	649	Unalakleet	1	4	1 - 9	L,A	MISSING						X	
1975	7/30 - 8/5	333	30		Kwiniuk	1	4	25,28,35,36		MISSING							
1963	8/5	333	60	649	Unalakleet	1	4	1	L,A	MISSING			25		X		
1963	8/22	333	10	151	Nome	7	10	1		MISSING			6		X		

^a Not all historic electronic data has been located. Data may not have been transferred to electronic media; files may have been corrupted; or missing 5 1/4 disks still need to be located.

^b All raw data files are of ASCII type, with the exception of 1999-2000 Yukon files having the extension of JUN. These files have been created in Excel.

^c Refer to tables 1-6 for descriptions of corresponding file formats.

^d Age comp and length summary files may be opened with Kedit (PRN, AS, L), Word (DOC, WP, WP5), and Excel (WKAL, XLS, WK3, WK1, WKS)

^e RIR - Regional Information Report, TDR - Technical Data Report, TFR - Technical Fisheries Report, AWL - Age, Sex, and Size Composition Report, AMR - Annual Management Report, AAFI - Arctic Anadromous Fish Investigations

^f Refer to table 1 for listing of all ASL source reports.

Year	Dates	Area	Subdistrict	Location Code	Location	Project	Gear	Card #s	Data Collected	Electronic Data ^a		# of Samples	# Aged	AWLS	Gum Cards	Accelerates
										Raw	Age Comp. Summary					
1991	7/19	333	60	648	Unalakleet	5	4	1	S.L.A	un42cm91	un42cm91es	2	x	x		
1989	7/19 - 9/4	333	60	648	Unalakleet	5	4	1-6	S.L.A	unk5so89		7				
1988	8/11 - 9/8	333	60	648	Unalakleet	5	4	1-2	S.L.A	unk5so88		3				
1987	8/5	333	60	648	Unalakleet	5	4	1-3	S.L.A	MISSING	UTF87S	UTF87S	3			
1983	7/22 - 8/11	333	60	648	Unalakleet	5	4	1-7		MISSING						
1981	8/14 - 8/21	333	60	648	Unalakleet	2	4	1-3		MISSING						
1979	7/12 - 8/1	333	00	050	Glacier Lake	3	19	1-21		MISSING						
1963	8/10	332	00	050	Salmon Lake			1		MISSING		8				

^a Not all historic electronic data has been located. Data may not have been transferred to electronic media; files may have been corrupted; or missing 5 1/4 disks still need to be located.

^b All raw data files are of ASCII type, with the exception of 1999-2000 Yukon files having the extension of JUN. These files have been created in Excel.

^c Refer to tables 1-5 for descriptions of corresponding file formats.

^d Age comp and length summary files may be opened with Kedit (PRN, ASL, L), Word (DGC, WP, WP5), and Excel (WKAL, XLS, WK3, WK1, WKS)

^e RIR - Regional Information Report, TDR - Technical Data Report, TFR - Technical Fisheries Report, AWL - Age, Sex, and Size Composition Report, AMR - Annual Management Report, AAFI - Arctic Anadromous Fish Investigations

^f Refer to table 1 for listing of all ASL source reports.

Appendix A5. Norton Sound Area pink salmon data electronic ASL data files, based on scale card inventory, 1965-1978. Page 1 of 1.
 No Norton Sound historic electronic pink salmon raw ASL data files have been located.

Year	Dates	Area	Subdistrict	Location Code	Location	Project	Gear	Card #s	Data Collected	Electronic Data ^a		# of Samples	# Aged	AWLs	Gum Cards	Acetates
										Raw	Age Comp. Summary					
1978	7/3-7/9	333			Nome	1	4			MISSING		60				
1978	7/11-7/14	333			Kachavik	2	2			MISSING		78				
1977	6/23-7/13	333	60	648	Unalakleet					MISSING		438				
1977	7/7-7/27	333			Kachavik	2				MISSING		161				
1976	6/23/2025	333	60	648	Unalakleet	1	4		A,S	MISSING		60				
1976	7/22	333			Chirosky R.	3	12		A,S	MISSING		31				
1976	6/27 - 7/12	333	60		Unalakleet	5	4		A,S	MISSING		225				
1976	6/27 - 7/12	333	60		Unalakleet	5	4		A,S	MISSING		37				
1965		333	30	345	Kwinik				A,S,L	MISSING		23				

- ^a Not all historic electronic data has been located. Data may not have been transferred to electronic media; files may have been corrupted; or missing 5 1/4 disks still need to be located.
- ^b All raw data files are of ASCII type, with the exception of 1969-2000 Yukon files having the extension of JUN. These files have been created in Excel.
- ^c Refer to tables 1-3 for descriptions of corresponding file formats.
- ^d Age comp and length summary files may be opened with Kedit (PRN, AS, L), Word (DOC, WP, WPS), and Excel (WKAL, XLS, WK3, WK1, WKS)
- ^e RIR - Regional Information Report, TDR - Technical Data Report, TFR - Technical Fisheries Report, AWL - Age, Sex, and Size Composition Report, AMR - Annual Management Report, AAFI - Arctic Anadromous Fish Investigations
- ^f Refer to table 1 for listing of all ASL source reports.

Appendix B. Codes for the ASL data inventory tables.

<i>Project Type</i> ^a	<i>Code</i>	<i>Species</i> ^a	<i>Code</i>
Commercial Catch	1	Chinook	41
Subsistence Catch	2	Sockeye	42
Escapement (tower, weir, sonar, etc.)	3	Coho	43
Escapement (spawning grounds)	4	Pink	44
Test Fishing	5	Chum	45
Sport Catch (marine)	6		
Sport Catch (freshwater)	7		
<i>Summary Table Type</i>			
<i>Gear Type</i> ^a		Age and Sex Composition	C
		Length by Age Composition	L/A
Trap	0	Harvest by Age, Sex	H
Purse Seine	1	Sex Composition	S
Beach Seine	2		
Drift Gillnet	3		
Set Gillnet	4	<i>Data Type Collected</i>	
Troll	5		
Long Line	6	Sex	S
Otter Trawl	7	Length	L
Fishwheel	8	Weight	W
Pots	9	Age	A
Sport Hook and Line	10	Otoliths	O
Herring Purse Seine	11	Vertabrae	V
Handpicked or carcass	12		
Dip Net	13		
Unassigned	14 - 16	<i>Age Error</i> ^a	
Beam Trawl	17		
Shovels	18	Otolith	1
Weir	19	Inverted	2
Unassigned	20 - 99	Regenerated	3
		Illegible	4
		Missing	5
		Reabsorbed	6
		Wrong species	7
		Not preferred	8
<i>Length Type</i> ^a			
Tip of snout to fork of tail	1		
Mid-eye to fork of tail	2		
Post orbit to fork of tail	3		
Mid-eye to hypural plate	4		
Post orbit to hypural plate	5		
Unassigned	6		

^a all designations are the same as those that appear on ADF&G Adult Salmon Age-Length forms (AWL forms)

Appendix C1. Norton Sound Area ASL sampling location codes.

Location	District	Sub-District	Location Code
Bonanza River	333		160
Egavik River	333	60	610
Eldorado River (other than the tower)	333		157
Eldorado River Tower	333		156
Feather River	333		020
Fish River	333		260
Flambeau River	333		159
Glacial Lake	333		050
Golovin Bay	333	20	241
Golsovia River	333		620
Inglutalik River	333		430
Kachavik River	333		251
Kogok River	333		040
Koyuk River	333		420
Kwiniuk Inlet	333	33	346
Kwiniuk Marine East	333	32	349
Kwiniuk Marine West	333	31	348
Kwiniuk River (above channel)	333	30	343
Kwiniuk River (below channel)	333		344
Kwiniuk River Tower	333		345
Niukluk River	333		258
Nome River (other than the tower)	333		151
Nome River Tower	333		150
Nome Subdistrict (marine waters)	333		152
North River	333		655
Norton Bay Subdistrict Marine	333	40	410
Penny River	333		158
Pikmiktalik River	333		060
Safety Lagoon / Bonanza Channel	333		161
Shaktoolik River	333		550
Shaktoolik River Tower	333		555
Shaktoolik Subdistrict Marine	333	50	547
Sinuk River	333		054
Snake River (other than the tower)	333		153
Snake River Tower	333		154
Solomon River	333		155
Tisuk River	333		030
Tubutulik River	333		347
Unalakleet River (other than test fish)	333		650
Unalakleet River Test Fish	333		649
Unalakleet Subdistrict Marine	333		648
Ungalik River	333		440

Appendix C2. Port Clarence Area ASL sampling location codes.

Location	District	Sub-District	Location Code
Agiapuk River	332		035
Grand Central River	332		055
Grantly Harbor	332	54	025
Immuruk Basin	332	52	030
Kuzitrin River	332		040
Pilgrim River	332		045
Port Clarence	332	56	020
Port Clarence / Marine North	332	60	010
Port Clarence / Marine South	332	58	015
Salmon Lake	332		050

Appendix D. Norton Sound salmon age, sex and size composition reports, 1982-1999

Year	Report Type and Number *	Author(s)	Report Title
1999	RIR 3A00-21	T. Kohler	Norton Sound and Kotzebue Sound management area salmon catch and escapement report, 1999.
1998	RIR 3A09-31	T. Kohler	Norton Sound and Kotzebue Sound management area salmon catch and escapement report, 1998.
1997	RIR 3A08-27	T. Lingnau	Norton Sound and Kotzebue Sound management area salmon catch and escapement report, 1997.
1996	RIR 3A07-21	T. Lingnau	Norton Sound and Kotzebue Sound management area salmon catch and escapement report, 1996.
1995	RIR 3A06-23	T. Lingnau	Norton Sound and Kotzebue Sound management area salmon catch and escapement report, 1995.
1994	RIR 3A05-07	T. Lingnau	Norton Sound and Kotzebue Sound management area salmon catch and escapement report, 1994.
1993	RIR 3A04-15	T. Lingnau	Norton Sound and Kotzebue Sound management area salmon catch and escapement report, 1993.
1992	TFR 94-05	Tracy Lingnau	Norton Sound and Kotzebue Sound management area salmon catch and escapement report, 1992.
1991	TFR 92-13	Tracy Lingnau	Norton Sound and Kotzebue Sound management area salmon catch and escapement report, 1991.
1990	RIR 3A05-04	C. Blaney, T. Lingnau	Norton Sound and Kotzebue Sound management area salmon catch and escapement statistics, 1990.
1989	TFR 91-03	Lawrence S. Bukis	Norton Sound and Kotzebue Sound management area salmon catch and escapement statistics, 1989.
1988	TFR 91-02	Lawrence S. Bukis	Norton Sound and Kotzebue Sound management area salmon catch and escapement statistics, 1988.
1987	TFR 89-09	Helen H. Hamner	Abundance, Age, Sex, and Size of Norton Sound and Kotzebue Sound Salmon Catch and Escapement, 1987.
1986	TFR 89-08	Helen H. Hamner	Abundance, Age, Sex, and Size of Norton Sound and Kotzebue Sound Salmon Catch and Escapement, 1986.
1985	TDR 193, AWL Rpt. # 29 TDR 212	H. Hamner Danel C. Huftunen	Abundance, Age, Sex, and Size of Norton Sound and Kotzebue Sound Salmon Catch and Escapement, 1985. Abundance, Age, Sex, and Size of Salmon Catches and Escapements in the Kuskokwim Area, 1985.
1984	TDR 172, AWL Rpt. # 25	B. Bigler, C. Lean	Age, Sex, and Size of Norton Sound and Kotzebue Sound Salmon Catch and Escapement, 1984.
1983	TDR 130, AWL Rpt. # 23	Lean et al.	Age, Sex, and Size of Norton Sound and Kotzebue Sound Salmon Catch and Escapement, 1983.
1982	AWL Rpt. # 18	C. Lean	Norton Sound Area, Age, Sex, and Size of Salmon, 1982.

* RIR - Regional Information Report, TDR - Technical Data Report, TFR - Technical Fisheries Report, AWL - Age, Sex, and Size Composition Report, AMR - Annual Management Report, AAFI - Arctic Anadromous Fish Investigations

Appendix E1. Header and specimen line codes for file format type "A" raw ASL.
 Juniper Excel electronic files.^{ap}

Header Record (line 1)	
Description	Columns
District	A
Subdistrict	B
Location code	D, E ¹
Month	E ²⁻³
Day	E ⁴⁻⁵
Year	E ⁶⁻⁷
Mesh Size	E ⁹⁻¹⁰
Length Type	E ¹¹
Gear Type	E ¹²
Species Code	E ¹³⁻¹⁴

Specimen Record (line 3,4)	
Description	Columns
Card Number	A
Specimen Number	B
Sex	C
Length (mm)	D
Age	E

¹ File extension: JUN (Yukon 1999-2000)

^a Example:

334	10		08	00 62501 0852341
Card	Fish	Sex	Length	Age
1	1	F	815	1.4
1	2	F	930	1.4

Appendix E2. Header and specimen line codes for file format type "B" raw ASL.
Juniper ASCII electronic files.^{ab}

Header Record (line 1)	
Description	Columns
Record Type (Header :)	1
District	2-4
Subdistrict	5-6
Stream	7-9
Location code	10-12
Project	13
Month	14,15
Day	16-17
Year	18-19
Period	20-21
Gear Type	22-23
Mesh size	24-25
Length Type	26
# scales	27
Species Code	28-29

Specimen Record (line 2)	
Description	Columns
Record Type (Specimen ;)	1
Card number	2-4
Specimen number	5-6
Sex	7
Length (mm)	9-11
Age	12-13
Age Error Code	14

^a File extension: JUN (Kuskokwim 1999)

^b Example:

```
:33540 0 01 62199 1 3 62341
; 1 1F 85414
```

Appendix E3. Header and specimen line codes for file format
type "C" raw ASL electronic files.¹⁰

Header Record (line 1)	
Description	Columns
Record Type (Header :)	1
District	2-4
Subdistrict	5-6
Stream Code (not used)	7-9
Location code	10-12
Project	13
Month	14-15
Day	16-17
Year	18-19
Period	20-21
Gear Type	22-23
Mesh Size	24-26
Card Number	27-29
length type?	30-32?
AWL Form Number	35-40

Specimen Record (line 2)	
Description	Columns
Record Type (Specimen :)	1
Specimen number	2-3
Species	4-5
Sex (1=Male, 2=Female)	6
Length (mm)	8-10
Weight	11-14
Age	15-16
Age Error Code	17

^a File Exentions: .DAT (Yukon 1964-70 and all of AYK 97-2000),
.OPS, .RAW, .AWL, .ASL, .REF, .AWR (all of AYK 97-2000)

^b Example:

```
:331      2105070997  03  800123200245750
; 1451 640    04
```

Appendix E4. Header and specimen line codes for file format type "D" raw ASL electronic files.^{ab}

Header Record (line 1)

Description	Columns
AWL form # (?)	1-8
Species code	10-11
District code	13-15
Subdistrict code	17-18
Stream	20-22
Location	24-26
Project	29
Month	31-32
Day	34-35
Year	37-38
Period	40-41
Gear type	42-43
Mesh Size	44-45
Length Type	46
Card number	51-52

Speciman Record (line 2,3)

Description	Columns
Specimen number	1-2
Sex (1=Male, 2=Female)	4
Length (mm)	7-9
Age	11-12

^a For file Exentions: .AWL, .ASL, .ESC, .CC, .FILE, .SUB, .E, .C, .CS, .OCS, .CAT, .TF, .TOT, .P1-P7, .DBM, .BAK (all of AYK 1984-97)

^b Example:

```
00042791 45 331-00-000-000 1 07/17/84 0304602 7
 1 1 581 03
 2 1 558 03
```

Appendix E5. Header and specimen line codes for file format type "E" raw
ASL electronic files.^{ab}

Header Record (line 3)	
Description	Columns
Hour	1-2
Minute	4-5
Seconds	7-8
Month	10-11
Day	13-14
Year	16-17

Header Record (line 4)	
Description	Columns
Month	2-3
Day	4-5
Year	6-7
District	9-11
Subdistrict	13-14

Subheader Record (line 5)	
Description	Columns
Card number (page Number)	2-5

Specimen Record (line 6)	
Description	Columns
Specimen Number	1-3
Length (mm)	4-7
Sex (F=Female, M=Male)	8
Age	9-10

^a File extensions .FMB, .DMP, .EDI, .CCE (Kotzebue 1986-00)

^b Example:
 P4099G
 27669
 16:38:01 07/17/92
 d0717
 p0015
 s01L583F04

Appendix E6. Header and specimen line codes for file format type "F" raw ASL electronic files.^{ab}

Header Record (line 1)

Description	Columns
Record Type (Header :)	1
Species	2-3
District	4-6
Subdistrict	7-8
Stream	9-11
Location code	12-14
Project	15-16
Month	17-18
Day	19-20
Year	21-22
Period	23-24
Gear Type	25-26
Mesh Size	27-28
Card Number	34-36

Specimen Record (line 2)

Description	Columns
Record Type (Specimen ;)	1
Specimen number	2-3
Sex (1=Male, 2=Female)	4
Length (mm)	6-8
Weight	9-12
Age	13-14
Age Error Code	15

^a File Exentions: .DAT (Yukon 1983); .AWL (64-68 Yukon)

^b Example:

```
:41334600000910207198301080002002002
;011 838 24
```

Appendix F. Norton Sound District commercial salmon summary of fish tickets, 1969-1999. (page 1 of 2).

Year	District	Number of Batches	Batch Range	Number of Fish Tickets	Fish Ticket Range
69	Z	1	0	3,320	265000-268098 & 271001-271221
70	Z	1	0	2,770	000014, 265000-267750 & 271665-271682
71	Z	1	0	2,755	265001-267755
72	Z	1	0	2,366	265001-267366
73	Z	1	0	3,400	254605, 256953, 256956, 257805, 260628, 265001-268391, 251569, 271860, 273595 & 288602
74	Z	1	0	3,991	250963, 251014, 251132, 252344, 253410, 257971, 259783, 265001-268982, 277659 & 286465
75	Z	21	001-021	3,723	800001-803723
76	Z	23	001-023	3,394	800001-803394
77	Z	24	001-024	3,903	800001-803903
78	Z	31	001-031	6,168	800001-806168
79	Z	31	001-031	6,030	800001-806030
80	Z	28	009-036	5,455	851601-857055
81	Z	27	009-035	5,388	851601-856988
82 b	Z	29	001-029	5,649	850001-855651
83	Z	97	101-108, 201-213, 301-310, 401-412, 501-524 & 601-630	6,489	875001-875148, 890001-890613, 880001-880921, 870001-870295, 850001-851118, 860001-863384 & 869500-869509
84	Z	85	101-108, 201-214, 301-315, 401-406, 501-519 & 601-623	4,313	850001-850044, 855001-855679, 860001-860591, 865001-865056, 879001-879003, 870001-870574 & 880001-882366
85	Z	76	101-109, 201-212, 301-310, 401-408, 501-514 & 601-623	3,709	850001-850054, 855001-855682, 860002-860400, 865001-865167, 870001-870509 & 880001-881898
86	Z	85	101-106, 201-213, 301-313, 401-410, 501-519 & 601-624	4,088	850001-850062, 855001-855625, 859001-859022, 860001-860618, 864001-864032, 865001-865109, 870001-870617 & 880001-882003
87	Z	59	101-106, 201-210, 301-306, 401-408, 501-512 & 601-617	3,491	850001-850050, 855001-855613, 860001-860432, 865001-865129, 870001-870820 & 880001-881447
88	Z	80	101-105, 201-210, 301-311, 401-409, 501-521 & 601-624	4,829	850001-850014, 855001-855618, 859001-859167, 860001-860606, 864001-864082, 865001-865174, 870001-870895, 880001-882246 & 887001-887027
89	Z	48	101-102, 301, 501-519 & 601-626	2,795	850001-850003, 860001-860031, 870001-870732 & 880001-882029
90	Z	56	201-204, 301-306, 501-518 & 601-628	3,235	855001-855157, 860001-860054, 870001-870819 & 880001-882205
91	Z	45	201-205, 301, 501-516 & 601-623	3,296	855001-855199, 860001-860024, 870001-870845 & 880001-882229
92	Z	52	101-106, 201-208, 301-303, 401-403, 501-513 & 601-619	2,914	850001-850011, 855001-855033, 860001-860047, 865001-865048, 870001-870603 & 880001-882172
93	Z	61	101-104, 201-203, 301-304, 401-404, 501-521 & 601-625	3,683	850001-850007, 855001-855066, 860001-860112, 865001-865101, 870001-871232 & 880001-882165

(continued)

Appendix F. Norton Sound District commercial salmon summary of fish tickets, 1969-1999. (page 2 of 2).

Year	District	Number of Batches	Batch Range	Number of Fish Tickets	Fish Ticket Range
94	Z	66	101-103, 201-210, 301-308, 501-518 & 601-627	3,660	850001-850005, 855001-855101, 860001-860265, 870001-871114 & 880001-882175
95 ^c	Z	52	101-102, 201-206, 301-308, 501-517 & 601-620	2,525	850001-850008, 855001-855082, 860001-860141, 870001-870703 & 880001-881591
96 ^d	Z	67	101-102, 201-203, 301-312, 501-523 & 601-628	2,520	850001-850003, 855001-855011, 860001-860249, 870001-870433, 879001-879427, 880001-881202 & 887001-887194
97	Z	44	201-209, 301-303, 401 501-510 & 601-621	1,874	855001-855057, 860001-860082, 860883-860901, 865001-865028, 870001-870366 & 880001-881322
98 ^e	Z	54	201-203, 301-311, 501-514 & 601-626	2,492	859001-859114, 860001-860043, 864001-864352, 870001-870193, 879001-879470, 880001-881027 & 887001-887294
99 ^f	Z	25	501-512 & 601-613	715	870001-870197 & 880001-880519
				114,940	

- ^a For the years 1969 through 1979 the File Status Report was used to summarize the batch and ticket ranges for those years. Verification of ranges was not possible due to time restraints.
- ^b Tickets 852601 & 852602 do not exist.
- ^c Batch 202 does not exist.
- ^d Batch 616 does not exist.
- ^e Ticket 870170 does not exist.
- ^f Ticket 870054 does not exist.

Appendix G. Norton Sound District commercial salmon fishery data inventory, 1961-1999. (page 1 of 6).

Year	Dates	Periods	District	Subdistrict	Electronic Data		Printed Data ^a		Species ^b	Data
					File Name	File Type	Source	Table		
1999	7/2-9/4	1 - 15	333	50	cetab-99	Excel	CER 99	A 1	135	period cc and cpue
1999	7/2-9/4	1 - 15	333	60	cetab-99	Excel	CER 99	A 2	135	period cc and cpue
1998	7/18-7/24	*1-7	333	20	AppendixA98	Excel	CER 98	A 1	1345	period cc and cpue, *target species pink
1998	8/1-8/4	*1-2	333	20	AppendixA98	Excel	CER 98	A 1	34	period cc and cpue, *target species coho
1998	6/18-8/19	*1	333	30	AppendixA98	Excel	CER 98	A 2	1	period cc and cpue, *target species king
1998	7/1-7/24	*1-25	333	30	AppendixA98	Excel	CER 98	A 2	1345	period cc and cpue, *target species pink
1998	8/3-8/13	*2-6	333	30	AppendixA98	Excel	CER 98	A 2	135	period cc and cpue, *target species coho
1998	6/15-6/26	*1-3	333	50	AppendixA98	Excel	CER 98	A 3	15	period cc and cpue, *target species king
1998	6/26-7/24	*1-27	333	50	AppendixA98	Excel	CER 98	A 3	1345	period cc and cpue, *target species pink
1998	7/27-8/31	*4-23	333	50	AppendixA98	Excel	CER 98	A 3	135	period cc and cpue, *target species coho
1998	6/15-6/27	*1-3	333	60	AppendixA98	Excel	CER 98	A 4	15	period cc and cpue, *target species king
1998	6/26-7/24	*1-27	333	60	AppendixA98	Excel	CER 98	A 4	1345	period cc and cpue, *target species pink
1998	7/27-8/5	*6-17	333	60	AppendixA98	Excel	CER 98	A 4	135	period cc and cpue, *target species coho
1997	6/21 - 8/6	1 - 8	333	20	CE97_apxA	Excel	CER 97	A 1	12345	cc and effort by period
1997	6/18-8/13	1 - 4	333	30	CE97_apxA	Excel	CER 97	A 2	135	cc and effort by period
1997	6/25-6/26	1	333	40	CE97_apxA	Excel	CER 97	A 3	15	cc and effort by period
1997	6/12-8/23	1 - 12	333	50	CE97_apxA	Excel	CER 97	A 4	1345	cc and effort by period
1997	6/12-8/23	1 - 19	333	60	CE97_apxA	Excel	CER 97	A 5	1235	cc and effort by period
1996	8/5-8/30	*1-8	333	10	Appendix_A	Excel	CER 96	A 1	345	cc and effort by period; *only periods 1 + 6 fished
1996	8/5-8/30	*1-8	333	20	Appendix_A	Excel	CER 96	A 2	3	cc and effort by period; *only periods 2, 3 + 5 fished
1996	7/7-8/24	*1-13	333	30	Appendix_A	Excel	CER 96	A 3	134	cc and effort by period, *target species pink (1-8) and coho
1996	6/13-9/10	1 - 31	333	50	Appendix_A	Excel	CER 96	A 4	12345	cc and effort by period
1996	6/13-9/10	1 - 31	333	60	Appendix_A	Excel	CER 96	A 5	1345	cc and effort by period
1995	8/3-8/22	1-6	333	10	Ce_atba1	Lotus	CER 95	A 1	235	cc and effort by period
1995	7/17-8/26	1-13	333	20	Ce_atba2	Lotus	CER 95	A 2	345	cc and effort by period
1995	7/17-8/26	1-13	333	30	Ce_atba3	Lotus	CER 95	A 3	12345	cc and effort by period
1995	6/12-8/26	1-20	333	50	Ce_atba4	Lotus	CER 95	A 4	12345	cc and effort by period
1995	6/12-8/26	1-20	333	60	Ce_atba5	Lotus	CER 95	A 5	12345	cc and effort by period
1994	8/1-8/30	1-9	333	10	Ce_atba1	Lotus	CER 94	A 1	235	cc and effort by period
1994	8/1-9/7	1-30	333	20	Ce_atba2	Lotus	CER 94	A 2	35	cc and effort by period
1994	7/25-9/17	1-32	333	30	Ce_atba3	Lotus	CER 94	A 3	35	cc and effort by period
1994	6/20-9/17	1-50	333	50	Ce_atba4	Lotus	CER 94	A 4	12345	cc and effort by period
1994	6/20-9/17	1-50	333	60	Ce_atba5	Lotus	CER 94	A 5	12345	cc and effort by period
1993	8/2-8/31	1-9	333	10	salb4	Lotus	AMR 93	Tab 4	235	period cc and cpue
1993	7/13-7/23	1-3	333	20	salb5	Lotus	AMR 93	Tab 5	12345	period cc and cpue
1993	8/6-8/27	1-4	333	30	salb6	Lotus	AMR 93	Tab 6	1235	period cc and cpue
1993	6/17-7/5	1-4	333	40	salb7	Lotus	AMR 93	Tab 7	14	period cc and cpue
1993	6/14-9/8	1-27	333	50	salb8	Lotus	AMR 93	Tab 8	12345	period cc and cpue
1993	6/14-9/8	1-25	333	60	salb9	Lotus	AMR 93	Tab 9	12345	period cc and cpue

(continued)

Appendix G. Norton Sound District commercial salmon fishery data inventory, 1961-1999. (page 2 of 6)

Year	Dates	Periods	District	Subdistrict	Electronic Data		Printed Data ^a			Data
					File Name	File Type	Source	Table	Species ^b	
1992	8/3-8/5	1-10	333	10	salb4	Lotus	AMR 92	Tab 4	1235	period cc and cpue
1992	7/3-8/31	1-17	333	20	salb5	Lotus	AMR 92	Tab 5	1235	period cc and cpue
1992	7/2-8/3	1-5	333	30	salb6	Lotus	AMR 92	Tab 6	35	period cc and cpue
1992	7/2-8/5	1-28	333	40	salb7	Lotus	AMR 92	Tab 7	15	period cc and cpue, only periods 2-4 fished
1992	7/2-9/5	1-19	333	50	salb8	Lotus	AMR 92	Tab 8	1235	period cc and cpue
1992	7/2-9/5	1-19	333	60	salb9	Lotus	AMR 92	Tab 9	12345	period cc and cpue
1991	6/20-8/31	1-21	333	20	sal914	ANSI	AMR 89/90/91	Tab 5B	125	period cc and cpue, only periods 1-5 fished
1991	6/24-8/31	1-20	333	30	sal915	ANSI	AMR 89/90/91	Tab 6C	15	period cc and cpue, only period fished
1991	6/17-9/7	1-24	333	50	sal916	ANSI	AMR 89/90/91	Tab 7C	1235	period cc and cpue
1991	6/17-9/7	1-24	333	60	sal917	ANSI	AMR 89/90/91	Tab 8C	1235	period cc and cpue
1990	6/22-8/31	1-21	333	20	sal904	ANSI	AMR 89/90/91	Tab 5A	125	period cc and cpue, only periods 2-4 fished
1990	6/25-8/31	1-20	333	30	sal905	ANSI	AMR 89/90/91	Tab 6B	145	period cc and cpue, only periods 1, 2, 5 + 7 fished
1990	6/14-8/8	1-25	333	50	sal906	ANSI	AMR 89/90/91	Tab 7B	1235	period cc and cpue
1990	6/14-8/8	1-25	333	60	sal907	ANSI	AMR 89/90/91	Tab 8B	1235	period cc and cpue
1989	7/3-8/29	1-17	333	10	Sal894	ANSI	AMR 89/90/91	Tab 4	145	period cc and cpue, only periods 1 + 2 fished
1989	7/2-9/3	1-13	333	30	Sal895	ANSI	AMR 89/90/91	Tab 5A	15	period cc and cpue, only period 1 fished
1989	6/15-9/6	1-24	333	50	Sal896	ANSI	AMR 89/90/91	Tab 7A	1235	period cc and cpue
1989	6/15-9/6	1-24	333	60	Sal897	ANSI	AMR 89/90/91	Tab 8A	1235	period cc and cpue
1988	7/1-8/30	1-18	333	10	Notab5.88	ANSI	AMR 88	Tab 4	1345	period cc and cpue
1988	6/20-8/31	1-16	333	20	Notab6.88	ANSI	AMR 88	Tab 5	12345	period cc and cpue
1988	6/20-8/31	1-18	333	30	Notab7.88	ANSI	AMR 88	Tab 6	12345	period cc and cpue
1988	6/20-8/31	1-21	333	40	Notab8.88	ANSI	AMR 88	Tab 7	12345	period cc and cpue
1988	6/20-8/7	1-23	333	50	Notab9.88	ANSI	AMR 88	Tab 8	12345	period cc and cpue
1988	6/20-8/7	1-23	333	60	Notab10.88	ANSI	AMR 88	Tab 9	12345	period cc and cpue
1987	7/2-8/28	1-10	333	10			AMR 87	Tab 4	135	period cc and cpue
1987	6/22-8/29	1-20	333	20			AMR 87	Tab 5	12345	period cc and cpue
1987	6/22-8/29	1-16	333	30			AMR 87	Tab 6	12345	period cc and cpue
1987	6/22-8/5	1-22	333	40			AMR 87	Tab 7	1345	period cc and cpue
1987	6/22-9/4	1-18	333	50			AMR 87	Tab 8	135	period cc and cpue
1987	6/22-9/4	1-18	333	60			AMR 87	Tab 9	12345	period cc and cpue
1986	7/1-8/29	1-18	333	10			AMR 86	Tab 4	135	period cc and cpue
1986	6/23-8/31	1-37	333	20			AMR 86	Tab 5	12345	period cc and cpue
1986	6/23-8/31	1-18	333	30			AMR 86	Tab 6	12345	period cc and cpue
1986	6/23-9/7	1-22	333	40			AMR 86	Tab 7	12345	period cc and cpue
1986	6/23-9/7	1-22	333	50			AMR 86	Tab 8	1235	period cc and cpue
1986	6/23-9/7	1-22	333	60			AMR 86	Tab 9	1235	period cc and cpue
1985	7/4-8/16	1-13	333	10	*Ns1-6.tab	ANSI	AMR 85	Tab 5	135	period cc and cpue; *cc by species and subdistricts (tb 2-6)
1985	6/27-8/10	1-21	333	20	Ns1-6.tab	ANSI	AMR 85	Tab 6	1345	period cc and cpue
1985	6/27-8/31	1-19	333	30	Ns1-6.tab	ANSI	AMR 85	Tab 7	1345	period cc and cpue
1985	6/27-8/10	1-13	333	40	Ns1-6.tab	ANSI	AMR 85	Tab 8	1345	period cc and cpue
1985	6/27-9/6	1-21	333	50	Ns1-6.tab	ANSI	AMR 85	Tab 9	135	period cc and cpue

(continued)

Appendix G. Norton Sound District commercial salmon fishery data inventory, 1961-1999. (page 3 of 6).

Year	Dates	Periods	District	Subdistrict	Electronic Data		Printed Data ^a		Species ^b	Data
					File Name	File Type	Source	Table		
1985	6/27-9/6	1-21	333	60	Ns1-6.tab	ANSI	AMR 85	Tab 10	1345	period cc and cpue
1984	7/2-9/1	1-18	333	10			AMR 84	Tab 5	135	Total cc and cc/Boat Hour by period
1984	6/21-8/18	1-33	333	20			AMR 84	Tab 6	1345	Total cc and cc/Boat Hour by period
1984	6/21-8/22	1-30	333	30			AMR 84	Tab 7	345	Total cc and cc/Boat Hour by period
1984	6/21-8/1	1-39	333	40			AMR 84	Tab 8	45	Total cc and cc/Boat Hour by period
1984	6/27-9/8	1-42	333	50			AMR 84	Tab 9	1345	Total cc and cc/Boat Hour by period
1984	6/25-8/8	1-22	333	60			AMR 84	Tab 10	135	Total cc and cc/Boat Hour by period
1983	6/16-8/19	1-12	333	10			AMR 83	Tab 5	1345	Total cc and cc/Boat Hour by period
1983	6/16-8/17	1-22	333	20			AMR 83	Tab 6	1345	Total cc and cc/Boat Hour by period
1983	6/16-7/24	1-26	333	30			AMR 83	Tab 7	145	Total cc and cc/Boat Hour by period
1983	6/16-8/3	1-18	333	40			AMR 83	Tab 8	1345	Total cc and cc/Boat Hour by period
1983	6/9-8/31	1-28	333	50			AMR 83	Tab 9	1345	Total cc and cc/Boat Hour by period
1983	6/9-8/31	1-28	333	60			AMR 83	Tab 10	1345	Total cc and cc/Boat Hour by period
1982	6/17-8/31	1-19	333	10			AMR 82	Tab 5	1345	Total cc and cc/Boat Hour by Date of Landing
1982	6/17-9/1	1-29	333	20			AMR 82	Tab 6	1345	Total cc and cc/Boat Hour by Date of Landing
1982	6/17-8/11	1-12	333	30			AMR 82	Tab 7	1345	Total cc and cc/Boat Hour by Date of Landing
1982	6/17-8/4	1-30	333	40			AMR 82	Tab 8	1345	Total cc and cc/Boat Hour by Date of Landing
1982	6/17-8/4	1-30	333	50			AMR 82	Tab 9	1345	Total cc and cc/Boat Hour by Date of Landing
1982	6/17-8/4	1-30	333	60			AMR 82	Tab 10	1345	Total cc and cc/Boat Hour by Date of Landing
1961-82			333	10			AMR 82	Appendix 2	1345	Commercial and Subsistence coes by subdistrict
1961-82			333	20			AMR 82	Appendix 3	12345	Commercial and Subsistence coes by subdistrict
1961-82			333	30			AMR 82	Appendix 4	12345	Commercial and Subsistence coes by subdistrict
1961-82			333	40			AMR 82	Appendix 5	12345	Commercial and Subsistence coes by subdistrict
1961-82			333	50			AMR 82	Appendix 6	12345	Commercial and Subsistence coes by subdistrict
1961-82			333	60			AMR 82	Appendix 7	12345	Commercial and Subsistence coes by subdistrict
1967-82			333				AMR 82	Appendix 8	12345	coes all subdistricts by species
1981	6/15-8/19	1-13	333	10			AMR 81	Tab 4	1345	Total cc and cc/Boat Hour by Date of Landing
1981	6/15-8/1	1-14	333	20			AMR 81	Tab 5	1345	Total cc and cc/Boat Hour by Date of Landing
1981	6/15-7/29	1-16	333	30			AMR 81	Tab 6	1345	Total cc and cc/Boat Hour by Date of Landing
1981	6/22-7/22	1-9	333	40			AMR 81	Tab 7	145	Total cc and cc/Boat Hour by Date of Landing
1981	6/8-8/29	1-25	333	50			AMR 81	Tab 8	1345	Total cc and cc/Boat Hour by Date of Landing
1981	6/8-8/29	1-28	333	60			AMR 81	Tab 9	1345	Total cc and cc/Boat Hour by Date of Landing
1980	6/23-7/30	1-10	333	10			AMR 80	Tab 4	145	Total cc and cc/Boat Hour by Date of Landing
1980	6/16-8/27	1-18	333	20			AMR 80	Tab 5	1345	Total cc and cc/Boat Hour by Date of Landing
1980	6/16-7/29	1-13	333	30			AMR 80	Tab 6	145	Total cc and cc/Boat Hour by Date of Landing
1980	6/16-7/16	1-9	333	40			AMR 80	Tab 7	145	Total cc and cc/Boat Hour by Date of Landing
1980	6/16-8/30	1-21	333	50			AMR 80	Tab 8	1345	Total cc and cc/Boat Hour by Date of Landing
1980	6/16-8/30	1-23	333	60			AMR 80	Tab 9	1345	Total cc and cc/Boat Hour by Date of Landing
1979	6/21-8/11	1-10	333	10			AMR 79	Tab 3	1345	Total cc and cc/Boat Hour by Date of Landing
1979	6/14-8/11	1-17	333	20			AMR 79	Tab 4	1345	Total cc and cc/Boat Hour by Date of Landing
1979	6/14-8/4	1-10	333	30			AMR 79	Tab 5	1345	Total cc and cc/Boat Hour by Date of Landing
1979	6/14-8/14	1-18	333	40			AMR 79	Tab 6	1345	Total cc and cc/Boat Hour by Date of Landing

(continued)

Appendix G. Norton Sound District commercial salmon fishery data inventory, 1961-1999. (page 4 of 6).

Year	Dates	Periods	District	Subdistrict	Electronic Data		Printed Data ^a		Species ^b	Data
					File Name	File Type	Source	Table		
1979	6/13-8/15	1-19	333	50			AMR 78	Tab 7	1345	Total cc and co/Boat Hour by Date of Landing
1979	6/9-9/1	1-25	333	60			AMR 79	Tab 8	1345	Total cc and co/Boat Hour by Date of Landing
1978	6/13-8/4	1-13	333	10			AMR 78	Tab 3	45	Total cc and co/Boat Hour by Date of Landing
1978	6/13-8/10	1-15	333	20			AMR 78	Tab 4	1345	Total cc and co/Boat Hour by Date of Landing
1978	6/13-8/9	1-16	333	30			AMR 78	Tab 5	1340, 521	Total cc and co/Boat Hour by Date of Landing
1978	6/15-8/8	1-16	333	40			AMR 78	Tab 6	1345	Total cc and co/Boat Hour by Date of Landing
1978	6/12-8/16	1-19	333	50			AMR 78	Tab 7	1345	Total cc and co/Boat Hour by Date of Landing
1978	6/12-8/19	1-20	333	60			AMR 78	Tab 8	1345	Total cc and co/Boat Hour by Date of Landing
1977	6/27-8/27	1-8	333	10			AMR 77	Tab 3	1345	Total cc and co/Boat Hour by Date of Landing
1977	6/20-8/24	1-10	333	20			AMR 77	Tab 4	1345	Total cc and co/Boat Hour by Date of Landing
1977	6/23-7/27	1-10	333	30			AMR 77	Tab 5	1345	Total cc and co/Boat Hour by Date of Landing
1977	6/30-7/26	1-9	333	40			AMR 77	Tab 6	145	Total cc and co/Boat Hour by Date of Landing
1977	6/23-8/5	1-13	333	50			AMR 77	Tab 7	1345	Total cc and co/Boat Hour by Date of Landing
1977	6/20-8/13	1-16	333	60			AMR 77	Tab 8	1345	Total cc and co/Boat Hour by Date of Landing
1976	6/28-7/17	1-4	333	10			AMR 76	Tab 3	1345	Total cc and co/Boat Hour by Date of Landing
1976	6/24-8/28	1-19	333	20			AMR 76	Tab 4	1345, 521	Total cc and co/Boat Hour by Date of Landing
1976	6/24-8/28	1-10	333	30			AMR 76	Tab 5	1345	Total cc and co/Boat Hour by Date of Landing
1976	6/28-8/11	1-12	333	40			AMR 76	Tab 6	1345, 521	Total cc and co/Boat Hour by Date of Landing
1976	6/24-8/14	1-11	333	50			AMR 76	Tab 7	1345, 521	Total cc and co/Boat Hour by Date of Landing
1976	6/21-8/28	1-18	333	60			AMR 76	Tab 8	1345, 521	Total cc and co/Boat Hour by Date of Landing
1975	7/3-8/16	1-8	333	10			AMR 75	Tab 3	1345	Total cc and co/Boat Hour by Date of Landing
1975	6/30-8/16	1-9	333	20			AMR 75	Tab 4	1345	Total cc and co/Boat Hour by Date of Landing
1975	6/30-7/16	1-5	333	30			AMR 75	Tab 5	145	Total cc and co/Boat Hour by Date of Landing
1975	6/30-8/9	1-7	333	40			AMR 75	Tab 6	1345	Total cc and co/Boat Hour by Date of Landing
1975	6/26-8/13	1-13	333	50			AMR 75	Tab 7	1345	Total cc and co/Boat Hour by Date of Landing
1975	6/26-8/13	1-13	333	60			AMR 75	Tab 8	1345	Total cc and co/Boat Hour by Date of Landing
1974	6/19-7/18	1-9	333	10			AMR 74	Tab 29	1345	Total cc and co/Boat Hour by Date of Landing
1974	6/17-7/20	1-10	333	20			AMR 74	Tab 30	1345	Total cc and co/Boat Hour by Date of Landing
1974	6/15-7/31	1-14	333	30			AMR 74	Tab 31	1345	Total cc and co/Boat Hour by Date of Landing
1974	6/18-7/10	1-7	333	40			AMR 74	Tab 32	145	Total cc and co/Boat Hour by Date of Landing
1974	6/11-8/7	1-13	333	50			AMR 74	Tab 33	1345	Total cc and co/Boat Hour by Date of Landing
1974	6/8-8/27	1-22	333	60			AMR 74	Tab 34	1345	Total cc and co/Boat Hour by Date of Landing
1973	7/25- ?		333	10			AMR 73	no Tab		opened by e.O. 7/25 to 5 days a week (total cc p.109)
1973	6/27-8/3	1-10	333	20			AMR 73	Tab 26	1345	Total cc and co/Boat Hour by Date of Landing
1973	6/29-7/24	1-8	333	30			AMR 73	Tab 27	145	Total cc and co/Boat Hour by Date of Landing
1973	6/22-8/3	1-13	333	50			AMR 73	Tab 28	1345	Total cc and co/Boat Hour by Date of Landing
1973	6/20-8/29	1-21	333	60			AMR 73	Tab 29	1345	Total cc and co/Boat Hour by Date of Landing
1972	?		333	10			AMR 72	no Tab		Total commercial cc, p. 117
1972	6/22-8/7	1-12	333	20			AMR 72	Tab 26	1345	Total cc and co/Boat Hour by Date of Landing
1972	6/22-8/2	1-12	333	30			AMR 72	Tab 27	1345	Total cc and co/Boat Hour by Date of Landing
1972	6/19-8/4	1-15	333	50			AMR 72	Tab 28	1345	Total cc and co/Boat Hour by Date of Landing

(continued)

Appendix G. Norton Sound District commercial salmon fishery data inventory, 1961-1999. (page 5 of 6).

Year	Dates	Periods	District	Subdistrict	Electronic Data		Printed Data ^a		Species ^b	Data
					File Name	File Type	Source	Table		
1972	6/22-8/15	1-17	333	60			AMR 72	Tab 29	1345	Total cc and cc/Boat Hour by Date of Landing
1971	?		333	10			AMR 71	no Tab		Total commercial cc, p. 109
1971	6/28-8/7	1-9	333	20			AMR 71	Tab 26	1345	Total cc and cc/Boat Hour by Date of Landing
1971	6/28-7/31	1-10	333	30			AMR 71	Tab 27	1345	Total cc and cc/Boat Hour by Date of Landing
1971	6/24-8/11	1-12	333	50			AMR 71	Tab 28	1345	Total cc and cc/Boat Hour by Date of Landing
1971	6/21-9/1	1-18	333	60			AMR 71	Tab 29	1345	Total cc and cc/Boat Hour by Date of Landing
1970	?		333	10			AMR 70	no Tab		Total commercial cc, p. 115
1970	6/22-7/25	1-8	333	20			AMR 70	Tab 24	1345	Total cc and cc/Boat Hour by Date of Landing
1970	6/25-7/21	1-7	333	30			AMR 70	Tab 25	145	Total cc and cc/Boat Hour by Date of Landing
1970	6/22-8/15	1-10	333	50			AMR 70	Tab 26	1345	Total cc and cc/Boat Hour by Date of Landing
1970	6/18-9/2	1-16	333	60			AMR 70	Tab 27	1345	Total cc and cc/Boat Hour by Date of Landing
1969	?		333	10			AMR 69	no Tab		Total commercial cc, p. 116
1969	6/16-8/28	1-18	333	20			AMR 69	Tab 26	1345	Total cc and cc/Boat Hour by Date of Landing
1969	6/23-7/30	1-11	333	30			AMR 69	Tab 28	145	Total cc and cc/Boat Hour by Date of Landing
1969	6/30-7/19	1-6	333	40			AMR 69	Tab 30	145	Total cc and cc/Boat Hour by Date of Landing
1969	6/16-8/23	1-17	333	50			AMR 69	Tab 31	1345	Total cc and cc/Boat Hour by Date of Landing
1969	6/2-8/28	1-21	333	60			AMR 69	Tab 32	1345	Total cc and cc/Boat Hour by Date of Landing
1968	?		333	10			AMR 68	no Tab		indication of commercial cc on page 50
1968	6/20-8/21	1-16	333	20			AMR 68	Tab 20	1345	Total cc and cc/Boat Hour by Date of Landing
1968	6/24-7/20	1-8	333	30			AMR 68	Tab 21	1345	Total cc and cc/Boat Hour by Date of Landing
1968	?		333	50			AMR 68	no Tab		indication of commercial cc on page 50
1968	6/20-8/28	1-21	333	60			AMR 68	Tab 32	1345	Total cc and cc/Boat Hour by Date of Landing
1967	6/25-7/13	1-4	333	10			AMR 67	Tab 17	45	cc Data by Date of Landing
1967	6/22-8/16	1-16	333	25			AMR 67	Tab 18	1345	cc Data by Date of Landing
1967	6/14-8/15	1-15	333	50			AMR 67	Tab 20	1345	cc Data by Date of Landing
1967	6/3-8/31	1-26	333	60			AMR 67	Tab 21	1345	cc Data by Date of Landing
1966	6/20-8/22	1-14	333	10			AMR 66	Tab 31	1345	cc Data by Date of Landing
1966	6/24-9/7		333	20			AMR 66	Tab 32	1345	cc Data by Date of Landing
1966	6/28-7/20	1-7	333	30			AMR 66	Tab 33	145	cc Data by Date of Landing
1966	6/22-8/23		333	50			AMR 66	Tab 34	1345	cc Data by Date of Landing
1966	6/21-9/9		333	60			AMR 66	Tab 35	1345	cc Data by Date of Landing
1965	6/24-7/20		333	10			AMR 65	Tab 27	145	cc Data by Date of Landing
1965	6/22-7/3		333	50			AMR 65	Tab 28	145	cc Data by Date of Landing
1965	6/7-9/13		333	60			AMR 65	Tab 29	1345	cc Data by Date of Landing
1964	6/26-7/22		333	20			AMR 64	Tab 25, Z-2	12345	cc Data by Date of Landing
1964	6/25-7/18		333	30			AMR 64	Tab 25, Z-3	1245	cc Data by Date of Landing
1964	6/26-7/18		333	40			AMR 64	Tab 25, Z-4	1245	cc Data by Date of Landing
1964	6/25-7/27		333	50			AMR 64	Tab 25, Z-5	12345	cc Data by Date of Landing
1964	6/24-7/28		333	60			AMR 64	Tab 25, Z-6	12345	cc Data by Date of Landing

(continued)

Appendix G. Norton Sound District commercial salmon fishery data inventory, 1961-1999. (page 6 of 6).

Year	Dates	Periods	District	Subdistrict	Electronic Data		Printed Data ^a		Species ^b	Data
					File Name	File Type	Source	Table		
1963	6/15-7/20		333	20			AMR 63	Tab 29, Z-2	1245	cc Statistics by Date of Landing, cc/Man Hour
1963	6/14-7/12		333	30			AMR 63	Tab 29, Z-3	145	cc Statistics by Date of Landing, cc/Man Hour
1963	6/14-7/15		333	40			AMR 63	Tab 29, Z-4	1245	cc Statistics by Date of Landing, cc/Man Hour
1963	6/18-8/12		333	50			AMR 63	Tab 29, Z-5	12345	cc Statistics by Date of Landing, cc/Man Hour
1963	6/14-8/31		333	60			AMR 63	Tab 29, Z-6	12345	cc Statistics by Date of Landing, cc/Man Hour
1962	6/20-8/15		333	20			AMR 62	Tab 22, # 2	12345	cc by Date of Landing
1962	6/25-7/20		333	30			AMR 62	Tab 22, # 3	145	cc by Date of Landing
1962	7/4-7/29		333	40			AMR 62	Tab 22, # 4	12345	cc by Date of Landing
1962	6/20-8/25		333	50			AMR 62	Tab 22, # 5	12345	cc by Date of Landing
1962	6/16-8/26		333	60			AMR 62	Tab 22, # 6	12345	cc by Date of Landing
1962	6/20-8/15		333	20			AMR 62	Tab 23, # 2	1345	cc per Unit effort
1962	6/25-7/20		333	30			AMR 62	Tab 23, # 3	145	cc per Unit effort
1962	7/4-7/29		333	40			AMR 62	Tab 23, # 4	1345	cc per Unit effort
1962	6/20-8/25		333	50			AMR 62	Tab 23, # 5	1345	cc per Unit effort
1962	6/16-8/26		333	60			AMR 62	Tab 23, # 6	1345	cc per Unit effort
1961-62	6/16-6/30		333	60			AMR 62	Tab 25	1	King cc per fisherman hour 1961 and 1962
1961-62	7/8-8/14		333	60			AMR 62	Tab 26	5	Chum cc per fisherman hour 1961 and 1962

^a Sources are the Annual Management Report (AMR) series 1975-1999 for the Norton Sound and Port Clarence area, the AMR series for the AYK Region, 1962-1974, and the Catch and Escapement Report (CER) series 1984-1999 for the Norton Sound area.

^b Species code: 1-chinook, 2-sockeye, 3-coho, 4-pink, 5-chum, 521 chm.

Appendix H. Norton Sound District test fish data inventory for the Unalakleet River, 1981-1999. (page 1 of 3).

Year	Dates	District	Sub-district	Location Code	Location	Gear Type	Electronic Data ^a		Printed Data		Species ^b	Data
							File Name	File Type	Source ^c	Table		
1999	6/19-7/26	333	6	649	Unalakleet	4	Unalakleet Test Fish 1999	Excel	RIR 3A00-20	App. 1	1	king TF catches, CPUE, cumulative CPUE 1982-99
1999	7/22-8/8	333	6	649	Unalakleet	4	Unalakleet Test Fish 1999	Excel	RIR 3A00-20	App. 2	3	coho TF catches, CPUE, cumulative CPUE 1981-99
1999	6/21-8/3	333	6	649	Unalakleet	4	Unalakleet Test Fish 1999	Excel	RIR 3A00-20	App. 3	4	pink TF catches, CPUE, cumulative CPUE 1981-99
1999	6/21-8/8	333	6	649	Unalakleet	4	Unalakleet Test Fish 1999	Excel	RIR 3A00-20	App. 4	5	chum TF catches, CPUE, cumulative CPUE 1981-99
1998	6/10-7/25	333	6	649	Unalakleet	4			RIR 3A99-19	App. 1	1	king TF catches, CPUE, cumulative CPUE 1982-98
1998	7/28-8/9	333	6	649	Unalakleet	4			RIR 3A99-19	App. 2	3	coho TF catches, CPUE, cumulative CPUE 1981-98
1998	6/27-8/3	333	6	649	Unalakleet	4			RIR 3A99-19	App. 3	4	pink TF catches, CPUE, cumulative CPUE 1981-98
1998	6/19-8/5	333	6	649	Unalakleet	4			RIR 3A99-19	App. 4	5	chum TF catches, CPUE, cumulative CPUE 1981-98
1997	6/11-7/26	333	6	649	Unalakleet	4	Unalakleet Test Fish 1997	Excel	RIR 3A98-18	App. 1	1	king TF catches, CPUE, cumulative CPUE 1982-97
1997	7/28-8/10	333	6	649	Unalakleet	4	Unalakleet Test Fish 1997	Excel	RIR 3A98-18	App. 2	3	coho TF catches, CPUE, cumulative CPUE 1981-97
1997	7/4-8/3	333	6	649	Unalakleet	4	Unalakleet Test Fish 1997	Excel	RIR 3A98-18	App. 3	4	pink TF catches, CPUE, cumulative CPUE 1981-97
1997	6/16-8/10	333	6	649	Unalakleet	4	Unalakleet Test Fish 1997	Excel	RIR 3A98-18	App. 4	5	chum TF catches, CPUE, cumulative CPUE 1981-97
1996	6/5-7/26	333	6	649	Unalakleet	4	Unalakleet Test Fish 1996	Excel	RIR 3A97-12	App. 1	1	king TF catches, CPUE, cumulative CPUE 1982-96
1996	7/22-8/11	333	6	649	Unalakleet	4	Unalakleet Test Fish 1996	Excel	RIR 3A97-12	App. 2	3	coho TF catches, CPUE, cumulative CPUE 1981-96
1996	6/17-8/3	333	6	649	Unalakleet	4	Unalakleet Test Fish 1996	Excel	RIR 3A97-12	App. 3	4	pink TF catches, CPUE, cumulative CPUE 1981-96
1996	6/5-8/11	333	6	649	Unalakleet	4	Unalakleet Test Fish 1996	Excel	RIR 3A97-12	App. 4	5	chum TF catches, CPUE, cumulative CPUE 1981-96
1995	6/5-7/15	333	6	649	Unalakleet	4	Unalakleet Test Fish 1995	Excel	RIR 3A96-14	App. 1	1	king TF catches, CPUE, cumulative CPUE 1982-95
1995	8/3-8/11	333	6	649	Unalakleet	4	Unalakleet Test Fish 1995	Excel	RIR 3A96-14	App. 2	3	coho TF catches, CPUE, cumulative CPUE 1981-95
1995	7/11-8/18	333	6	649	Unalakleet	4	Unalakleet Test Fish 1995	Excel	RIR 3A96-14	App. 3	4	pink TF catches, CPUE, cumulative CPUE 1981-95
1995	6/8-8/11	333	6	649	Unalakleet	4	Unalakleet Test Fish 1995	Excel	RIR 3A96-14	App. 4	5	chum TF catches, CPUE, cumulative CPUE 1981-95
1994	6/16-7/26	333	6	649	Unalakleet	4	Unalakleet Test Fish 1994	Excel	RIR 3A96-11	App. 1	1	king TF catches, CPUE, cumulative CPUE 1982-94
1994	7/23-8/7	333	6	649	Unalakleet	4	Unalakleet Test Fish 1994	Excel	RIR 3A96-11	App. 2	3	coho TF catches, CPUE, cumulative CPUE 1981-94
1994	6/19-8/15	333	6	649	Unalakleet	4	Unalakleet Test Fish 1994	Excel	RIR 3A96-11	App. 3	4	pink TF catches, CPUE, cumulative CPUE 1981-94
1994	6/16-8/7	333	6	649	Unalakleet	4	Unalakleet Test Fish 1994	Excel	RIR 3A96-11	App. 4	5	chum TF catches, CPUE, cumulative CPUE 1981-94
1993	6/8-7/16	333	6	649	Unalakleet	4			RIR 3A95-23	App. 1	1	king TF catches, CPUE, cumulative CPUE 1982-93
1993	8/6-8/8	333	6	649	Unalakleet	4			RIR 3A95-23	App. 2	3	coho TF catches, CPUE, cumulative CPUE 1981-93
1993	6/25-8/19	333	6	649	Unalakleet	4			RIR 3A95-23	App. 3	4	pink TF catches, CPUE, cumulative CPUE 1981-93
1993	6/12-8/8	333	6	649	Unalakleet	4			RIR 3A95-23	App. 4	5	chum TF catches, CPUE, cumulative CPUE 1981-93
1992	6/27-7/25	333	6	649	Unalakleet	4			RIR 3A94-10	App. 1	1	king TF catches, CPUE, cumulative CPUE 1982-92
1992	7/27-8/8	333	6	649	Unalakleet	4			RIR 3A94-10	App. 2	3	coho TF catches, CPUE, cumulative CPUE 1981-92
1992	6/23-8/3	333	6	649	Unalakleet	4			RIR 3A94-10	App. 3	4	pink TF catches, CPUE, cumulative CPUE 1981-92
1992	6/25-8/8	333	6	649	Unalakleet	4			RIR 3A94-10	App. 4	5	chum TF catches, CPUE, cumulative CPUE 1981-92

(continued)

Appendix H. Nixon Sound District test fish data inventory for the Unalakleet River, 1981-1999. (page 2 of 3).

Year	Dates	District	Sub-district	Location Code	Location	Gear Type	Electronic Data *		Printed Data				
							File Name	File Type	Source *	Table	Species *	Data	
1991	6/10-7/10	333	6	649	Unalakleet	4			RIR 3A94-09	App. 1	1	king TF catches, CPUE, cumulative CPUE	1982-91
1991	8/1-9/10	333	6	649	Unalakleet	4			RIR 3A94-09	App. 2	3	coho TF catches, CPUE, cumulative CPUE	1981-91
1991	7/1-8/24	333	6	649	Unalakleet	4			RIR 3A94-09	App. 3	4	pink TF catches, CPUE, cumulative CPUE	1981-91
1991	6/14-9/10	333	6	649	Unalakleet	4			RIR 3A94-09	App. 4	5	chum TF catches, CPUE, cumulative CPUE	1981-91
1990	6/15-7/7	333	6	649	Unalakleet	4			RIR 3N91-18	App. 1	1	king TF catches, CPUE, cumulative CPUE	1982-90
1990	7/30-9/12	333	6	649	Unalakleet	4			RIR 3N91-18	App. 2	3	coho TF catches, CPUE, cumulative CPUE	1981-90
1990	6/21-9/10	333	6	649	Unalakleet	4			RIR 3N91-18	App. 3	4	pink TF catches, CPUE, cumulative CPUE	1981-90
1990	6/13-9/12	333	6	649	Unalakleet	4			RIR 3N91-18	App. 4	5	chum TF catches, CPUE, cumulative CPUE	1981-90
1989	6/12-7/10	333	6	649	Unalakleet	4			RIR 3N89-07	App. 1	1	king TF catches, CPUE, cumulative CPUE	1982-89
1989	7/27-9/12	333	6	649	Unalakleet	4			RIR 3N89-07	App. 2	3	coho TF catches, CPUE, cumulative CPUE	1981-89
1989	6/29-8/14	333	6	649	Unalakleet	4			RIR 3N89-07	App. 3	4	pink TF catches, CPUE, cumulative CPUE	1981-89
1989	6/12-9/12	333	6	649	Unalakleet	4			RIR 3N89-07	App. 4	5	chum TF catches, CPUE, cumulative CPUE	1981-89
1988	6/20-7/23	333	6	649	Unalakleet	4			RIR 3N88-14	App. 1	1	king TF catches, CPUE, cumulative CPUE	1982-88
1988	8/2-9/12	333	6	649	Unalakleet	4			RIR 3N88-14	App. 2	3	coho TF catches, CPUE, cumulative CPUE	1981-88
1988	6/20-8/20	333	6	649	Unalakleet	4			RIR 3N88-14	App. 3	4	pink TF catches, CPUE, cumulative CPUE	1981-88
1988	6/17-9/12	333	6	649	Unalakleet	4			RIR 3N88-14	App. 4	5	chum TF catches, CPUE, cumulative CPUE	1981-88
1987	6/20-7/23	333	6	649	Unalakleet	4			RIR 3N88-07	App. 1	1	king TF catches, CPUE, cumulative CPUE	1982-87
1987	8/6-9/8	333	6	649	Unalakleet	4			RIR 3N88-07	App. 2	3	coho TF catches, CPUE, cumulative CPUE	1981-87
1987	7/8-7/28	333	6	649	Unalakleet	4			RIR 3N88-07	App. 3	4	pink TF catches, CPUE, cumulative CPUE	1981-87
1987	6/17-9/8	333	6	649	Unalakleet	4			RIR 3N88-07	App. 4	5	chum TF catches, CPUE, cumulative CPUE	1981-87
1986	6/17-7/15	333	6	649	Unalakleet	4			NS ESC Rpt. 46	App. 1	1	king TF catches, CPUE, cumulative CPUE	1982-86
1986	7/28-9/10	333	6	649	Unalakleet	4			NS ESC Rpt. 46	App. 2	3	coho TF catches, CPUE, cumulative CPUE	1981-86
1986	6/21-8/20	333	6	649	Unalakleet	4			NS ESC Rpt. 46	App. 3	4	pink TF catches, CPUE, cumulative CPUE	1981-86
1986	6/18-9/4	333	6	649	Unalakleet	4			NS ESC Rpt. 46	App. 4	5	chum TF catches, CPUE, cumulative CPUE	1981-86
1985	6/26-7/26	333	6	649	Unalakleet	4			NS ESC Rpt. 43	App. 1	1	king TF catches, CPUE, cumulative CPUE	1982-85
1985	8/3-9/22	333	6	649	Unalakleet	4			NS ESC Rpt. 43	App. 2	3	coho TF catches, CPUE, cumulative CPUE	1981-85
1985	6/29-7/24	333	6	649	Unalakleet	4			NS ESC Rpt. 43	App. 3	4	pink TF catches, CPUE, cumulative CPUE	1981-85
1985	6/24-9/7	333	6	649	Unalakleet	4			NS ESC Rpt. 43	App. 4	5	chum TF catches, CPUE, cumulative CPUE	1981-85
1984	6/24-7/24	333	6	649	Unalakleet	4			NS ESC Rpt. 38	App. 1	1	king TF catches, CPUE, cumulative CPUE	1982-84, 8 1/4" mesh
1984	6/25-7/16	333	6	649	Unalakleet	4			NS ESC Rpt. 38	App. 2	1	king TF catches, CPUE, cumulative CPUE	1982-84, 5 7/8" mesh
1984	7/30-9/27	333	6	649	Unalakleet	4			NS ESC Rpt. 38	App. 3	3	coho TF catches, CPUE, cumulative CPUE	1981-84, 5 7/8" mesh
1984	6/22-8/15	333	6	649	Unalakleet	4			NS ESC Rpt. 38	App. 4	4	pink TF catches, CPUE, cumulative CPUE	1981-84, 5 7/8" mesh
1984	6/25-9/18	333	6	649	Unalakleet	4			NS ESC Rpt. 38	App. 5	5	chum TF catches, CPUE, cumulative CPUE	1981-84, 5 7/8" mesh
1983	5/27-7/21	333	6	649	Unalakleet	4			NS ESC Rpt. 32	Table 5A	1	king TF catches, CPUE, cumulative CPUE	1983, 8 1/4" mesh
1983	7/24-8/23	333	6	649	Unalakleet	4			NS ESC Rpt. 32	Table 5B	3	coho TF catches, CPUE, cumulative CPUE	1983, 5 7/8" mesh
1983	6/16-9/2	333	6	649	Unalakleet	4			NS ESC Rpt. 32	Table 5C	4	pink TF catches, CPUE, cumulative CPUE	1983, 4" mesh
1983	6/6-9/23	333	6	649	Unalakleet	4			NS ESC Rpt. 32	Table 5D	5	chum TF catches, CPUE, cumulative CPUE	1983, 5 7/8" mesh

(continued)

Appendix H. Norton Sound District test fish data inventory for the Unalakleet River, 1981-1998. (page 3 of 3).

Year	Dates	District	Sub-district	Location Code	Location	Gear Type	Electronic Data ^a		Printed Data			
							File Name	File Type	Source ^b	Table	Species ^c	Data
1982	6/7-7/23	333	8	649	Unalakleet	4			NS ESC Rpt. 20	Table 4A	1	king TF catches, CPUE, cumulative CPUE 1982, 8 1/4" mesh
1982	7/18-9/24	333	8	649	Unalakleet	4			NS ESC Rpt. 20	Table 4B	3	coho TF catches, CPUE, cumulative CPUE 1982, 5 7/8" mesh
1982	6/21-9/7	333	8	649	Unalakleet	4			NS ESC Rpt. 20	Table 4C	4	pink TF catches, CPUE, cumulative CPUE 1982, 4" mesh
1982	8/16-9/24	333	8	649	Unalakleet	4			NS ESC Rpt. 20	Table 4D	5	chum TF catches, CPUE, cumulative CPUE 1982, 5 7/8" mesh
1981		333	8	649	Unalakleet	4			NS ESC Rpt. 26	Table 7	1345	test net catch data by four sites
1981	8/8-9/4	333	8	649	Unalakleet	4			NS ESC Rpt. 26	Table 8	1345	subsistence survey catch and cpue

^a TF catches by species since 1981 in below yearly spreadsheets

^b Unalakleet River Test Fishing Project Reports Series (RIR - Regional Information Report) 1999-1987, Unalakleet River Escapement Report Series 1988-81.

^c Species code: 1-chinook, 2-sockeye, 3-coho, 4-pink, 5-chum