

March 1987

An Inventory of Catch and Escapement Data for Columbia River Salmon and Steelhead

Final Report 1987



This report was funded by the Bonneville Power Administration (BPA), U.S. Department of Energy, as part of BPA's program to protect, mitigate, and enhance fish and wildlife affected by the development and operation of hydroelectric facilities on the Columbia River and its tributaries. The views of this report are the author's and do not necessarily represent the views of BPA.

This document should be cited as follows:

Martin, D. and Emery, R., Envirosphere Company, E. Stull, Argonne National Laboratory, An Inventory of Catch and Escapement Data for Columbia River Salmon and Steelhead, Final Report to Bonneville Power Administration, Portland, Oregon, Project No. 84-41, Contract No. DEAI79-48BP-19461, 123 electronic pages (BPA Report DOE/BP-19461-2)

This report and other BPA Fish and Wildlife Publications are available on the Internet at:

<http://www.efw.bpa.gov/cgi-bin/efw/FW/publications.cgi>

For other information on electronic documents or other printed media, contact or write to:

Bonneville Power Administration
Environment, Fish and Wildlife Division
P.O. Box 3621
905 N.E. 11th Avenue
Portland, OR 97208-3621

Please include title, author, and DOE/BP number in the request.

AN INVENTORY OF CATCH AND ESCAPEMENT DATA
FOR COLUMBIA RIVER SALMON AND STEELHEAD

Final Report

Prepared by

D. Martin and R. Emery
Envirosphere Company
10900 NE. 18th Street
Bellevue, Washington 98004

and

E. Stull
Energy and Environmental Systems Division
Argonne National Laboratory
9700 South Cass Avenue
Argonne, Illinois 60439

Funded by

Dale Johnson, Project Manager
U.S. Department of Energy
Bonneville Power Administration
Division of Fish and Wildlife
P.O. Box 3621
Portland, Oregon 97208
Project No. 84-41
Contract No. DEAI79-84BP-19461

March 1987

CONTENTS

FOREWORD	iv
1 INTRODUCTION	1
2 METHODS	2
2.1 Information Sources and Data File System	2
2.2 Source Reference File	2
2.3 Data Inventory File	3
3 ADEQUACY OF COLUMBIA RIVER DATA FOR A SPAWNER-RECRUIT ANALYSIS	4
3.1 Effort	4
3.2 Run Size	4
3.3 Catch	5
3.4 Escapement	6
3.5 Dam Counts	6
4 RECOMMENDATIONS	* 7
APPENDIX A: Source Reference File	9
APPENDIX B: Definition of Codes in the Data Inventory File	37
APPENDIX C: Description of Data in the Data Inventory File	49

FOREWORD

The work described in this report was conducted under agreement DE-AI79-84BP19461 between the Bonneville Power Administration (BPA) and Argonne National Laboratory (ANL), which covered a project to determine appropriate methods for assessing the cumulative effects of hydroelectric development in the Columbia River Basin. One possible method is based on an analysis of spawner-recruit ratios for anadromous salmonid fish. That method will be described in another document to be published by BPA, entitled ***Methodologies for Assessing the Cumulative Environmental Effects of Hydroelectric Development on Fish and Wildlife in the Columbia River Basin.*** In order to determine if enough relevant data are available for spawner-recruit analysis, Envirosphere Company, Inc., of Bellevue, Washington, was retained by ANL as a subcontractor to inventory the existing spawner-recruit data on Columbia River salmon and steelhead. Much of the technical information in this report was prepared by D. Martin of Envirosphere Company, Inc.

**AN INVENTORY OF CATCH AND ESCAPEMENT DATA
FOR COLUMBIA RIVER SALMON AND STEELHEAD**

by

D. Martin, R. Emery, and E. Stull

1 INTRODUCTION

The work described in this report was part of a larger project conducted by Argonne National Laboratory (ANL) for the Bonneville Power Administration (BPA) to determine appropriate methods for assessing the cumulative effects of hydroelectric development in the Columbia River Basin. One portion of that project -- Task 6.2 -- was to develop an inventory of catch and escapement data for Columbia River salmon and steelhead and to determine if enough relevant data are available for spawner-recruit analysis. This inventory was to include not the actual data but, rather, only the source, nature, and extent of data needed to conduct a spawner-recruit analysis. Spawner-recruit analysis is one of several methodologies with possible utility for assessing the cumulative effects of hydroelectric development in the Columbia River Basin. (This methodology was evaluated in Task 6.1.) The information presented in this report is not a complete inventory of catch and escapement data for Columbia River salmonids. Some information was omitted, either because of delays in responses by agencies to information requests, or because certain data sources, not widely known to exist, could not be located.

2 METHODS

2.1 INFORMATION SOURCES AND DATA FILE SYSTEM

Information for the spawner-recruit data inventory was derived from published and unpublished reports that were obtained from state, federal, and tribal agencies. Requests were made by personal contact, phone, and/or letter to agencies in Washington, Oregon, and Idaho. In addition, a search was conducted at the fisheries library of the University of Washington. Journals, reports, and unpublished data files containing information applicable to the inventory were reviewed.

Information describing the contents of each data source was then entered into a microcomputer relational data base management system called R:base 4000. Bibliographic information was entered into one file, called the source reference file, and spawner-recruit information was entered into a second file, called the data *inventory file*. Data items are cross-referenced between the two files through the use of bibliographic reference numbers.

2.2 SOURCE REFERENCE FILE

Each record in the source reference file consists of bibliographic information entered in the following 10 fields:

- Reference number,
- Author,
- Date published,
- Title,
- Publisher,
- Journal (or serial) name, volume, and number,
- City where published,
- Author's affiliation,
- Source: place where a copy can be obtained, and
- Comments: a brief note concerning the contents of the report.

An abbreviated heading at the beginning of each field identifies its contents.

A complete copy of the source reference file is shown in App. A. This file contains 77 references, of which 59 are also cited in the data inventory file. Most of

those not cited in the latter file are similar to other, cited references in terms of the information contained. Nevertheless, these references were retained in the source reference file to indicate that they were reviewed. Two of the references uncited in the data inventory file (Nos. 42 and 64) summarize the coded-wire tag (CWT) data base, but were not cited because the information contained in them required interpretation beyond the scope for this task (see Sec. 3.2.2 for a further discussion of CWT data).

2.3 DATA INVENTORY FILE

Each line in the data inventory file consists of 19 fields, which contain data on catch, escapement, run size, redd counts, juvenile outmigration, fishing effort, spawner counts, and dam counts for Columbia River salmon and steelhead. Specifically, the data include fish species, race, stock, period of record, units of measurement, availability of age data, geographic location of catch, type of fishing gear used, and geographic location for statistical data other than catch data. The data source is also identified by the bibliographic reference number assigned in the source reference file.

The data inventory file is available on diskettes from the Bonneville Power Administration, Division of Fish and Wildlife, or the Northwest Power Planning Council. To give an indication of the file contents, the alphanumeric codes and column locations for each field are described in App. B. An example of the raw data file is also given in App. B.

The geographic location to which any given catch and escapement data apply is identified by a hierarchical coding system for the Columbia Basin. This system enables the identification of specific river segments, combinations of river segments, dam locations (see Table B.1), and hatchery locations (Table B.2) for which inventory information is available. Fish stocks are identified according to their geographic origin using the appropriate code from the hierarchical coding system. In cases where the stock was not identified in the reference, a stock code was assigned that represented the smallest geographic area from which the species could have originated. For example, data for salmon caught in the Columbia River without a stock identification were assigned to Columbia River stock.

3 ADEQUACY OF COLUMBIA RIVER DATA FOR A SPAWNER-RECRUIT ANALYSIS

The data inventory file contains 1,859 records that identify the source and nature of data for eight statistical categories (Table 1) that were initially thought to be useful for a spawner-recruit analysis. However, after a review of Task 6.1, it became apparent that the most important data needed for such an analysis were contained in only five categories -- effort, run size, catch, escapement, and dam count. This section discusses the adequacy of the data found in each of these categories. The findings are also summarized in tabular form in App. C.

3.1 EFFORT

The tables in App. C summarize the extent of data found for only four of the five statistical categories deemed important. Fishing effort was excluded because very little information was available in the references that were searched (as shown in Table 1). The reason for not locating more effort data may have been because the search focused on literature that only contained information for Columbia River stocks.

Effort data are important because they can be used to estimate catch. Fishing effort data are usually recorded by fishery or gear type for specific coastal regions. Each government management agency keeps records on the size of the fishing fleet and the type of fishing gear used in each fisheries management unit. Therefore, a large amount of effort data is known to exist for the Pacific coastal salmon fishery.

3.2 RUN SIZE

Run size is defined as the sum of the total catch, regardless of where it occurs, plus the escapement for a salmon and steelhead stock during a specific year. Run size and age composition are all that are needed to compute recruitment, which is one of the parameters required for a spawner-recruit model.

A review of the literature for run size data indicated that while data are available for the Columbia River, these data are not a true estimate of run size there. The reason is that these data refer to escapement plus catch within the river and exclude catch of Columbia stocks in the ocean. This exclusion of ocean catch in the run size estimate is understandable, since information on the contribution of Columbia River stocks to the ocean catch is limited (see Sec. 3.3).

TABLE 1 Composition of the Data Inventory File by Statistical Category

Statistical Category	No. of Records	% of Total
Catch	742	39.9
Dam count	295	15.9
Effort	32	1.7
Escapement	314	16.9
Juvenile outmigration	50	2.7
Redd count	132	7.1
Run size	217	11.7
Spawner count	77	4.1
Total	1,859	100

The data available for run size, excluding ocean catch, are summarized in Tables C.1-C.11. Data for chinook salmon and sockeye salmon are available for many of the major subbasins within the Columbia River basin and begin as early as 1938. Counts of fish escapement above Bonneville Dam began after its construction in 1938, which is probably the reason why estimates of run size began at this time. However, estimates of run size for coho salmon, chum salmon, and steelhead trout only began in the late 1950s to early 1960s, and estimates for the subbasins are limited.

3.3 CATCH

The data available for catch of Columbia River salmon and steelhead stocks are summarized in Tables C.12-C.27. Data for ocean catch (Tables C.12-C.19) are separated according to major fishery areas (i.e., California, Oregon, Washington, British Columbia, and Alaska) and fishery gear used (e.g., net, troll, sport). This breakdown provides the type of information needed to determine if sufficient data are available for estimating Columbia River stocks from historical ocean catch records.

Data on the catch of Columbia River salmon in the ocean are limited to information for chinook and coho salmon during the period 1969-1983 (Tables C.20-C.27). Information on catch of chum salmon, sockeye salmon, and steelhead trout was not found because these species are not intercepted to any significant extent in the ocean. These species are normally caught in terminal areas, as shown in these tables. The information for chinook salmon and coho salmon is based on recoveries of CWTs that were implanted in fish from Columbia River salmon hatcheries. More data on the catch of Columbia River chinook and coho stocks are available from the CWT data base (Nos. 42 and 64 in the source reference file). However, this information was not entered in the data inventory file because much of it requires interpretation by the agency that planned the CWT experiment. The contribution of Columbia River stocks to the ocean fishery is based on the distribution and catch of specific indicator stocks that were identified through a group of CWT experiments. The references cited in Tables C.12-C.19 represent the results of CWT studies for several stocks of chinook and coho salmon.

This type of catch distribution data is limited, but should be adequate for estimating the historical catch of several production groups of Columbia River salmon. More information on the distribution and contribution of Columbia River stocks to the Pacific Ocean fishery is being developed. The Pacific Marine Fisheries Commission has recently completed an inventory of salmon production by hatchery and wild stocks in order to identify stock management units that require fishery contribution data. Studies are being planned for the near future to identify indicator stocks for each stock management unit.

Data on catch of salmon and steelhead within the Columbia River (Tables C.20-C.27) have been recorded for a long period, but information on race or catch location was not recorded until the late 1930s and, in the case of coho, information by race is not available until after 1970. Information on catch by stock is limited to data from CWTs and from subbasin terminal fisheries (i.e., tribal and sport), of which sport catch of steelhead has the best record.

3.4 ESCAPEMENT

Information on escapement can be derived from several sources (i.e., escapement estimates, hatchery returns, redd counts, spawner counts, and dam counts), of which escapement estimates, hatchery returns, and dam counts were found to have the greatest amount of information. Data on escapement of nonhatchery chinook salmon, sockeye salmon, and summer steelhead trout (Tables C.35-C.47) are available from 1936 for many of the major subbasins. Data for other species (e.g., coho, chum) are limited in quantity and geographic coverage.

The Columbia Basin contains over 90 salmon and steelhead hatcheries (Table B.2) and only a small portion of the hatchery return data was found in the search. Escapement data are available for many Washington, Idaho, and U.S. government hatcheries, but not for Oregon hatcheries (Tables C.48-C.55). Most of the hatchery data are relatively new (i.e., since the late 1950s), except for chinook salmon returns to the Bonneville Pool hatcheries, which began in 1938. More information on hatchery returns is known to be available in state hatchery files, but time limitations prevented a more thorough search for this information.

3.5 DAM COUNTS

Counts of salmon and steelhead moving past dams provided the best geographic record of escapement within the Columbia River Basin (Tables C.56-C.69). Counts are available at all major dams beginning in 1933, after the completion of Rock Island Dam. Fish counts are separated by race in most cases and by stock in many cases. Since dams are located throughout the Columbia Basin, the counts from upper basin dams can be used to estimate the escapement of stocks to specific subbasins. Also, the time interval between the completion of Bonneville Dam in 1938 and that of McNary Dam in 1953 serves as a base period when no dams (except for Grand Coulee Dam in 1941) were constructed in the Columbia River Basin. Thus, dam counts are available to provide estimates of escapement prior to and following the primary period of dam construction.

4 RECOMMENDATIONS

Testing of a spawner-recruit model could require the comparison of catch and escapement data for a sequence of years that were relatively free from dam construction with data collected for a sequence of years after dam construction. The basic assumption of such a model would be that dam operations have caused a reduction in the productivity of salmon and steelhead trout stocks. Therefore, stock-specific catch and escapement data are needed for the period prior to dam construction in order to calibrate the model for baseline conditions. The results of the data inventory indicate that this type of information is only available for several chinook and coho salmon stocks during the past 15 years. Pre-dam catch and escapement data would need to be developed for these stocks. This could be accomplished by using the current catch contribution data and historical records of catch and effort to predict past catches by ocean fisheries. Spawner counts are available from ladder counts at Bonneville Dam, which was built in 1938. Since few dams were completed from 1938 to 1950, this period could be used to represent baseline conditions.

Therefore, we believe that enough information is available to develop a data base for testing a spawner-recruit impact assessment model. More stock-specific information is assumed to be available and could be identified given more time. However, we believe that this additional information would not expand the data inventory by a significant amount, nor would it change our conclusions.

Therefore, we propose the following:

- The scope of the data inventory file should be expanded to include catch and effort data from all coastal areas where Columbia River stocks are caught.
- Existing stock-specific data on chinook salmon and steelhead trout should be used to estimate a historical record for catch and escapement, as suggested in Task 6.1.
- Since good estimates of catch and escapement in the Columbia River are available after 1938, the data base should extend from 1938 through 1983.
- The period from 1938 through 1952 should be considered the pre-dam impact period.

APPENDIX A:
SOURCE REFERENCE FILE*

*In this appendix, an entry of “ENW Library” for the source means that a copy of the document is on file at the Envirosphere Northwest Library in Bellevue, Washington.

APPENDIX A:
SOURCE REFERENCE FILE

REFERENCE NUMBER: 1

DATE: 1984

AUTHOR: Oregon Dept. of Fish and Wildlife and Washington Dept. of Fisheries

TITLE: Columbia River fish runs and fisheries - 1960-83

PUBLISHER: Oregon Dept. of Fish and Wildlife and Washington Dept. of Fisheries

JOURNAL:

PUBLISHED AT:

AUTHORS AFFILIATION: Same as authors

SOURCE: ENW Library

COMMENTS:

REFERENCE NUMBER: 2

DATE: 1984

AUTHOR: Pacific Fishery Management Council

TITLE: A review of the 1983 ocean salmon fisheries and status of stocks and management goals for the 1984 salmon season off the coasts of California, Oregon, and Washington

PUBLISHER: Pacific Fishery Management Council

JOURNAL:

PUBLISHED AT: Portland, Oregon

AUTHORS AFFILIATION:

SOURCE: ENW Library

COMMENTS:

REFERENCE NUMBER: 3

DATE: 1979

AUTHOR: Horner, N., and T.C. Bjornn

TITLE: Status of Upper Columbia River fall chinook salmon (excluding Snake River populations)

PUBLISHER: Idaho Cooperative Fishery Research Unit

JOURNAL: Report prepared for the U.S. Fish and Wildlife Service

PUBLISHED AT: Moscow, Idaho

AUTHORS AFFILIATION: Idaho Cooperative Fishery Research Unit

SOURCE: ENW Library

COMMENTS:

REFERENCE NUMBER: 4 DATE: 1981
AUTHOR: Horner, N., and T.C. Bjornn

TITLE: Status of Upper Columbia and Snake River summer chinook salmon in relation to the Endangered Species Act

PUBLISHER: Idaho Cooperative Fishery Research Unit
JOURNAL: Report prepared for the U.S. Fish and Wildlife Service
PUBLISHED AT: Moscow, Idaho
AUTHORS AFFILIATION: Idaho Cooperative Fishery Research Unit
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 5 DATE: 1983
AUTHOR: Lindland, L.L.

TITLE: Annual project closing report; Clearwater River development of spring chinook and steelhead stocks, Columbia River fisheries development program

PUBLISHER: Idaho Dept. of Fish and Game
JOURNAL:
PUBLISHED AT: Idaho
AUTHORS AFFILIATION:
SOURCE: Greg Konkel, U.S. Fish and Wildlife Service, Sand Point, Seattle
(206) 526-6282
COMMENTS:

REFERENCE NUMBER: 6 DATE: 1984
AUTHOR: Washington Dept. of Fisheries

TITLE: Salmon escapement data tables

PUBLISHER: Washington Dept. of Fisheries
JOURNAL:
PUBLISHED AT: Olympia, Washington
AUTHORS AFFILIATION: Washington Dept. of Fisheries
SOURCE: Greg Konkel, U.S. Fish and Wildlife Service, Sand Point, Seattle
(206) 526-6282
COMMENTS:

REFERENCE NUMBER: 7 DATE: 1981
AUTHOR: Pacific Fishery Management Council

TITLE: Proposed plan for managing the 1981 salmon fisheries off the coasts of California, Oregon, and Washington

PUBLISHER: Pacific Fishery Management Council

JOURNAL:

PUBLISHED AT: Portland, Oregon

AUTHORS AFFILIATION:

SOURCE: Greg Konkel, U.S. Fish and Wildlife Service, Sand Point, Seattle
(206) 526-6282

COMMENTS: Contains same information as Reference 2

REFERENCE NUMBER: 8 DATE: 1982
AUTHOR: Pacific Fisheries Management Council

TITLE: Proposed plan for managing the 1982 salmon fisheries off the coasts of California, Oregon, and Washington

PUBLISHER: Pacific Fisheries Management Council

JOURNAL:

PUBLISHED AT: Portland, Oregon

AUTHORS AFFILIATION:

SOURCE: Greg Konkel, U.S. Fish and Wildlife Service, Sand Point, Seattle
(206) 526-6282

COMMENTS: Contains same information as Reference 2

REFERENCE NUMBER: 9 DATE: 1983
AUTHOR: U.S. Army Corps of Engineers

TITLE: Annual fish passage report - 1983

PUBLISHER: U.S. Army Corps of Engineers

JOURNAL:

PUBLISHED AT: Portland, Oregon

AUTHORS AFFILIATION: U.S. Army Corps of Engineers

SOURCE: Greg Konkel, U.S. Fish and Wildlife Service, Sand Point, Seattle
(206) 526-6282

COMMENTS:

REFERENCE NUMBER: 10 DATE: 1982
AUTHOR: U.S. Army Corps of Engineers

TITLE: Annual fish passage report - 1982

PUBLISHER: U.S. Army Corps of Engineers
JOURNAL:
PUBLISHED AT: Portland, Oregon
AUTHORS AFFILIATION: U.S. Army Corps of Engineers
SOURCE: Greg Konkel, U.S. Fish and Wildlife Service, Sand Point, Seattle
(206) 526-6282
COMMENTS: Nearly same data as in Reference 9

REFERENCE NUMBER: 11 DATE: 1981
AUTHOR: Horner, N., and T.C. Bjornn

TITLE: Status of Upper Columbia and Snake River spring chinook salmon in relation to
the Endangered Species Act

PUBLISHER: Idaho Cooperative Fishery Research Unit
JOURNAL: Report prepared for the U.S. Fish and Wildlife Service
PUBLISHED AT: Moscow, Idaho
AUTHORS AFFILIATION: Idaho Cooperative Fishery Research Unit
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 12 DATE: 1984
AUTHOR: Washington Dept. of Fisheries

TITLE: Spring chinook survey

PUBLISHER: Washington Dept. of Fisheries
JOURNAL: Unpublished data tables
PUBLISHED AT: Olympia, Washington
AUTHORS AFFILIATION: Washington Dept. of Fisheries
SOURCE: Greg Konkel, U.S. Fish and Wildlife Service, Sand Point, Seattle
(206) 526-6282
COMMENTS:

REFERENCE NUMBER: 13

DATE: 1981

AUTHOR: Columbia River Stocks Technical Advisory Commission

TITLE: Columbia River stocks

PUBLISHER: Columbia River Technical Advisory Commission

JOURNAL:

PUBLISHED AT:

AUTHORS AFFILIATION:

SOURCE: Greg Konkel, U.S. Fish and Wildlife Service, Sand Point, Seattle

(206) 526-6282

COMMENTS:

REFERENCE NUMBER: 14

DATE: 1981

AUTHOR: Irving, J.S., and T.C. Bjornn

TITLE: Status of Snake River fall chinook salmon in relation to the Endangered Species Act

PUBLISHER: Idaho Cooperative Fishery Research Unit

JOURNAL: Report prepared for the U.S. Fish and Wildlife Service

PUBLISHED AT: Moscow, Idaho

AUTHORS AFFILIATION: Idaho Cooperative Fishery Research Unit

SOURCE: ENW Library

COMMENTS:

REFERENCE NUMBER: 15

DATE: 1960

AUTHOR: Washington Dept. of Fisheries

TITLE: Report on the salmon escapement in the state of Washington, 1960

PUBLISHER: Washington Dept. of Fisheries

JOURNAL:

PUBLISHED AT: Olympia, Washington

AUTHORS AFFILIATION: Washington Dept. of Fisheries

SOURCE: Greg Konkel, U.S. Fish and Wildlife Service, Sand Point, Seattle

(206) 526-6282

COMMENTS:

REFERENCE NUMBER: 16 DATE: 1974
AUTHOR: Ames, J., A. Bergh, and C. Morrill

TITLE: Report on the salmon escapement in the state of Washington, 1971

PUBLISHER: Washington Dept. of Fisheries

JOURNAL:

PUBLISHED AT: Olympia, Washington

AUTHORS AFFILIATION: Washington Dept. of Fisheries

SOURCE: Greg Konkel, U.S. Fish and Wildlife Service, Sand Point, Seattle
(206) 526-6283

COMMENTS:

REFERENCE NUMBER: 17 DATE: 1985

AUTHOR: Kendra, W.

TITLE: Steelhead sport catch estimates based on punchcard returns

PUBLISHER: Washington Dept. of Game

JOURNAL: Unpublished data tables

PUBLISHED AT: Olympia, Washington

AUTHORS AFFILIATION: Washington Dept. of Game

SOURCE: ENW Library

COMMENTS:

REFERENCE NUMBER: 18 DATE: 1971

AUTHOR: Fish Commission of Oregon and Washington Dept. of Fisheries

TITLE: Columbia River fish runs and commercial fisheries, 1938-70

PUBLISHER: Fish Commission of Oregon and Washington Dept. of Fisheries

JOURNAL: Joint Investigational Report, Vol. 1, No. 1

PUBLISHED AT: Clackamas, Oregon, or Olympia, Washington

AUTHORS AFFILIATION:

SOURCE: ENW Library

COMMENTS: Same data as in Reference 21

REFERENCE NUMBER: 19 DATE: 1972
AUTHOR: Fish Commission of Oregon and Washington Dept. of Fisheries

TITLE: Columbia River fish runs and commercial fisheries, 1938-70: 1971 addendum

PUBLISHER: Fish Commission of Oregon and Washington Dept. of Fisheries
JOURNAL: Joint Investigational Report, Vol. 1, No. 2
PUBLISHED AT: Clackamas, Oregon, or Olympia, Washington
AUTHORS AFFILIATION:
SOURCE: ENW Library
COMMENTS: Same data as in Reference 21

REFERENCE NUMBER: 20 DATE: 1973
AUTHOR: Fish Commission of Oregon and Washington Dept. of Fisheries

TITLE: Status report Columbia River fish runs and commercial fisheries, 1972
addendum

PUBLISHER: Fish Commission of Oregon
JOURNAL: Joint Investigational Report, Vol. 1, No. 3
PUBLISHED AT: Clackamas, Oregon, or Olympia, Washington
AUTHORS AFFILIATION:
SOURCE: ENW Library
COMMENTS: Same data as in Reference 21

REFERENCE NUMBER: 21 DATE: 1975
AUTHOR: Fish Commission of Oregon and Washington Dept. of Fisheries

TITLE: Status report Columbia River fish runs and commercial fisheries, 1938-70:
1974 addendum

PUBLISHER: Fish Commission of Oregon and Washington Dept. of Fisheries
JOURNAL: Joint Investigational Report, Vol. 1, No. 5
PUBLISHED AT: Clackamas, Oregon, or Olympia, Washington
AUTHORS AFFILIATION:
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 22 DATE: 1974
AUTHOR: Fish Commission of Oregon and Washington Dept. of Fisheries

TITLE: Status report Columbia River fish runs and commercial fisheries, 1938-1970:
1973 addendum

PUBLISHER: Fish Commission of Oregon and Washington Dept. of Fisheries
JOURNAL: Joint Investigational Report Vol. 1, No. 4
PUBLISHED AT: Clackamas, Oregon, or Olympia, Washington
AUTHORS AFFILIATION:
SOURCE: ENW Library
COMMENTS: Same data as in Reference 21

REFERENCE NUMBER: 23 DATE: 1984
AUTHOR: Bennett, D.E.

TITLE: 1983 Willamette River spring chinook salmon run

PUBLISHER: Oregon Dept. of Fish and Wildlife
JOURNAL:
PUBLISHED AT:
AUTHORS AFFILIATION: Oregon Dept. of Fish and Wildlife
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 24 DATE: 1974
AUTHOR: Young, F.R., and W.L. Robinson

TITLE: Age, size, and sex of Columbia River chinook, 1960-69

PUBLISHER: Fish Commission of Oregon
JOURNAL: Data Report Series, Report No. 4
PUBLISHED AT:
AUTHORS AFFILIATION:
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 25
AUTHOR: McGee, J.

DATE: 1985

TITLE: Wells Dam counts, unpublished data

PUBLISHER: Douglas County PUD
JOURNAL: Unpublished data tables
PUBLISHED AT:
AUTHORS AFFILIATION: Douglas County PUD
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 26

DATE: 1982

AUTHOR: Washington Dept. of Fisheries

TITLE: Chinook salmon in the southeast Alaska troll fishery review of stock composition and stock status information and evaluation of management plans and needs for 1982

PUBLISHER: Washington Dept. of Fisheries
JOURNAL: Report to the North Pacific Fishery Management Council
PUBLISHED AT: Olympia, Washington
AUTHORS AFFILIATION: Washington Dept. of Fisheries
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 27

DATE: 1976

AUTHOR: Pacific Northwest Regional Commission

TITLE: Investigative reports of Columbia River fisheries project

PUBLISHER: Pacific Northwest Regional Commission
JOURNAL:
PUBLISHED AT: Vancouver, Washington
AUTHORS AFFILIATION:
SOURCE: ENW Library
COMMENTS: Contains References 28, 29, and 30

REFERENCE NUMBER: 28
AUTHOR: Phinney, L.A.

DATE: 1976

TITLE: Commercial fishery regulations and management objectives
PUBLISHER: Pacific Northwest Regional Commission
JOURNAL: Investigative Reports of Columbia River Fisheries Project
PUBLISHED AT: Vancouver, Washington
AUTHORS AFFILIATION: Washington Dept. of Fisheries
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 29
AUTHOR: Beiningen, K.T.

DATE: 1976

TITLE: Columbia River fisheries project: Indian fishery
PUBLISHER: Pacific Northwest Regional Commission
JOURNAL: Investigative Reports of Columbia River Fisheries Project
PUBLISHED AT: Vancouver, Washington
AUTHORS AFFILIATION: Oregon Dept. of Fish and Wildlife
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 30
AUTHOR: Beiningen, K.T.

DATE: 1976

TITLE: Apportionment of Columbia River salmon and steelhead
PUBLISHER: Pacific Northwest Regional Commission
JOURNAL: Investigative Reports of Columbia River Fisheries Project
PUBLISHED AT: Vancouver, Washington
AUTHORS AFFILIATION: Oregon Dept. of Fish and Wildlife
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 31
AUTHOR: Fulton, L.A.

TITLE: Spawning areas and abundance of steelhead trout and coho, sockeye, and chum salmon in the Columbia River Basin - past and present

PUBLISHER: National Marine Fisheries Service
JOURNAL: Special Scientific Report - Fisheries No. 618
PUBLISHED AT: Washington, D.C.
AUTHORS AFFILIATION:
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 32
AUTHOR: Beiningen, K.T.

TITLE: Fish runs

PUBLISHER: Pacific Northwest Regional Commission
JOURNAL: Investigative Reports of Columbia River Fisheries Project
PUBLISHED AT: Vancouver, Washington
AUTHORS AFFILIATION: Oregon Dept. of Fish and Wildlife
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 33
AUTHOR: Korn, L.

TITLE: Information on Columbia River salmon runs and fisheries

PUBLISHER: International North Pacific Fisheries Commission
JOURNAL: International North Pacific Fisheries Commission Bulletin No. 36
PUBLISHED AT: Vancouver, Canada
AUTHORS AFFILIATION: Oregon Dept. of Fish and Wildlife
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 34
AUTHOR: Fulton, L.A.

DATE: 1968

TITLE: Spawning areas and abundance of chinook salmon (*Oncorhynchus tshawytscha*)
in the Columbia River Basin - past and present

PUBLISHER: U.S. Fish and Wildlife Service

JOURNAL: Special Scientific Report - Fisheries No. 571

PUBLISHED AT: Washington, D.C.

AUTHORS AFFILIATION:

SOURCE: ENW Library

COMMENTS:

REFERENCE NUMBER: 35
AUTHOR: Wahle, R.J., and R.Z. Smith

DATE: 1979

TITLE: A historical and descriptive account of Pacific Coast anadromous salmonid
rearing facilities and a summary of their releases by region, 1960-76

PUBLISHER: National Marine Fisheries Service

JOURNAL: NOAA Technical Report, NMFS SSRF-736

PUBLISHED AT: Washington, D.C.

AUTHORS AFFILIATION: National Marine Fisheries Service

SOURCE: ENW Library

COMMENTS: This report summarizes juvenile releases; no adult data were included.
Not coded.

REFERENCE NUMBER: 36
AUTHOR: Solazzi, M.F., and J.T. Martin

DATE: 1982

TITLE: An introduction to chinook salmon planning

PUBLISHER: Oregon Dept. of Fish and Wildlife

JOURNAL: Information Reports, No. 82-3

PUBLISHED AT:

AUTHORS AFFILIATION: Oregon Dept. of Fish and Wildlife

SOURCE: ENW Library

COMMENTS:

REFERENCE NUMBER: 37
AUTHOR: Allen, R.L.

DATE: 1977

TITLE: Status of the Upper Columbia River salmon and steelhead runs

PUBLISHER: American Fisheries Society
JOURNAL: E. Schwiebert, ed., Columbia River Salmon and Steelhead, Sp. Pub. No. 1
PUBLISHED AT: Lawrence, Kansas
AUTHORS AFFILIATION: Washington Dept. of Fisheries
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 38
AUTHOR: Leman, B.

DATE: 1977

TITLE: The Mid-Columbia Public Utility responsibility

PUBLISHER: American Fisheries Society
JOURNAL: E. Schwiebert, ed., Columbia River Salmon and Steelhead, Sp. Pub. No. 1
PUBLISHED AT: Lawrence, Kansas
AUTHORS AFFILIATION: PUD, No. 1, Chelan County
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 39
AUTHOR: Ayerst, J.A.

DATE: 1977

TITLE: The role of hatcheries in rebuilding steelhead runs of the Columbia River system

PUBLISHER: American Fisheries Society
JOURNAL: E. Schwiebert, ed., Columbia River Salmon and Steelhead, Sp. Pub. No. 10
PUBLISHED AT: Lawrence, Kansas
AUTHORS AFFILIATION: Washington Dept. of Game
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 40
AUTHOR: Raymond, H.L.

DATE: 1979

TITLE: Effects of dams and impoundments on migrations of juvenile chinook salmon and steelhead from the Snake River, 1966 to 1975

PUBLISHER: American Fisheries Society
JOURNAL: Trans. American Fisheries Society, 108, 505-529

PUBLISHED AT: Lawrence, Kansas

AUTHORS AFFILIATION: National Marine Fish Service, Seattle

SOURCE: ENW Library

COMMENTS:

REFERENCE NUMBER: 41 DATE: 1969
AUTHOR: Major, R.L., and J.L. Mighell

TITLE: Egg-to-migrant survival of spring chinook salmon (*Oncorhynchus tshawuytscha*) in the Yakima River, Washington

PUBLISHER: U.S. Fish and Wildlife Service

JOURNAL: Fishery Bulletin, 67:347-359

PUBLISHED AT: Washington, D.C.

AUTHORS AFFILIATION: Bureau of Commercial Fisheries

SOURCE: ENW Library

COMMENTS:

REFERENCE NUMBER: 42 DATE: 1984
AUTHOR: de Libero, F., and J. Rasch

TITLE: Coded wire tag summary: estimated recoveries

PUBLISHER: Pacific Marine Fisheries Commission

JOURNAL:

PUBLISHED AT: Olympia, Washington

AUTHORS AFFILIATION: Washington Dept. of Fisheries

SOURCE: ENW Library

COMMENTS: This document summarized coded-wire tag estimated recoveries for chinook 1971-1977 broods and coho 1971-1978 broods from Alaska to California, including the Columbia River. Not coded.

REFERENCE NUMBER: 43 DATE: 1975
AUTHOR: Washington Dept. of Game

TITLE: Fish plants July 1, 1977-June 30, 1978

PUBLISHER: Washington Dept. of Game
JOURNAL:
PUBLISHED AT: Olympia, Washington
AUTHORS AFFILIATION: Washington Dept. of Game
SOURCE: ENW Library
COMMENTS: Juvenile trout and steelhead plants in Washington state, 1977-78. Not coded.

REFERENCE NUMBER: 44 DATE: 1976
AUTHOR: Chanly, E., and E. Perry

TITLE: Columbia basin salmon and steelhead analysis

PUBLISHER: Pacific Northwest Regional Commission
JOURNAL: Summary Report, September 1, 1976
PUBLISHED AT:
AUTHORS AFFILIATION:
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 45 DATE: 1976
AUTHOR: R. J. Gunsolus, ed.

TITLE: Columbia River fish runs and fisheries, 1957-75, Vol. 2

PUBLISHER: Oregon Dept of Fish and Wildlife and Washington Dept. of Fisheries
JOURNAL: Status report
PUBLISHED AT: Clackamas, Oregon, or Olympia, Washington
AUTHORS AFFILIATION: Fish Commission of Oregon
SOURCE: ENW Library
COMMENTS: Same data as in Reference 1. Not coded.

REFERENCE NUMBER: 47 DATE: 1980

AUTHOR: Smith, E.M., and J.C. Zakel

TITLE: Willamette River spring chinook evaluation

PUBLISHER: Oregon Dept. of Fish and Wildlife

JOURNAL: Annual Progress Report, Fish Research Project

PUBLISHED AT: Portland, Oregon

AUTHORS AFFILIATION: Oregon Dept. of Fish and Wildlife

SOURCE: ENW Library

COMMENTS:

REFERENCE NUMBER: 48 DATE: 1981

AUTHOR: Lindsay, R.B., B.J. Smith, and E.A. Olsen

TITLE: Spring chinook studies in the John Day River

PUBLISHER: Oregon Dept. of Fish and Wildlife

JOURNAL: Annual Progress Report, Fish Research Project

PUBLISHED AT: Portland, Oregon

AUTHORS AFFILIATION: Oregon Dept. of Fish and Wildlife

SOURCE: ENW Library

COMMENTS:

REFERENCE NUMBER: 49 DATE: 1982

AUTHOR: Lindsay, R.B., B.J. Smith, E.A. Olsen, and M.W. Flesher

TITLE: Spring chinook studies in the John Day River

PUBLISHER: Oregon Dept. of Fish and Wildlife

JOURNAL: Annual Progress Report, Fish Research Project

PUBLISHED AT: Portland, Oregon

AUTHORS AFFILIATION: Oregon Dept. of Fish and Wildlife

SOURCE: ENW Library

COMMENTS:

REFERENCE NUMBER: 50

DATE: 1983

AUTHOR: Smith, B.J., R.B. Lindsay, E.A. Olsen, and M.W. Flesher

TITLE: Spring chinook studies in the John Day River

PUBLISHER: Oregon Dept. of Fish and Wildlife

JOURNAL: Annual Progress Report, Fish Research Project

PUBLISHED AT: Portland, Oregon

AUTHORS AFFILIATION: Oregon Dept. of Fish and Wildlife

SOURCE: ENW Library

COMMENTS:

REFERENCE NUMBER: 52

DATE: 1984

AUTHOR: Mullan, W.

TITLE: Overview of artificial and natural propagation of coho salmons (*Onchorhynchus kisutch*) on the Mid-Columbia River

PUBLISHER: U.S. Fish and Wildlife Service

JOURNAL: Report No. FRI/FAO 84-4

PUBLISHED AT: Leavenworth, Washington

AUTHORS AFFILIATION: U.S. Fish and Wildlife Service

SOURCE: ENW Library

COMMENTS:

REFERENCE NUMBER: 53

DATE: 1984

AUTHOR: Oregon Dept. of Fish and Wildlife, Washington Dept. of Fisheries, Washington Dept. of Game, and Idaho Dept. of Fish and Game

TITLE: Stock assessment of Columbia River anadromous salmonids; Vol. III: steelhead trout

PUBLISHER: Bonneville Power Administration

JOURNAL:

PUBLISHED AT: Portland, Oregon

AUTHORS AFFILIATION: same as authors

SOURCE: ENW Library

COMMENTS:

REFERENCE NUMBER: 54 DATE: 1984
AUTHOR: Oregon Dept. of Fish and Wildlife, Washington Dept. of Fisheries, Washington
Dept. of Game, and Idaho Dept. of Fish and Game

TITLE: Columbia River anadromous salmonids; Vol. II: coho, sockeye, chum salmon

PUBLISHER: Bonneville Power Administration
JOURNAL:
PUBLISHED AT: Portland, Oregon
AUTHORS AFFILIATION: same as authors
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 55 DATE: 1984
AUTHOR: Oregon Dept. of Fish and Wildlife, Washington Dept. of Fisheries, Washington
Dept. of Game, and Idaho Dept. of Fish and Game

TITLE: Columbia River anadromous salmonids; Vol. 1: chinook salmon

PUBLISHER: Bonneville Power Authority
JOURNAL:
PUBLISHED AT: Portland, Oregon
AUTHORS AFFILIATION: same as authors
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 56 DATE: 1981
AUTHOR: Horner, N., and T.C. Bjornn

TITLE: Status of Upper Columbia and Snake River coho salmon in relation to the
Endangered Species Act

PUBLISHER: Idaho Cooperative Fisheries Unit
JOURNAL: Report prepared for the U.S. Fish and Wildlife Service
PUBLISHED AT: Moscow, Idaho
AUTHORS AFFILIATION: University of Idaho
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 57
AUTHOR: Mullan, J. W.

DATE: 1984

TITLE: Determinants of sockeye salmon abundance in the Columbia River

PUBLISHER: U.S. Fish and Wildlife Service

JOURNAL: Report No. FRI/FAO -84-3

PUBLISHED AT: Leavenworth, Washington

AUTHORS AFFILIATION: U.S. Fish and Wildlife Service

SOURCE: ENW Library

COMMENTS:

REFERENCE NUMBER: 58
AUTHOR: Phinney, L.A.

DATE: 1975

TITLE: Implementation of critical programs for Columbia and Snake Rivers salmon and steelhead runs

PUBLISHER: Pacific Northwest Regional Commission

JOURNAL: Investigative Reports of Columbia River Fisheries Project

PUBLISHED AT: Vancouver, Washington

AUTHORS AFFILIATION: Washington Dept. of Fisheries

SOURCE: ENW Library

COMMENTS:

REFERENCE NUMBER: 59
AUTHOR: U.S./Canada Technical Committee on Chinook Salmon

DATE: 1984

TITLE: Agency reports on chinook stock status

PUBLISHER:

JOURNAL: Appendix 1 of the 1984 Report for the 1985 U.S./Canada Salmon Treaty

PUBLISHED AT:

AUTHORS AFFILIATION:

SOURCE: ENW Library

COMMENTS:

REFERENCE NUMBER: 60 DATE: 1984
AUTHOR: U.S./Canada Technical Committee on Coho Salmon

TITLE: Preliminary report of the Canada/U.S. technical committee on coho salmon

PUBLISHER:
JOURNAL: For advisors to the 1985 U.S./Canada Salmon Treaty, Salmon Interception
PUBLISHED AT:
AUTHORS AFFILIATION:
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 61 DATE: 1984
AUTHOR: U.S./Canada Technical Chinook Committee (U.S. Section)

TITLE: Preliminary chinook salmon fisheries and escapement data

PUBLISHER:
JOURNAL: For U.S. delegation meeting concerning 1985 U.S./Canada Salmon Treaty
PUBLISHED AT:
AUTHORS AFFILIATION:
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 62 DATE: 1984
AUTHOR: U.S./Canada Technical Committee on Chinook Salmon

TITLE: Report of the U.S./Canada technical committee on chinook salmon

PUBLISHER:
JOURNAL: For advisors to 1985 U.S./Canada Salmon Treaty, Salmon Interceptions
PUBLISHED AT:
AUTHORS AFFILIATION:
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 63
AUTHOR: Dell, M.B.

DATE: 1985

TITLE: Priest Rapids Dam counts (unpublished data)

PUBLISHER: Grant County PUD No. 2

JOURNAL:

PUBLISHED AT: Ephrata, Washington

AUTHORS AFFILIATION: Grant County PUD

SOURCE: ENW Library

COMMENTS:

REFERENCE NUMBER: 64

DATE: 1984

AUTHOR: de Libero, F., and T.J. Rasch

TITLE: Coded wire tag summary: observed recoveries

PUBLISHER: Pacific Marine Fisheries Commission

JOURNAL:

PUBLISHED AT:

AUTHORS AFFILIATION: Washington Dept. of Fisheries

SOURCE: ENW Library

COMMENTS: This document summarizes coded-wire tag observed recoveries for chinook 1971-1977 broods and coho 1971-1978 broods from Alaska to California, including the Columbia River. Not coded.

REFERENCE NUMBER: 65

DATE: 1984

AUTHOR: Donaldson, J.R.

TITLE: Letter to the Northwest Power Planning Council

PUBLISHER: Pacific Fisheries Management Council

JOURNAL:

PUBLISHED AT: Portland, Oregon

AUTHORS AFFILIATION: Pacific Fisheries Management Council

SOURCE: ENW Library

COMMENTS:

REFERENCE NUMBER: 66
AUTHOR: Cates, B.C.

TITLE: Anadromous fish study, Warm Springs Indian Reservation 1980

PUBLISHER:

JOURNAL: U.S. Fish and Wildlife Service progress report
PUBLISHED AT: Vancouver, Washington
AUTHORS AFFILIATION: U.S. Fish and Wildlife Service
SOURCE: ENW Library

COMMENTS:

REFERENCE NUMBER: 67
AUTHOR: Lukens, J.R.

TITLE: Subproject IV: River and stream investigations; Study III: Clearwater River steelhead investigations

PUBLISHER: Idaho Dept. of Fish and Game
JOURNAL: Job Performance Report, Federal Aid Fish Restoration Project F-73-R-S
PUBLISHED AT:
AUTHORS AFFILIATION: Idaho Dept. of Fish and Game
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 68
AUTHOR: Hirose, P.

TITLE: Northeastern Oregon spring chinook and summer steelhead spawning ground surveys, 1967-83

PUBLISHER: Oregon Dept. of Fish and Wildlife
JOURNAL: Information Report 84-3
PUBLISHED AT:
AUTHORS AFFILIATION: Oregon Dept. of Fish and Wildlife
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 69
AUTHOR: Cramer, D.P.

DATE: 1984

TITLE: North Fork Clackamus River returns (data tables)

PUBLISHER: Portland General Electric

JOURNAL:

PUBLISHED AT: Portland, Oregon

AUTHORS AFFILIATION: Portland General Electric

SOURCE: ENW Library

COMMENTS:

REFERENCE NUMBER: 70

DATE: 1984

AUTHOR: Leider, S., and M. Chilcote

TITLE: Kalama River steelhead escapement data tables (unpublished)

PUBLISHER: Washington Dept. of Game

JOURNAL:

PUBLISHED AT:

AUTHORS AFFILIATION: Washington Dept. of Game

SOURCE: ENW Library

COMMENTS:

REFERENCE NUMBER: 71

DATE: 1981

AUTHOR: U.S. Army Corps of Engineers

TITLE: Columbia Basin water withdrawal environmental review; Appendix D: Fish, Part 1, Columbia River

PUBLISHER: U.S. Army Corps of Engineers

JOURNAL:

PUBLISHED AT:

AUTHORS AFFILIATION:

SOURCE: ENW Library

COMMENTS:

REFERENCE NUMBER: 72 DATE: 1983
AUTHOR: Pollard, H.A., II

TITLE: Subproject II: Salmon and steelhead investigations; Study II, Job No. 1: Salmon spawning ground surveys

PUBLISHER: Idaho Dept. of Fish and Game
JOURNAL: Job Performance Report, Project F-73-R-5
PUBLISHED AT:
AUTHORS AFFILIATION: Idaho Dept. of Fish and Game
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 73 DATE: 1982
AUTHOR: Bennett, D.E.

TITLE: Fish passage at Willamette Falls in 1981

PUBLISHER: Oregon Dept. of Fish and Wildlife
JOURNAL: Annual Report, NWFS Project No. F11 000/88E25045
PUBLISHED AT:
AUTHOR AFFILIATION: Oregon Dept. of Fish and Wildlife
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 74 DATE: 1982
AUTHOR: Smith, E.M., R.H. Williams, and J.C. Zakel

TITLE: Willamette River salmon studies

PUBLISHER: Oregon Dept. of Fish and Wildlife
JOURNAL: Annual Progress Report, Fish Research Project
PUBLISHED AT: Portland, Oregon
AUTHORS AFFILIATION: Oregon Dept. of Fish and Wildlife
SOURCE: ENW Library
COMMENTS:

REFERENCE NUMBER: 75
AUTHOR: Collins, M.D.

DATE: 1976

TITLE: The 1975 Willamette River spring chinook salmon run

PUBLISHER: Oregon Dept. of Fish and Wildlife

JOURNAL:

PUBLISHED AT: Portland, Oregon

AUTHORS AFFILIATION: Oregon Dept. of Fish and Wildlife

SOURCE: ENW Library

COMMENTS:

REFERENCE NUMBER: 76
AUTHOR: McGie, A.M.

DATE: 1981

TITLE: Trends in the escapement and production of fall chinook and coho salmon in Oregon

PUBLISHER: Oregon Dept. of Fish and Wildlife

JOURNAL: Information Reports, No. 81-7

PUBLISHED AT: Portland, Oregon

AUTHORS AFFILIATION: Oregon Dept. of Fish and Wildlife

SOURCE: ENW Library

COMMENTS:

REFERENCE NUMBER: 77
AUTHOR: Solzzi, M.F., and J.T. Martin

DATE: 1982

TITLE: An introduction to chinook salmon planning

PUBLISHER: Oregon Dept. of Fish and Wildlife

JOURNAL: Information Reports, No. 82-3

PUBLISHED AT: Portland, Oregon

AUTHORS AFFILIATION: Oregon Dept. of Fish and Wildlife

SOURCE: ENW Library

COMMENTS:

APPENDIX B:
DEFINITION OF CODES IN THE DATA INVENTORY FILE

APPENDIX B:

DEFINITION OF CODES IN THE DATA INVENTORY FILE

The data inventory file consists of lines of data, each 63 columns (characters) in length. Each line contains 19 fields of information that identify the source and contents of a data report. The alphanumeric codes used in each field are described in Sec. B.1, and examples are given in Sec. B.2.

B. 1 FIELD DESCRIPTIONS

The fields in the data inventory file and the corresponding alphanumeric codes are as follows:

- **Source reference (columns 1-4):** Bibliographic reference number corresponding to an item in the source reference file.
- **Statistic (columns 5-6):** Type of information coded.

CA = catch	JO = juvenile outmigrant
ES = escapement	EF = effort
RS = run size	SP = spawner count
RC = redd count	DC = dam count

- **Data type or condition (column 7):**

1 = count
2 = estimate
3 = both
4 = unknown
- **Species (columns 8-9):** Species of anadromous salmonids covered.

01 = chinook	06 = steelhead
02 = coho	07 = cutthroat
03 = chum	08 = chinook and coho
04 = pink	09 = salmon
05 = sockeye	10 = salmon and steelhead

- Race (columns 10-11): Race of species covered.

SP = spring	WT = winter
SU = summer	ER = early
FL = fall	LT = late
FE = fall bright	

- **Stock location (column 12):** Location relative to the specific hatchery, river segment, or all segments upriver to which the information applies.

0 = within
1 = within and above
2 = hatchery

- **Stock identification (columns 13-22):** River or hatchery origin of stock. For alphanumeric codes, see stock and area codes (Table B.1) or hatchery codes (Table B.2).

- **Year type (column 23):** Century and indication as to whether information refers to the year of adult return or that of parents' return.

1 = run year (1900s)
2 = brood year (1900s)
3 = run year (from a year in the 1800s to a year in the 1900s)
4 = brood year (from a year in the 1800s to a year in the 1900s)
5 = run year (1800s)
6 = brood year (1800s)

- **Years (columns 24-27):** Beginning and ending years for information.

From = first year or only year of data
To = last year of data

- **Effort (column 28):** Type of fishing effort recorded in the reference.

1 = boat days
2 = angler trips (sport)
3 = days fished (commercial)

- **Interval (columns 29-30):** Type of data for years indicated in columns 24-27.

1 = yearly	7 = average, monthly
2 = monthly	8 = average, yearly and monthly
3 = weekly	9 = seasonally
4 = daily	10 = average (for period)
5 = yearly and monthly	11 = monthly and seasonally
6 = average, yearly	

- **Type (column 31):** Units in which data on fish are recorded.

0 = number (of fish)
1 = pounds
2 = cases
3 = number and pounds

- **Age (column 32):** Indication as to whether age composition data are provided.

1 = provided
Blank = not provided

- **Catch location (column 33):** Same as the **Stock** location field but applies to the area of catch data.

0 = within
1 = within and above

- **Catch area (columns 34-43):** Ocean or river location of catch. For alphanumeric codes, see stock and area codes (Table B.1).

- **Catch use (column 44):** Fishery user group.

0 = unknown
1 = nontreaty
2 = treaty
3 = treaty and nontreaty

- **Catch type (columns 45-52):** Type of fishing gear used; a 1 is placed in the column corresponding to the gear type.

<u>Column</u>	<u>Code</u>
---------------	-------------

45	SP = sport
46	TR = troll
47	NT = net
48	GL = gill net
49	PS = purse seine
50	OT = other types of gear
51	OT = undesignated
53	OT = other

- **Escapement location (column 53):** Same as the **Stock location** field but applies to escapement data.

0 = within
1 = within and above
2 = hatchery

- **Escapement area (columns 54-63):** River segment, hatchery, or dam where escapement data were recorded. For alphanumeric codes, see stock and area codes (Table B.1) or hatchery codes (Table B.2).

B.2 EXAMPLES

Examples of the raw data file are shown below.

Column:	1 3 5 7 9 63
Example A	0023CA201SP0611310000017583 03010611310000011	
Example B	0023ES201SP0611300000025581 0101	06113000000

In example A, the information came from reference number 23 (see App. A), which contains catch data for spring chinook. The data are for the lower Willamette River stock and for run years 1975-1983. The data are recorded as the number of fish caught on a weekly basis from the river segment that extends from the river mouth to Willamette Falls. The fish were caught by a nontreaty sport fishery.

Example B identifies escapement information for spring chinook in the lower Willamette River for brood years 1955-1981. Also, the line shows that age composition data are available.

TABLE B.1 Stock and Area Codes

Stock and/or Area Identification	Code
<u>Pacific Ocean</u>	0000000000
<u>Alaska</u>	1000000000
North inside	1100000000
Central inside	1200000000
South inside	1300000000
North outside	1400000000
Central outside	1500000000
South outside	1600000000
<u>British Columbia</u>	2000000000
Strait of Juan de Fuca	2100000000
Southwest Vancouver Island	2200000000
Northwest Vancouver Island	2300000000
Georgia Straight	2400000000
Central British Columbia	2500000000
Northern British Columbia	2600000000
<u>Washington</u>	3000000000
Puget Sound	3100000000
Strait of Juan de Fuca	3200000000
Washington Coast	3300000000
<u>Oregon</u>	4000000000
<u>California</u>	5000000000
<u>Columbia River</u>	6000000000
Lower Columbia (mouth to Bonneville Dam)	6100000000
Cowlitz River	6111000000
Mouth to Mayfield Dam	6111100000
Above Mayfield Dam	6111200000
Lewis River	6112000000
Mouth to Merwin Dam	6112100000
Above Merwin Dam	6112200000
Willamette River	6113000000
Mouth to Willamette Falls Dam	6113100000
Clackamas River	6113110000
Mouth to River Mill Dam	6113111000
Above River Mill Dam	6113112000

TABLE B-1 (Cont'd)

Stock and/or Area Identification	Code
Above Willamette Falls Dam to Lookout Point Dam	6113200000
Santiam River	6113210000
Mouth to above North Fork	6113211000
North Fork	6113211100
Mouth to Detroit Dam	6113211110
Above Detroit Dam	6113211120
South Fork	6113211200
Mouth to Lebanon Dam	6113211210
Above Lebanon Dam	6113211220
McKenzie River	6113220000
Mouth to Waterville Dam	6113221000
Above Waterville Dam	6113222000
Above Lookout Point Dam	6113300000
Sandy River	6114000000
Middle Columbia (above Bonneville Dam to McNary Dam)	6200000000
Above Bonneville Dam to the Dalles Dam	6210000000
Hood River	6211000000
White Salmon River	6212000000
Mouth to Condit Dam	6212100000
Above Condit Dam	6212200000
Klickitat River	6213000000
Above the Dalles Dam to John Day Dam	6220000000
Deschutes River	6221000000
Mouth to Pelton Dam	6221100000
Above Pelton Dam to Round Butte Dam	6221200000
Above Round Butte Dam	6221300000
Above John Day Dam to McNary Dam	6230000000
John Day River	6231000000
Umatilla River	6232000000
Mouth to Three Mile Dam	6232100000
Above Three Mile Dam to McKay Dam	6232200000
Above McKay Dam	6232300000
Upper Columbia (above McNary Dam)	6300000000
Above McNary Dam to Priest Rapids Dam	6310000000
Walla Walla River	6311000000
Touchet River	6311110000
Snake River	6312000000
Mouth to Ice Harbor Dam	6312100000
Above Ice Harbor Dam to Lower Monumental Dam	6312200000
Above Lower Monumental Dam to above Little Goose Dam	6312300000
Tucannon River	6312310000

TABLE B-1 (Cont'd)

Stock and/or Area Identification	Code
Above Little Goose Dam to Lower Granite Dam	6312400000
Above Lower Granite Dam to Hells Canyon Dam	6312500000
Clearwater River	6312510000
Mouth to above North Fork	6312511000
North Fork	6312511100
Mouth to Dworshak Dam	6312511110
Above Dworshak Dam	6312511120
Above North Fork	6312512000
Grande Ronde River	6312520000
Salmon River	6312530000
Imnaha River	6312540000
Above Hells Canyon Dam to Oxbow Dam	6312600000
Above Oxbow Dam to Brownlee Dam	6312700000
Above Brownlee Dam	6312800000
Yakima River	6313000000
Mouth to Prosser Dam	6313100000
Above Prosser Dam to Sunnyside Dam	6313200000
Toppenish Creek	6313210000
Above Sunnyside to Roza	6313300000
Naches River	6313310000
Above Roza	6313400000
Above Priest Rapids Dam to Wanapum Dam	6320000000
Above Wanapum Dam to Rock Island Dam	6330000000
Above Rock Island Dam to Rocky Reach Dam	6340000000
Wenatchee River	6341000000
Above Rocky Reach Dam to Wells Dam	6350000000
Entiat River	6351000000
Above Wells Dam to Chief Joseph Dam	6360000000
Methow River	6361000000
Okanogan River	6362000000
Above Chief Joseph Dam	6370000000

TABLE B.2 Hatchery Codes

Hatchery Name	Code	Hatchery Name	Code
Abernathy	610000000D	Leaburg	611322000B
Above Bonneville Hatcheries	620000000Z	Leavenworth	6340000008
Alder Creek Pond	611110000D	Lewis River	611210000A
All Columbia Hatcheries	600000000A	Little White Salmon	621000000B
Aumsville Pond	611320000B	Lookingglass	631252000B
Beaver Creek	610000000C	Lower Columbia Hatcheries (excluding Willamette)	6100000002
Big Creek	610000000L	Lower Columbia Hatcheries	610000000Y
Big White Salmon Pond	621210000A	Lower Kalama	610000000E
Bonneville	6210000000	MacKay	631253000F
Bonneville Pool Hatcheries	621000000Z	Marion Forks	6113211128
Carson	621000000A	McCall	631253000B
Cascade	610000000P	McKenzie	611322000A
Chelan PUD	635000000B	Metolius	6221300008
Clackamas	611311000A	Middle Columbia Hatcheries	620000000Z
Columbia Basin	632000000A	Mossyrock	611120000A
Columbia River Hatcheries	600000000A	Mullen	637000000B
Cowlitz Salmon	611110000B	Naches	631331000A
Cowlitz Trout	611110000A	Nelson Bridge Pond	6313300006
Decker Flats Pond	631253000E	Niagara	631280000C
Dexter Pond	611320000C	Nile Springs	631330000A
Dworshak	6312511008	Oak Springs	622110000A
Eagle	631280000A	Oakridge	611330000A
Eagle Creek	611400000B	Oxbow (Idaho)	631260000A
Elokomin	610000000B	Oxbow (Oregon)	610000000Q
Entiat	6350000008	Pahsimerdi	631253000D
Fall River	622130000C	Priest Rapids	631000000C
Gnat Creek	610000000M	Rapid River	6312530008
Gobar Pond	610000000G	Ringold Salmon	631000000B
Goldendale	6213000008	Ringold Trout	631000000A
Grays River	610000000A	Roaring River	611321000A
Hagerman	6312800008	Rocky Reach	6340000008
Hayden Creek	631253000C	Round Butte	6221200008
Hood River	621100000A	S. Santiam	611321121A
Kalama Falls	610000000F	Salem Pond	6113200008
Klaskanine	610000000K	Sand Point	637000000A
Klickitat	621300000A	Sandy	611400000A
Kooskia	6312512008	Skamania	6100000001
		Speelyai	611210000B
		Spring Creek	621100000D
		Stayton Pond	611321111A
		Swofford Pond	611120000B

TABLE B-2 (Cont'd)

Hatchery Name	Code	Hatchery Name	Code
Toutle	611110000c	Washburn island	636000000A
Tucannon	631230000A	Washougal	6100000005
Upper Columbia River Hatcheries	630000000Z	Wells Salmon Pond	635000000D
Vancouver	610000000H	Wells Trout	635000000~
Wakeena Pond	610000000N	Willard	621000000c
Wallowa	6312520008	Winthrop	636100000A
		Wizard Falls	622130000B
		Yakima	6313300008

APPENDIX C:
DESCRIPTION OF DATA IN THE
DATA INVENTORY FILE

APPENDIX C:
DESCRIPTION OF DATA IN THE
DATA INVENTORY FILE

This appendix summarizes the information available in the run size, catch, escapement, and dam count statistical categories for various fish species and race in the Columbia River Basin. Each table contains the bibliographic reference number (corresponding to the source inventory file in App. A) where the data described may be found. If more than one information source is available, an asterisk appears besides the primary reference number shown. If no information is available, a zero is shown. The data search covered a total of 15 possible combinations of fish species and race; however, data were not always found in each statistical category on all of these combinations. Further information on each set of tables in this appendix is provided below.

C.1 RUN SIZE

Tables C.1-C.11 identify the sources of run size data, by river segment and year, for the following species and race (table numbers are indicated in parentheses):

- Chinook
 - Fall bright (C.1)
 - Fall (C.2)
 - Spring (C.3)
 - Summer (C.4)
 - Race unknown (C.5)
- Coho: race unknown (C.6)
- Chum: race unknown (C.7)
- Sockeye: race unknown (C.8)
- Steelhead
 - Summer (C.9)
 - Winter (C.10)
 - Race unknown (C.11)

The river segment codes used in each table are as follows:

COLU: All Columbia River and tributaries
 BEBO: Columbia River and tributaries below Bonneville Dam
 COLE: Cowlitz and Lewis Rivers

WILL:	Willamette River
ABBO:	Columbia River and tributaries above Bonneville Dam
DERI:	Deschutes River
JORI:	John Day River
ABMC:	Columbia River and tributaries above McNary Dam
SNAK:	Snake River
CLEA:	Clearwater River, a tributary to the Snake River
SALM:	Salmon River, a tributary to the Snake River
YAKI:	Yakima River
ABPR:	Columbia River and tributaries above Priest Rapids Dam

C.2 CATCH

Tables C.12-C.19 identify the sources of catch data, by fishery (including type of gear) and by year, for the following species and race (table numbers are indicated in parentheses):

- Chinook
 - Fall bright (C.12)
 - Fall (C.13)
 - Spring (C.14)
 - Summer (C.15)
 - Race unknown (C.16)
- Coho
 - Early (C.17)
 - Late (C.18)
 - Race unknown (C.19)

The fishery codes used in each table are as follows:

Columbia River

CRAL:	All catch, any gear type, in the river or its tributaries
CRBB:	All catch, any gear type, in the river or its tributaries below Bonneville Dam
CRAB:	All catch, any gear type, in the river or its tributaries above Bonneville Dam

Washington

WAOT:	Catch other than from the Columbia River or its tributaries with undesignated gear type
WATR:	Commercial troll catch other than from Columbia River or its tributaries

WASP: Sport catch other than from the Columbia River or its tributaries

Oregon

OROT: Catch other than from the Columbia River or its tributaries with undesignated gear type
 ORTR: Commercial troll catch other than from the Columbia River or its tributaries
 ORSP: Sport catch other than from the Columbia River or its tributaries

California

CAOT: Catch with undesignated gear type
 CATR: Commercial troll catch
 CASP: Sport catch

British Columbia

BCOT: Catch with undesignated gear type
 BCTR: Commercial troll catch
 BCSP: Sport catch
 BCNT: Commercial net catch

Alaska

AKOT: Catch with undesignated gear type
 AKTR: Commercial troll catch
 AKSP: Sport catch
 AKNT: Commercial net catch

Tables C.20-C.27 identify the sources of catch data, by river segment and year, for the following species and race (table numbers are indicated in parentheses):

- Chinook
 - Fall bright (C.20)
 - Fall (C.21)
 - Spring (C.22)
 - Summer (C.23)
 - Race unknown (C.24)
- Coho
 - Early (C.25)
 - Late (C.26)
 - Race unknown (C.27)

- Chum: race unknown (C.28)
- Sockeye: race unknown (C.29)
- Steelhead
 - Summer (C.30)
 - Winter (C.31)
 - Race unknown (C.32)
- Steelhead and salmon: race unknown (C.33)
- Salmon: race unknown (C.34)

The river segment codes used in these tables are the same as those presented in Sec. C.1.

C.3 ESCAPEMENT

Tables C.35-C.47 identify the sources of escapement data for nonhatchery fish, by river segment and year, for the following species and race (table numbers are indicated in parentheses):

- Chinook
 - Fall bright (C.35)
 - Fall (C.36)
 - Spring (C.37)
 - Summer (C.38)
 - Race unknown (C.39)
- Coho
 - Early (C.40)
 - Late (C.41)
 - Race unknown (C.42)
- Chum: race unknown (C.43)
- Sockeye: race unknown (C.44)
- Steelhead
 - Summer (C.45)
 - Winter (C.46)
 - Race unknown (C.47)

These data sources may also contain escapement of hatching stocks since the data are not separated between hatchery versus nonhatchery stocks. The river segment codes used in Tables 6.35C.47 are the same as those given in Sec. C.1.

Tables C.48-C.55 identify the sources of escapement data for hatchery fish, by river segment and year, for the following species and race (table numbers are indicated in parentheses):

- Chinook
 - Fall bright (C.48)
 - Fall (C.49)
 - Spring (C.50)
 - Summer (C.51)
- Coho: race unknown (C.52)
- Steelhead
 - Summer (C.53)
 - Winter (C.54)
 - Race unknown (C.55)

These data sources contain only escapement to designated hatcheries.

C.4 DAM COUNTS

Tables C.56-C.69 identify the sources of dam count data, by dam and year, for the following species and race (table numbers are indicated in parentheses):

- Chinook
 - Fall bright (C.56)
 - Fall (C.57)
 - Spring (C.58)
 - Summer (C.59)
 - Race unknown (C.60)
- Coho
 - Early (C.61)
 - Late (C.62)
 - Race unknown (C.63)
- Chum: race unknown (C.64)
- Pink: race unknown (C.65)

- Sockeye: race unknown (C-66)
- Steelhead
 - Summer (C.67)
 - Winter (C.68)
 - Race unknown (C.69)

The dam codes used in these tables are as follows:

WIFA:	Willamette Falls	WELL:	Wells
BONN:	Bonneville	ICHA:	Ice Harbor
DALL:	The Dalles	LOMO:	Lower Monumental
JODA:	John Day	LIGO:	Little Goose
MCNA:	McNary	LOGR:	Lower Granite
PRRA:	Priest Rapids	HRCA:	Hells Canyon
WANA:	Wanapum	OXBO:	Oxbow
ROIS:	Rock Island	BROW:	Brownlee
RORE:	Rocky Reach	OTHR:	Other dams

TABLE C1 Run Size Data Sources: Chinook – Fall Bright

TABLE C.2 Run Size Data Sources: Chinook – Pall

TABLE C.3 Run Size Data Sources: Chinook – Spring

YEAR	Segment												
	COLU	BEBO	COLE	WILL	ABBO	DERI	JDRI	ABMC	SNAK	CLEA	SALM	YAK1	ABPR
1939	21*	0	0	0	21	0	0	0	0	0	0	0	0
1940	21*	0	0	0	21	0	0	0	0	0	0	0	0
1941	21*	0	0	0	21	0	0	0	0	0	0	0	0
1942	21*	0	0	0	21	0	0	0	0	0	0	0	0
1943	21*	0	0	0	21	0	0	0	0	0	0	0	0
1944	21*	0	0	0	21	0	0	0	0	0	0	0	0
1945	21*	0	0	0	21	0	0	0	0	0	0	0	0
1946	23"	23'	0	23*	21*	0	0	0	0	0	0	0	0
1947	23*	23*	0	23*	21*	0	0	0	0	0	0	0	0
1948	23*	23*	0	23*	21*	0	0	0	0	0	0	0	0
1949	23*	23*	0	23*	21"	0	0	0	0	0	0	0	0
1950	23*	23*	0	23*	21*	0	0	0	0	0	0	0	0
1951	23*	23*	0	23"	21*	0	0	0	0	0	0	0	0
1952	23*	23*	0	23*	21*	0	0	0	0	0	0	0	0
1953	23*	23*	0	23*	21*	0	0	0	0	0	0	0	0
1954	23*	23*	0	23"	21*	0	0	0	0	0	0	0	0
1955	23*	23*	0	23*	21*	0	0	0	0	0	0	0	0
1956	23*	23*	0	23*	21*	0	0	0	0	0	0	0	0
1957	23*	23*	0	23*	21*	0	0	11	11	0	0	0	0
1958	23*	23*	0	23*	21"	0	0	11	11	0	0	0	0
1959	23*	23*	0	23*	21*	0	0	11	11	0	0	0	0
1960	1*	1*	0	23*	21*	0	0	11	11	0	0	0	0
1961	1*	1*	0	23*	21"	0	0	11	11	0	0	0	0
1962	1*	1*	36*	23*	21*	0	0	11	11	0	0	0	0
1963	1*	1*	36*	23*	21*	0	0	11	11	0	0	0	0
1964	1*	1*	36*	23*	21*	0	0	11	11	0	0	0	0
1965	1*	1*	36*	23*	21*	0	0	11	11	0	0	0	0
1966	1*	1*	36*	23"	21*	0	0	37*	11	0	0	0	0
1967	1*	1*	36*	23*	68*	0	68	68*	68*	0	0	0	0
1968	1*	1*	36*	23"	68*	0	68	68*	68*	0	0	0	0
1969	1*	1*	36"	23*	68*	0	68	68*	68*	0	0	0	0
1970	1*	1*	36*	23*	68*	0	68	68*	68*	0	0	55	55
1971	1*	1*	2*	23*	13*	0	68	68*	68*	0	0	55	55
1972	1*	1*	2"	23*	13*	0	68	68*	68*	0	0	55	55
1973	1*	1*	2*	23*	13"	0	68	68*	68*	0	0	55	55
1974	1*	1*	2*	23*	13*	0	68	68*	68*	0	0	55	55
1975	1*	1*	2*	23*	13*	0	68	68*	68*	0	0	55	55
1976	1*	1*	2*	23*	13*	0	68	68*	68*	0	0	55	55
1977	1*	1*	2*	23*	13*	66*	68	68*	68*	0	0	55	55
1978	1*	1*	2*	23*	13*	66*	68	68*	68*	0	0	55	55
1979	1*	1*	2*	23*	13*	66*	68	68"	68*	0	0	55	55
1980	1*	1*	2"	23*	13"	66*	68	68*	68*	0	0	55	55
1981	1*	1*	2*	23"	13*	55	68	68*	68*	0	0	55	55
1982	1*	1*	2"	23*	68"	55	68	68*	68*	0	0	55	55
1983	1*	1*	2'	23*	68*	0	68	68*	68*	0	0	0	0
1984	59	0	0	0	59	0	0	59	59	0	0	0	0

TABLE C.4 Run Size Data Sources: Chinook – Summer

YEAR	Segment												
	COLU	BEBO	COLE	WILL	ABBO	DERI	JDRI	ABMC	SNAK	CLEA	SALM	YAK1	ABPR
1938	32*	0	0	0	21*	0	0	4	0	0	0	0	0
1939	32"	0	0	0	21*	0	0	4	0	0	0	0	0
1940	32*	0	0	0	21*	0	0	4	0	0	0	0	0
1941	32*	0	0	0	21*	0	0	4	0	0	0	0	0
1942	32*	0	0	0	21*	0	0	4	0	0	0	0	0
1943	32*	0	0	0	21*	0	0	4	0	0	0	0	0
1944	32'	0	0	0	21*	0	0	4	0	0	0	0	0
1945	32*	0	0	0	21*	0	0	4	0	0	0	0	0
1946	32*	0	0	0	21*	0	0	4	0	0	0	0	0
1947	32*	0	0	0	21*	0	0	4	0	0	0	0	0
1948	32*	0	0	0	21*	0	0	4	0	0	0	0	0
1949	32*	0	0	0	21*	0	0	4	0	0	0	0	0
1950	32*	0	0	0	21"	0	0	4	0	0	0	0	0
1951	32*	0	0	0	21*	0	0	4	0	0	0	0	0
1952	32*	0	0	0	21*	0	0	4	0	0	0	0	0
1953	32*	0	0	0	21*	0	0	4	0	0	0	0	0
1954	32*	0	0	0	21"	0	0	4	0	0	0	0	0
1955	32"	0	0	0	21*	0	0	4	0	0	0	0	0
1956	32*	0	0	0	21*	0	0	4	0	0	0	0	0
1957	32*	0	0	0	21*	0	0	4	0	0	0	0	0
1958	32*	0	0	0	21*	0	0	4	0	0	0	0	0
1959	32*	0	0	0	21*	0	0	4	0	0	0	0	0
1960	32*	0	0	0	21*	0	0	4	0	0	0	0	0
1961	32*	0	0	0	21*	0	0	4	0	0	0	0	0
1962	32'	0	0	0	21*	0	0	4	4	0	0	0	0
1963	32*	0	0	0	21*	0	0	4	4	0	0	0	0
1964	32*	0	0	0	21*	0	0	4	4	0	0	0	0
1965	32*	0	0	0	21*	0	0	4	4	0	0	0	0
1966	32"	0	0	0	21*	0	0	4*	4	0	0	0	0
1967	32*	0	0	0	21"	0	0	4*	4	0	0	0	0
1968	32*	0	0	0	21*	0	0	4*	4	0	0	0	0
1969	32*	0	0	0	21'	0	0	4*	4	0	0	0	0
1970	32*	0	0	0	21*	0	0	4"	4	0	0	0	55
1971	32*	0	0	0	21*	0	0	4*	4	0	0	0	55
1972	32*	0	0	0	21*	0	0	4*	4*	0	0	0	59*
1973	32*	0	0	0	21*	0	0	4*	4*	0	0	0	59*
1974	32*	0	0	0	21*	0	0	4"	4*	0	0	0	59*
1975	32"	0	0	0	1*	0	0	4*	4*	0	0	0	59*
1976	2"	0	0	0	2*	0	0	4*	4*	0	0	0	59*
1977	2*	0	0	0	2*	0	0	4*	4*	0	0	0	59*
1978	2*	0	0	0	2"	0	0	4*	4*	0	0	0	59*
1979	2*	0	0	0	2*	0	0	4*	4*	0	0	0	59*
1980	2*	0	0	0	2*	0	0	4"	4*	0	0	0	59*
1981	2"	0	0	0	2'	0	0	59*	59	0	0	0	59*
1982	2*	0	0	0	2*	0	0	59*	59	0	0	0	59*
1983	2*	0	0	0	2*	0	0	59	59	0	0	0	59
1984	59	0	0	0	59	0	0	59	59	0	0	0	59

TABLE C.5 Run Size Data Sources: Chinook – Race Unknown

TABLE C.6 Run Size Data Sources: Coho – Race Unknown

TABLE C.7 Run Size Data Sources: Chum -- Race Unknown

TABLE C.8 Run Size Data Sources: Sockeye – Race Unknown

TABLE C-9 Run Size Data Sources: Steelhead – Summer

TABLE C.10 Run Size Data Sources: Steelhead – Winter

TABLE C.II Run Size Data Sources: Steelhead – Race Unknown

YEAR	Segment												
	COLU	BEBO	COLE	WILL	ABBO	DERI	JDRI	ABMC	SNAK	CLEA	SALM	YAK1	ABPR
1958	31	0	0	0	0	0	0	0	0	0	0	0	0
1959	31	0	0	0	0	0	0	0	0	0	0	0	0
1960	31*	0	0	0	0	0	0	0	0	0	0	0	0
1962	31*	0	0	0	58	0	0	0	0	0	0	0	0
1963	0	0	0	58	0	0	0	0	0	0	0	0	0
1964	31*	0	0	0	58	0	0	0	0	0	0	0	0
1965	31*	0	0	0	58	0	0	0	0	0	0	0	0
1966	31*	0	0	0	58	0	0	0	0	0	0	0	0
1967	31*	0	0	0	58	0	0	0	0	0	0	0	0
	58	0	0	0	58	0	0	0	0	0	0	0	0
1968	58	0	0	58	0	0	0	0	0	0	0	0	0
	58	0	0	0	58	0	0	0	0	0	0	0	0
1970	13*	0	0	0	13*	0	0	0	0	0	0	0	0
1972	67*	0	0	0	67*	0	0	67	67	67	0	0	0
1973	67*	0	0	0	67*	0	0	67	67	67	0	0	0
1974	67*	0	0	0	67*	0	0	67	67	67	0	0	0
1975	67*	0	0	0	67*	0	0	67	67	67	0	0	0
1976	67*	0	0	0	67*	0	0	67	67	67	0	0	0
1977	67*	0	0	0	67*	0	0	67	67	67	0	0	0
	67*	0	0	0	67*	0	0	67	67	67	0	0	0
1978	67*	0	0	0	67*	0	0	67	67	67	0	0	0
	67*	0	0	0	67*	0	0	67	67	67	0	0	0
1980	67*	0	0	0	67*	0	0	67	67	67	0	0	0
1982	67	0	0	0	67	0	0	67	67	67	0	0	0
1983	67	0	0	0	67	0	0	67	67	67	0	0	0

TABLE C.12 Catch Data Sources for Fishery Catches: Chinook – Pall Bright

YEAR	Fishery																
	WAOT	WATR	WASP	OROT	ORTR	ORSP	CAOT	CATR	CASP	BCOT	BCTR	BCSP	BCNT	AKOT	AKTR	AKSP	AKNT
1971	0	61	0	61	0	0	61	0	0	0	61	0	0	0	61	0	0
1972	0	61	0	61	0	0	61	0	0	0	61	0	0	0	61	0	0
	0	61	0	0	0	0	61	0	0	0	0	0	0	0	61	0	0
1974	26	61	0	61*	0	0	61	0	0	26	61	0	0	26	61	0	0
1976	26	61	0	61*	0	0	61	0	0	26	61	0	0	26	61	0	0
1977	26	61	0	54*	0	0	61	0	0	26	61	0	0	54	61	0	0
1981	54	0	0	0	0	0	0	0	0	54	0	0	0	0	0	0	0

TABLE C.13 Catch Data Sources for Fishery Catches: Chinook – Fall

YEAR	Fishery																
	WAOT	WATR	WASP	OROT	ORTR	ORSP	CAOT	CATR	CASP	BCOT	BCTR	BCSP	BCNT	AKOT	AKTR	AKSP	AKNT
1969	30	0	0	30	0	0	30	0	0	30	0	0	0	30	0	0	0
1970	30	0	0	30	0	0	30	0	0	30	0	0	0	30	0	0	0
1971	30	0	0	30	0	0	30	0	0	30	0	0	0	30	0	0	0
1972	30	0	0	30	0	0	30	0	0	30	0	0	0	30	0	0	0
1973	30	0	0	30	0	0	30	0	0	30	0	0	0	30	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1976	65	65		65			65				65			65	0		0
1977	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1982	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE C.14 Catch Data Sources for Fishery Catches: Chinook -- Spring

YEAR	Fishery																
	WAOT	WATR	WASP	OROT	ORTR	ORSP	CAOT	CATR	CASP	BCOT	BCTR	BCSP	BCNT	AKOT	AKTR	AKSP	AKNT
1978	55	0	0	55	0	0	55	0	0	55	0	0	0	55	0	0	0
1979	55	0	0	55	0	0	55	0	0	55	0	0	0	55	0	0	0
1980	0	0	0	0	0	0	55	0	0	55	0	0	0	55	0	0	0
1982	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE C.15 Catch Data Sources for Fishery Catches: Chinook – Summer

YEAR	Fishery																
	WAOT	WATR	WASP	OROT	ORTR	ORSP	CAOT	CATR	CASP	BCOT	BCTR	BCSP	BCNT	AKOT	AKTR	AKSP	AKNT
1974	26	0	0	26	0	0	0	0	0	26	0	0	0	26	0	0	0
1975	26	0	0	26	0	0	0	0	0	26	0	0	0	26	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1976	54	0	0	54	0	0	0	0	0	36	0	0	0	36	0	0	0
1982	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE C.16 Catch Data Sources for Fishery Catches: Chinook — Race Unknown

YEAR	Fishery															
	WAOT	WATR	WASP	OROT	ORTTR	ORSP	CAOT	CATR	CASP	BCOT	BCTR	BCSP-	BCNT	AKOT	AKTR	AKSP
1971	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1972	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1973	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1974	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1975	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1976	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1977	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1979	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1980	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1981	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1982	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

69

TABLE C.17 Catch Data Sources for Fishery Catches: Coho — Early

YEAR	Fishery															
	WAOT	WATR	WASP	OROT	ORTTR	ORSP	CAOT	CATR	CASP	BCOT	BCTR	BCSP	BCNT	AKOT	AKTR	AKSP
1979	60	0	0	60	0	0	60	0	0	60	0	0	0	0	0	0
1980	60	0	0	60	0	0	60	0	0	60	0	0	0	0	0	0
1981	60	0	0	60	0	0	60	0	0	60	0	0	0	0	0	0

TABLE C.18 Catch Data Sources for Fishery Catches: Coho – Late

YEAR	Fishery																
	WAOT	WATR	WASP	OROT	ORTR	ORSP	CAOT	CATR	CASP	BCOT	BCTR	BCSP	BCNT	AKOT	AKTR	AKSP	AKNT
1979	60	60	0	0	60	0	60	0	0	60	60	0	0	0	0	0	0
1980	60	60	0	0	60	0	60	0	0	60	60	0	0	0	0	0	0
1981	60	60	0	0	60	0	60	0	0	60	60	0	0	0	0	0	0

TABLE C.19 Catch Data Sources for Fishery Catches: Coho – Race Unknown

YEAR	Fishery															
	WAOT	WATR	WASP	OROT	ORTR	ORSP	CAOT	CATR	CASP	BCOT	BCSP	BCNT	AKOT	AKTR	AKSP	AKNT
1969	30	0	0	30	0	0	30	0	0	30	0	0	0	0	0	0
1970	30	0	0	30	0	0	30	0	0	30	0	0	0	0	0	0
1971	30	0	0	30	0	0	30	0	0	30	0	0	0	0	0	0
1972	0	0	0	30	0	0	30	0	0	30	0	0	0	0	0	0
1973	30	0	0	30	0	0	30	0	0	30	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE C.20 Catch Data Sources by Location of Catch: Chinook – Fall Bright

TABLE C.21 Catch Data Sources by Location of Catch: Chinook – Fall

TABLE C-22 Catch Data Sources by Location of Catch: Chinook – Spring

YEAR	Segment												
	COLU	BEBO	COLE	WILL	ABBO	DERI	JDRI	ABMC	SNAK	CLEA	SALM	YAK1	ABPR
1928	34	0	0	0	0	0	0	0	0	0	0	0	0
1929	34	0	0	0	0	0	0	0	0	0	0	0	0
1930	34	0	0	0	0	0	0	0	0	0	0	0	0
1931	34	0	0	0	0	0	0	0	0	0	0	0	0
1932	34	0	0	0	0	0	0	0	0	0	0	0	0
1933	34	0	0	0	0	0	0	0	0	0	0	0	0
1934	34	0	0	0	0	0	0	0	0	0	0	0	0
1935	34	0	0	0	0	0	0	0	0	0	0	0	0
1936	34	0	0	0	0	0	0	0	0	0	0	0	0
1937	34	0	0	0	0	0	0	0	0	0	0	0	0
1938	34*	21	0	0	21	0	0	0	0	0	0	0	0
1939	34*	21	0	0	21	0	0	0	0	0	0	0	0
1940	34*	21	0	0	21	0	0	0	0	0	0	0	0
1941	34*	21	0	0	21	0	0	0	0	0	0	0	0
1942	34*	21	0	0	21	0	0	0	0	0	0	0	0
1943	34*	21	0	0	21	0	0	0	0	0	0	0	0
1944	34*	21	0	0	21	0	0	0	0	0	0	0	0
1945	34*	21	0	0	21	0	0	0	0	0	0	0	0
1946	23*	23*	0	33*	21	0	0	0	0	0	0	0	0
1947	23"	23*	0	33*	21	0	0	0	0	0	0	0	0
1948	23*	23*	0	33*	21	0	0	0	0	0	0	0	0
1949	23"	0	33*	21	0	0	0	0	0	0	0	0	0
1950	23*	23*	0	33"	21	0	0	0	0	0	0	0	0
1951	23*	23*	0	33*	21	0	0	0	0	0	0	0	0
1952	23"	23*	0	33*	21	0	0	0	0	0	0	0	0
1953	23*	23*	0	33*	21	0	0	0	0	0	0	0	0
1954	23*	23*	0	33*	11*	0	0	11	11	0	0	0	0
1955	23*	23*	0	33*	11*	0	0	11	11	0	0	0	0
1956	23*	23*	0	33*	11*	0	0	11	11	0	0	0	0
1957	23*	23*	0	33*	11*	0	0	11	11	0	0	0	0
1958	23*	23*	0	33*	11*	0	0	11	11	0	0	0	0
1959	23*	23*	0	33"	11*	0	55	11*	11*	0	0	0	0
1960	23*	23*	0	33*	11*	0	55	11*	11*	0	0	0	0
1961	23*	23*	0	33*	11*	0	55	11*	11*	0	0	0	0
1962	23*	23*	0	33*	11*	0	55	11*	11*	0	0	0	0
1963	23*	23*	0	33*	11*	0	55	11*	11*	0	0	0	0
1964	23*	23*	0	33*	11*	0	55	11*	11*	0	0	0	0
1965	23"	23*	0	23*	11*	0	55	11*	11*	0	0	0	0
1966	23"	23*	0	23*	11*	0	55	11*	11*	0	0	0	0
1967	23"	23*	0	23*	11*	0	55	11*	11"	0	0	0	0
1968	23*	23*	0	23*	11*	0	55	11*	11*	0	0	0	0
1969	23*	23*	36*	23*	11*	0	55	11*	11*	0	0	0	0
1970	23*	23*	36*	23*	11*	0	55	11*	11"	0	0	0	55
1971	1*	1*	36*	23*	11*	55	55	11*	11*	0	0	0	55
1972	1*	1*	36*	23*	11*	0	55	11*	11*	0	0	0	55
1973	1*	1*	36*	23*	11*	0	55	11*	11*	0	0	0	55
1974	1*	1*	36*	23*	11*	55	55	11*	11	0	0	0	55
1975	1*	1*	36*	23*	11'	0	55	11*	11	0	0	0	55
1976	1"	1*	36"	23*	11*	55	55	11"	11	0	0	0	55
1977	1*	1*	36*	23*	11*	55	55	11*	11	0	0	0	55
1978	1*	1*	36*	23*	11*	55	55	11*	11	0	0	0	55
1979	1*	1*	36*	23"	11*	55	55	11*	11	0	0	0	55
1980	1*	1*	59	23*	1*	55	55	11*	11	0	0	55	55
1981	1*	1"	59	23*	1*	55	55	55	0	0	0	55	55
1982	1*	1*	59	23*	1"	55	0	55	0	0	0	55	55
1983	1*	1*	59	23"	1*	0	0	55	0	0	0	55	0

TABLE C.23 Catch Data Sources by Location of Catch: Chinook – Summer

TABLE C.24 Catch Data Sources by Location of Catch: Chinook – Race Unknown

TABLE C.24 (Cont'd)

YEAR	COLU	BEBO	COLE	WILL	ABBO	DERI	JDRI	Segment						
								ABMC	SNAK	CLEA	SALM	YAKI	ABPR	
1915	32	0	0	0	0	0	0	0	0	0	0	0	0	0
1916	32	0	0	0	0	0	0	0	0	0	0	0	0	0
1917	32	0	0	0	0	0	0	0	0	0	0	0	0	0
1918	32	0	0	0	0	0	0	0	0	0	0	0	0	0
1919	32	0	0	0	0	0	0	0	0	0	0	0	0	0
1920	32	0	0	0	0	0	0	0	0	0	0	0	0	0
1921	32	0	0	0	0	0	0	0	0	0	0	0	0	0
1922	32	0	0	0	0	0	0	0	0	0	0	0	0	0
1923	32	0	0	0	0	0	0	0	0	0	0	0	0	0
1924	32	0	0	0	0	0	0	0	0	0	0	0	0	0
1925	32	0	0	0	0	0	0	0	0	0	0	0	0	0
1926	32	0	0	0	0	0	0	0	0	0	0	0	0	0
1927	32	0	0	0	0	0	0	0	0	0	0	0	0	0
1928	32	0	0	0	0	0	0	0	0	0	0	0	0	0
1929	32	0	0	0	0	0	0	0	0	0	0	0	0	0
1930	32	0	0	0	0	0	0	0	0	0	0	0	0	0
1931	32	0	0	0	0	0	0	0	0	0	0	0	0	0
1932	32	0	0	0	0	0	0	0	0	0	0	0	0	0
1933	32	0	0	0	0	0	0	0	0	0	0	0	0	0
1934	32	0	0	0	0	0	0	0	0	0	0	0	0	0
1935	32	0	0	0	0	0	0	0	0	0	0	0	0	0
1936	32	0	0	0	0	0	0	0	0	0	0	0	0	0
1937	32	0	0	0	0	0	0	0	0	0	0	-0	0	0
1938	29*	21	0	0	29*	0	0	0	0	0	0	0	0	0
1939	29*	21	0	0	29*	0	0	0	0	0	0	0	0	0
1940	29*	21	0	0	29*	0	0	0	0	0	0	0	0	0
1941	29*	21	0	0	29*	0	0	0	0	0	0	0	0	0
1942	29*	21	0	0	29"	0	0	0	0	0	0	0	0	0
1943	29*	21	0	0	29*	0	0	0	0	0	0	0	0	0
1944	29"	21	0	0	29*	0	0	0	0	0	0	0	0	0
1945	29"	21	0	0	29*	0	0	0	0	0	0	0	0	0
1946	29*	21	0	0	29*	0	0	0	0	0	0	0	0	0
1947	29*	21	0	0	29*	0	0	0	0	0	0	0	0	0
1948	29*	21	0	0	29*	0	0	0	0	0	0	0	0	0
1949	29*	21	0	0	29*	0	0	0	0	0	0	0	0	0
1950	29*	21	0	0	29*	0	0	0	0	0	0	0	0	0
1951	29*	21	0	0	29*	0	0	0	0	0	0	0	0	0
1952	29*	21	0	0	29*	0	0	0	0	0	0	0	0	0
1953	29*	21	0	0	29*	0	0	30	0	0	0	30	0	0
1954	29*	21	0	0	29"	0	0	11*	11*	0	44	30	0	0
1955	29*	21	0	0	29*	0	0	11*	11*	0	44	30	0	0
1956	29*	21	0	0	29*	0	0	11*	11*	0	44	30	0	0
1957	21*	21	0	0	21*	0	0	11*	11*	0	44	30	0	0
1958	31*	21*	0	0	21*	0	0	11*	11*	0	44	30	0	0
1959	31*	21*	0	0	21*	0	0	11*	11*	0	44	30	0	0
1960	31*	1*	0	0	1*	0	0	11*	11*	0	44	30	0	0
1961	31*	1*	0	0	1*	0	0	11*	11*	0	44	30	0	0

TABLE C.24 (Cont'd)

TABLE C.25 Catch Data Sources by Location of Catch: Coho – Early

TABLE C-26 Catch Data Sources by Location of Catch: Coho – Late

TABLE C.27 Catch Data Sources by Location of Catch: Coho – Race Unknown

TABLE C.27 (Cont'd)

TABLE C.28 Catch Data Sources by Location of Catch: Chum – Race Unknown

TABLE C.28 (Cont'd)

TABLE C.29 Catch Data Sources by Location of Catch: Sockeye – Race Unknown

TABLE C.29 (Cont'd)

TABLE C.30 Catch Data Sources by Location of Catch: Steelhead – Summer

TABLE C.31 Catch Data Sources by Location of Catch: Steelhead — Winter

TABLE C.32 Catch Data Sources by Location of Catch: Steelhead – Race Unknown

TABLE C.32 (Cont'd)

YEAR	Segment												
	COLU	BEBO	COLE	WILL	ABBO	DERI	JDRI	ABMC	SNAK	CLEA	SALM	YAKI	ABPR
1937	32	0	0	0	0	0	0	0	0	0	0	0	0
1938	21*	21	0	0	21*	0	0	0	0	0	0	0	0
1939	21*	21	0	0	21*	0	0	0	0	0	0	0	0
1940	21*	21	0	0	21*	0	0	0	0	0	0	0	0
1941	21*	21	0	0	21*	0	0	0	0	0	0	0	0
1942	21*	21	0	0	21*	0	0	0	0	0	0	0	0
1943	21*	21	0	0	21*	0	0	0	0	0	0	0	0
1944	21*	21	0	0	21"	0	0	0	0	0	0	0	0
1945	21*	21	0	0	21*	0	0	0	0	0	0	0	0
1946	21*	21	0	0	21*	0	0	0	0	0	0	0	0
1947	21*	21	0	0	21*	0	0	0	0	0	0	0	0
1948	21*	21	0	0	21*	0	0	0	0	0	0	0	0
1949	21*	21	0	0	21*	0	0	0	0	0	0	0	0
1950	21*	21	0	0	21*	0	0	0	0	0	0	0	0
1951	21*	21	0	0	21*	0	0	0	0	0	0	0	0
1952	21*	21	0	0	21*	0	0	0	0	0	0	0	0
1953	21*	21	0	0	21*	0	0	0	0	0	0	0	0
1954	21*	21	0	0	21*	0	0	44	44	0	44	0	0
1955	21*	21	0	0	21*	0	0	44	44	0	44	0	0
1956	21*	21	0	0	21*	0	0	44	44	0	44	0	0
1957	21*	21	0	0	21*	0	0	44	44	0	44	0	0
1958	21*	21	0	0	21*	0	0	44	44	0	44	0	0
1959	21*	21	0	0	21*	0	0	44	44	0	44	0	0
1960	21"	21*	0	0	21*	0	0	44	44	0	44	0	0
1961	21*	21*	17	0	21*	0	0	17*	17*	0	44	17	17
1962	21*	21*	17	0	21*	0	0	37*	17*	0	44	37*	37*
1963	21'	21"	17	0	21*	0	0	37*	17*	0	44	37*	37*
1964	21*	21*	17	0	21*	0	0	37*	17*	0	44	37*	37*
1965	21*	21*	17	0	21*	0	0	37*	17*	0	44	37*	17*
1966	21*	21"	17	0	21*	0	0	37*	17*	0	44	37*	17*
1967	21*	21*	17	0	21*	0	0	37"	17*	0	44	37*	17*
1968	21*	21*	17	0	21*	0	0	37*	17*	0	44	37*	17*
1969	21*	21*	17	0	21*	0	0	37*	17*	0	44	37*	17*
1970	21*	21*	17	0	21*	0	0	37*	17*	0	44	37*	17*
1971	21*	21*	17	0	21*	30	0	37*	17*	0	44	37*	17*
1972	21*	21*	17	0	21*	0	0	37*	17*	0	44	37*	17*
1973	21*	21*	17	0	21*	30	0	37*	17*	0	44	37*	17*
1974	21*	28*	17	0	21*	30	0	37"	17*	0	44	37*	17*
1975	17*	17*	17	0	17*	30	0	17*	17*	0	44	17	17
1976	17*	17*	17	0	17*	0	0	17	17	0	0	17	17
1977	17*	17*	17	0	17*	0	0	17	17	0	0	17	17
1978	17*	17*	17	0	17*	0	0	17	17	0	0	17	17
1979	17*	17*	17	0	17*	0	0	17	17	0	0	17	17
1980	17*	17*	17	0	17*	0	0	17	17	0	0	17	17
1981	17*	17*	17	0	17*	0	0	17	17	0	0	17	17
1982	17*	17*	17	0	17*	0	0	17	17	0	0	17	17
1983	17*	17*	17	0	17*	0	0	17	17	0	0	17	17

TABLE C.33 Catch Data Sources by Location of Catch: Steelhead and Salmon – Race Unknown

TABLE C.34 Catch Data Sources by Location of Catch: Salmon – Race Unknown

TABLE C.35 Escapement Data Sources for Nonhatchery Fish: Chinook – Fall Bright

TABLE C.36 Escapement Data Sources for Nonhatchery Fish: Chinook – Pall

TABLE C-37 Escapement Data Sources for Nonhatchery Fish: Chinook – Spring

TABLE C.38 Escapement Data Sources for Nonhatchery Fish: Chinook – Summer

TABLE C.39 Escapement Data Sources for Nonhatchery Fish: Chinook – Race Unknown

TABLE C.40 Escapement Data Sources for Nonhatchery Fish: Coho – Early

TABLE C.41 Escapement Data Sources for Nonhatchery Fish: Coho — Late

TABLE C.42 Escapement Data Sources for Nonhatchery Fish: Coho — Race Unknown

TABLE C.43 Escapement Data Sources for Nonhatchery Fish: Chum – Race Unknown

TABLE C.44 Escapement Data Sources for Nonhatchery Fish: Sockeye – Race Unknown

TABLE C.45 Escapement Data Sources for Nonhatchery Fish: Steelhead – Summer

TABLE C.46 Escapement Data Sources for Nonhatchery Fish: Steelhead – Winter

TABLE C.47 Escapement Data Sources for Nonhatchery Fish: Steelhead — Race Unknown

YEAR	Segment												
	COLU	BEBO	COLE	WILL	ABBO	DERI	JDRI	ABMC	SNAK	CLEA	SALM	YAKI	ABPR
1958	31	0	0	0	0	0	0	0	0	0	0	0	0
1959	31	0	0	0	0	0	0	0	0	0	0	0	0
1960	31	0	0	0	0	0	0	0	0	0	0	0	0
1961	31	0	0	0	0	0	0	0	0	0	0	0	0
1962	31	0	0	0	0	0	0	0	0	0	0	0	0
1963	31	0	0	0	0	0	0	0	0	0	0	0	0
1964	31	0	0	0	0	0	0	0	0	0	0	0	0
1965	31	0	0	0	0	0	0	0	0	0	0	0	0
1966	31	0	0	0	0	0	0	0	0	0	0	0	0
1967	31	0	0	0	0	0	0	0	0	0	0	0	0
1972	67	0	0	0	67	0	0	67	67	67	0	0	0
1973	67	0	0	0	67	0	0	67	67	67	0	0	0
1974	67	0	0	0	67	0	0	67	67	67	0	0	0
1975	67	0	0	0	67	0	0	67	67	67	0	0	0
1976	67	0	0	0	67	0	0	67	67	67	0	0	0
1977	67	0	0	0	67	0	0	67	67	67	0	0	0
1978	67	0	0	0	67	0	0	67	67	67	0	0	0
1979	67	0	0	0	67	0	0	67	67	67	0	0	0
1980	67	0	0	0	67	0	0	67	67	67	0	0	0
1981	67	0	0	0	67	0	0	67	67	67	0	0	0
1982	67	0	0	0	67	0	0	67	67	67	0	0	0
1983	67	0	0	0	67	0	0	67	67	67	0	0	0

TABLE C.48 Escapement Data Sources for Hatchery Fish: Chinook -- Fall Bright

Hatchery	Year																			
	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Priest Rapids	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55	55	55	55	0

TABLE C.49 Escapement Data Sources for Hatchery Fish: Chinook -- Fall

Hatchery	Year																		
	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943
Abernathy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Big Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bonneville Pool Hatcheries	0	0	0	0	0	0	0	0	0	0	0	0	0	21	21	21	21	21	21
Cowlitz Salmon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Elokomin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grays River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kalama Falls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Klaskanine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Klickitat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Little White Salmon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L. Columbia w/o Willamette	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lower Columbia Hatcheries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lower Kalama	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Middle Columbia Hatcheries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Priest Rapids	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ringold Salmon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spring Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Toutle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Upper Columbia Hatcheries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Washougal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE C.49 (Cont'd)

	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Abernathy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Big Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bonneville Pool Hatcheries	21	21	21	21	21	21	21	21	21	21	21	21	21*	21*	21*	21*	21*	21*	21*	21*
Cowlitz Salmon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Elokomin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grays River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kalama Falls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Klaskanine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Klickitat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Little White Salmon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L. Columbia w/o Willamette	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
Lower Columbia Hatcheries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21*	21*	21*	21*	21*
Lower Kalama	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Middle Columbia Hatcheries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
Priest Rapids	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ringold Salmon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spring Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Toutle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Upper Columbia Hatcheries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Washougal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE C.49 (Cont'd)

Hatchery	Year																			
	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Abernathy	0	0	0	8	0	6	0	0	0	0	6	6	6	6	6	6	6	6	6	0
Big Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55	55	55	55	0
Bonneville Pool Hatcheries	21*	21*	21*	21*	21*	55*	55*	55*	55*	55*	55*	55*	55*	55*	55*	55	55	55	55	0
Cowlitz Salmon	0	0	0	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0
Elokomln	0	8	0	0	6	6	6	6	6	6	6	6	6	6	6	8	6	6	6	0
Grays River	0	0	0	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0
Kalama Falls	8	0	0	8	6	0	0	0	0	0	6	8	6	6	6	6	6	6	6	0
Klaskanine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	55	55	55	55
Klickitat	0	0	0	0	8	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8
Little White Salmon	0	0	0	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
L. Columbia w/o Willamette	1	1	1	1	1	1*	1*	1*	1*	1*	1*	1*	1*	1*	1*	1*	1*	1*	1*	8
Lower Columbia Hatcheries	21*	21*	21*	21*	21*	21*	13*	13*	13*	13*	13*	13*	13*	13*	13*	13*	13*	13*	55*	2
Lower Kalama	0	0	0	0	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8
Middle Columbia Hatcheries	1	1	1	1	1	1	1*	1*	1*	1*	1*	1*	1*	1*	1*	1*	1*	1*	1*	0
Priest Rapids	0	0	0	0	0	0	0	0	0	6	6	6	6	6	6	6	6	6	6	0
Ringold Salmon	8	0	0	0	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0
Spring Creek	0	0	0	0	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0
Toutle	0	0	0	0	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0
Upper Columbia Hatcheries	0	0	0	0	6	0	13	13	13	13	13	13	13	13	13	13	13	13	0	0
Washougal	0	0	0	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0

TABLE C.50 Escapement Data Sources for Hatchery Fish: Chinook — Spring

Ha	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Carson	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cowlitz Salmon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cowlitz Trout	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Dexter Pond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Entiat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Kalama Falls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Klickitat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Leavenworth	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Lewis River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Little White Salmon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
L. Columbia w/o Willamette	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Lower Columbia Hatcheries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Marion	0	0	0	0	0	0	0	0	0	0	77*	77*	77*	77*	77*	77*	77*	77*	77*	
McKenzie	0	0	0	0	0	0	0	0	0	0	77*	77*	77*	77*	77*	77*	77*	77*	77*	
Middle Columbia Hatcheries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Oakridge	0	0	0	0	0	0	0	0	0	0	77	77	77	77	77	77	77	77	77	
Ringold Salmon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Round Butte	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
S. Santiam	0	0	0	0	0	0	0	0	0	0	77*	77*	77*	0	0	0	0	0	0	
Speelyai	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Upper Columbia Hatcheries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Winthrop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

TABLE C.50 (Cont'd)

Hatchery	Year																		
	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
Carson					6	6*	6*	6*	6*	6*	6*	6*	6*	6*	6*	6*	6*	6*	6
Cowlitz Salmon	0	0	0	0	77*	76*	76*	77*	76*	76*	77*	77*	77*	77*	77*	77*	0	0	0
Cowlitz Trout	8	0	8	0	8	0	0	8	0	0	8	6	6	6	6	6	6	6	0
Dexter Pond												0	0	55	55	0	0	55	0
Entiat	0	0	0	D	0	0	0	0	0	0	D	D	0	0	6	6	6*	6	0
Kalama Falls	0	0	D	0	76*	76*	76*	76*	77*	77*	76*	77*	77*	77*	77*	77*	6	6	6
Klickitat	0	8	8	8	6	6	6	6	8	6	6	6	6	6	6	6	6	6	0
Leavenworth												6	6	6	6	55*	55*	55*	6
Lewis River	0	0	0	0	D	0	0	0	0	0	0	6	6	6	6	6	6	6	0
Little White Salmon	0	8	0	0	6	55*	55*	55*	55*	55*	55*	55*	55*	55*	55*	55*	55*	55*	6
L. Columbia w/o Willamette	0				D	0	2	2	2	2	2	2	2	2	2	2	2	2	0
Lower Columbia Hatcheries	0	0	0	0	0	55	13*	13*	13*	13*	13*	13*	13*	13*	13*	13*	13*	13*	2
Marion	77*	77*	77*	77*	77*	77*	77*	77*	77*	77*	77*	77	77	77	77*	55	55	0	55
McKenzie	0	0	0	0	0*	75*	75*	75*	75*	75*	75*	77	77	55*	55*	55	55	55	0
Middle Columbia Hatcheries	77	77	77	77	77	77	77	77	77	77	77	13*	13*	13*	13*	13*	13*	2	0
Oakridge	0	0			0	0	0	77	77	77	77	77	77	77	77	0	0	0	0
Ringold Salmon	0	0	8	0	0	0	0	0	0	0	8	6	6	6	6	6	6	6	0
Round Butte	0				0			0	0	0	0	0	0	55	55	55	55	55	0
S. Santiam	0	0	77	70	377	36*	77*	77*	77*	77*	77*	77	77	55*	55*	55	55	55	0
Speelyai					0	0					36*	36*	36*	36*	36*	36*	0	0	0
Upper Columbia Hatcheries	0	0	D	0	0	0	13	13	13	13	13	13	13	13	13	13	13	0	
Winthrop	0	0	0	0	0	0	0	0	0	0	D	0	D	6	6	6	6*	6	

106

TABLE C.51 Escapement Data Sources for Hatchery Fish: Chinook – Summer

TABLE C.52 Escapement Data Sources for Hatchery Fish: Coho -- Race Unknown

Hatchery	Year																		
	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963
All Columbia Hatcheries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	31	31
Cowlitz Salmon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6
Elokomin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6
Grays River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6
Kalama Falls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6
Klickitat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6
Lewis River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Little White Salmon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L. Columbia w/o Willamette	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lower Columbia Hatcheries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
Lower Kalama	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6
Middle Columbia Hatcheries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ringold Salmon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6
Speelya!	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6
Toutle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6
Upper Columbia Hatcheries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Washougal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	6

Hatchery	Year																		
	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
All Columbia Hatcheries	31	31	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cowlitz Salmon	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0
Elokomin	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0
Grays River	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0
Kalama Falls	6	6	6	6	6	6	6	6	6	0	0	0	0	0	0	0	0	0	0
Klickitat	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0	0	0	0
Lewis River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	0
Little White Salmon	0	0	0	0	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0
L. Columbia w/o Willamette	0	0	0	0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	0
Lower Columbia Hatcheries	1	1	1	1	1	1	2*	2*	2*	2*	2*	2*	2*	2*	2*	2*	2*	2*	0
Lower Kalama	6	6	6	6	6	6	6	6	6	0	0	0	0	0	0	0	0	0	0
Middle Columbia Hatcheries	0	0	0	0	0	0	2*	2*	2*	2*	2*	2*	2*	2*	2*	2*	2*	2	0
Ringold Salmon	6	6	6	6	6	6	6	6	6	0	0	0	0	0	0	0	0	0	0
Speelya!	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0
Toutle	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0	0	0
Upper Columbia Hatcheries	0	0	0	0	0	0	13	13	13	13	13	13	13	13	13	13	13	0	0
Washougal	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0

TABLE C.53 Escapement Data Sources for Hatchery Fish: Steelhead — Summer

	Year																			
Hatchery	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Skamania	0	D	0	D	D	D	D	D	0	D	D	0	0	39	39	39	39	39	39	39
Hatchery	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Skamania	39	39	39	39	39	39	39	39	39	39	39	39	39	39	0	0	0	D	0	0

TABLE C.54 Escapement Data Sources for Hatchery Fish: Steelhead – Winter

Hatchery	Year																			
	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Big Creek	0				0	0	0	0	0	0	0	0	0	0	0	21	21	21	21	21
Eagle Creek	0	8	8	8	0	0	0	0	0	0	0	0	21	21	21	21	21	21	21	21
El okoml n	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kl askanfne	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	21	21
Marion	8	0	8	0	0	0	0	0	0	8	0	8	8	8	0	0	0	0	0	0
Skamanla	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	D	0	0	0	0

Hatchery	Year																			
	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Big Creek	21	21	21	21	21	21	21	21	21	21	0	0	0	0	0	0	0	0	0	0
Eagle Creek	21	21	21	21	21	21	21	21	21	21	8	0	0	0	0	0	0	0	0	0
El okoml n	0	0	0	0	0	0	0	0	0	0	0	D	53	53	53	53	53	53	53	53
Kl askani ne	8	21	21	21	21	21	21	21	21	21	0	0	0	0	0	0	0	0	0	0
Marion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	53	8	8	0	8
Skamanla	0	8	0	0	0	53	53	53	53	53	53	53	53	53	53	53	53	0	0	0

TABLE C.55 Escapement Data Sources for Hatchery Fish: Steelhead Race Unknown

Hatchery	Year																		
	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
Dworshak	0	0	0	0	0	0	0	67	67	67	67	67	67	67	67	67	67	≤7	0

TABLE C.56 Dam Count Data Sources: Chinook — Fall Bright

YEAR	Segment																	
	WIFA	BONN	DALL	JODA	MCNA	PRRA	WANA	ROIS	RORE	WELL	ICHA	LOMO	LIGO	LOGR	HECA	OXBO	BROW	OTHR
1971	0	2	0	0	2*	0	0	0	0	0	2	0	2	0	0	0	0	0
1972	0	2	0	0	2*	0	0	0	0	0	2	0	2	0	0	0	0	0
1973	0	2	0	0	2*	0	0	0	0	0	2	0	2	0	0	0	0	0
1974	0	2	0	0	2*	0	0	0	0	0	2	0	2	0	0	0	0	0
1975	0	2	0	0	2*	0	0	0	0	0	2	0	2	0	0	0	0	0
1976	0	2	0	0	2*	0	0	0	0	0	2	0	2	0	0	0	0	0
1977	0	2	0	0	2*	0	0	0	0	0	2	0	2	0	0	0	0	0
1978	0	2	0	0	2*	0	0	0	0	0	2	0	2	0	0	0	0	0
1979	0	2	0	0	2*	0	0	0	0	0	2	0	2	0	0	0	0	0
1980	0	2	0	0	2*	0	0	0	0	0	2	0	2	0	0	0	0	0
1981	0	2	0	0	2*	0	0	0	0	0	2	0	2	0	0	0	0	0
1982	0	2	0	0	2*	0	0	0	0	0	2	0	2	0	0	0	0	0
1983	0	2	0	0	2	0	0	0	0	0	2	0	2	0	0	0	0	0

TABLE C.57 Dam Count Data Sources: Chinook — Fall

YEAR	Segment																	
	WIFA	BONN	DALL	JODA	MCNA	PRRA	WANA	ROIS	RORE	WELL	ICHA	LOMO	LIGO	LOGR	HECA	OXBO	BROW	OTHR
1938	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1939	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1940	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1941	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1942	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1943	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1944	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1945	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1946	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1947	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1948	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1949	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1950	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32
1951	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32
1952	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14*	
1953	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14*
1954	0	14*	0	0	14*	0	0	0	0	0	0	0	0	0	0	0	0	14*
1955	73	14*	0	0	14*	0	0	0	0	0	0	0	0	0	0	0	0	14*
1956	73	14*	0	0	14*	0	0	0	0	0	0	0	0	0	0	0	0	14*
1957	73	14*	14	0	14*	0	0	0	0	0	0	0	0	0	0	0	14	14
1958	73	14*	14	0	14*	0	0	0	0	0	0	0	0	0	0	0	0	14*
1959	73	14*	14	0	14*	0	0	0	0	0	0	0	0	0	0	0	0	14*
1960	73	1*	14	0	14*	21 ⁺	0	0	0	0	0	0	0	0	0	0	14	0
1961	0	1*	14	0	14*	3 ⁺	0	0	0	0	0	0	0	0	0	0	14	0
1962	0	1*	3*	0	14*	3 ⁺	0	0	0	0	14*	0	0	0	0	0	14	0
1963	0	1*	3*	0	14*	3 ⁺	0	0	0	0	14*	0	0	0	0	0	14	0
1964	0	1*	3*	0	14*	3 ⁺	0	0	0	0	14*	0	0	0	0	0	14	0
1965	73	1*	3*	0	14*	3 ⁺	0	0	0	0	14*	0	0	0	0	0	14	0
1966	73	1*	3*	0	14*	3 ⁺	0	0	0	0	14*	0	0	0	0	0	14	0
1967	73	1*	3*	0	14*	3 ⁺	0	0	25	14*	0	0	0	0	0	14	0	0
1968	73	1*	3*	3	14*	3 ⁺	0	0	25	14*	0	0	0	0	0	14	0	0
1969	73*	1*	3*	3	14*	3 ⁺	0	0	25	14*	1	0	0	0	0	14	0	0
1970	73*	1*	3*	3	14*	3 ⁺	0	0	25	14*	0	1	0	0	0	14	0	0
1971	73*	1*	3*	3	14*	3 ⁺	0	0	25	14*	0	1	13	14	0	0	0	14*
1972	73*	1*	3*	3	14*	3 ⁺	0	0	25	14*	0	1	13	14	0	0	0	14*
1973	73*	1*	3*	3	14*	3 ⁺	0	0	25	14*	0	1	13	14	0	0	0	33*
1974	73*	1*	3*	3	14*	3 ⁺	0	0	25	14*	0	1	13	14	0	0	0	33*
1975	73*	1*	3*	3	14*	3 ⁺	0	0	25	14*	0	0	14*	14	0	0	0	77*
1976	73*	2*	3*	3	14*	3 ⁺	0	0	25	14*	0	0	14*	14	0	0	0	77*
1977	73*	2*	3*	3	14*	3 ⁺	0	0	25	14*	0	0	14*	14	0	0	0	77*
1978	73*	2*	14	0	14*	77 ⁺	0	0	25	14*	0	0	14*	14	0	0	0	77*
1979	73*	2*	14	0	14*	63 ⁺	0	0	25	14	0	0	14*	14	0	0	0	74
1980	73	2*	14	0	14*	1 ⁺	0	0	25	14	0	0	14*	0	0	0	0	74
1981	73	2*	0	0	1	1 ⁺	0	0	25	0	0	0	1*	0	0	0	0	74
1982	0	2*	0	0	1	1 ⁺	0	0	25	0	0	0	1	0	0	0	0	0
1983	0	2*	0	0	1	1 ⁺	0	0	25	0	0	0	1	0	0	0	0	0
1984	0	0	0	0	0	63	0	0	25	0	0	0	0	0	0	0	0	0

TABLE C.58 Dam Count Data Sources: Chinook — Spring

YEAR	Segment																	
	WIFA	BONN	DALL	JODA	MCNA	PRRA	WANA	ROIS	RORE	WELL	TCHA	LOMO	LIGO	LOGR	HECA	OXBU	BROW	UTHR
1938	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
1939	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
1940	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
1941	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
1942	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
1943	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
1944	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
1945	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
1946	77*	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
1947	77*	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
1948	77*	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
1949	77*	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
1950	77*	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32*
1951	77*	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32*
1952	77*	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32*
1953	77*	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32*
1954	77*	11	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	32*
1955	77*	11	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	32*
1956	77*	11	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	23*
1957	77*	36*	11	0	11	0	0	0	0	0	0	0	0	0	0	0	0	23*
1958	77*	36*	11	0	11	0	0	11	0	0	0	0	0	0	0	0	0	23*
1959	77*	36*	11	0	11	0	0	11	0	0	0	0	0	0	0	0	0	23*
1960	77*	36*	11	0	11	63*	0	11	0	0	0	0	0	0	0	0	0	23*
1961	77*	36*	11	0	11*	63*	0	11	0	0	0	0	0	0	0	0	0	23*
1962	77*	36*	11	0	11*	63*	0	11	11	0	11*	0	0	0	0	0	0	16*
1963	77*	36*	11	0	11*	63*	0	11	11	0	11*	0	0	0	0	0	0	16*
1964	77*	36*	11	0	11*	63*	0	11	11	0	11*	0	0	0	0	0	0	16*
1965	77*	36*	11	0	11*	63*	0	11	11	0	11*	0	0	0	0	0	0	16*
1966	77*	36*	11	0	11*	63*	0	11	11	0	11*	0	0	0	0	0	0	16*
1967	77*	36*	11	0	11*	63*	0	11	11	25*	11*	0	0	0	0	0	0	23*
1968	77*	36*	11	11	11*	63*	0	0	11	25*	11*	0	0	0	0	0	0	23*
1969	77*	36*	11	11	11*	63*	0	0	11	25*	11*	1*	0	0	0	0	0	23*
1970	77*	36*	11	11	11*	63*	0	0	11	25*	11*	11	11*	0	0	0	0	23*
1971	77*	36*	11	11	11*	63*	0	0	11	25*	11*	11	11*	0	0	0	0	23*
1972	77*	36*	11	11	11	63*	0	0	11	25*	11*	11	11*	0	0	0	0	23*
1973	77*	36*	11	11	11	63*	0	11	11	25*	11*	11	11*	0	0	0	0	23*
1974	77*	36*	11	11	11	63*	0	11	11	25*	11*	11	11*	0	0	0	0	23*
1975	77*	36*	11	11	11	63*	0	11	11	25*	11*	11	11	11*	0	0	0	23*
1976	77*	36*	11	11	11	63*	0	11	11	25*	11*	11	11	11*	0	0	0	23*
1977	77*	36*	11	11	11	63*	0	11	11	25*	11*	11	11	11*	0	0	0	23*
1978	77*	36*	11	11	11	63*	0	11	11	25*	11*	11	11	11*	0	0	0	23*
1979	77*	11*	11	11	11	63*	0	11	11	25*	11*	11	11	11*	0	0	0	23*
1980	23*	11*	11	11	11	63*	0	11	11	25*	11*	11	11	11*	0	0	0	23
1981	23*	1*	0	0	0	63	0	0	25	1	0	0	1	0	0	0	0	23
1982	23	1*	0	0	0	63	0	0	25	1	0	0	1	0	0	0	0	23
1983	23	1*	0	0	0	63	0	0	25	1	0	0	1	0	0	0	0	23
1984	0	0	0	0	0	63	0	0	25	0	0	0	0	0	0	0	0	0

TABLE C.59 Dam Count Data Sources: Chinook — Summer

YEAR	WIFA	BONN	DALL	JODA	MCNA	PRRA	WANA	ROIS	RORE	WELL	Segment							
											ICHA	LOMO	LIGO	LOGR	HECA	OXBO	BROW	OTHR
1938	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1939	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1940	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1941	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1942	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1943	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1944	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1945	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1946	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1947	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1948	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1949	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1950	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4*
1951	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4*
1952	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4*
1953	0	21*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4*
1954	0	21*	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4*
1955	0	21*	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4*
1956	0	21*	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4*
1957	0	21*	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4*
1958	0	21*	4	0	0	4	0	0	0	4	0	0	0	0	0	0	0	4*
1959	0	21*	4	0	0	4	0	0	0	4	0	0	0	0	0	0	0	4*
1960	0	21*	4	0	0	4	63*	0	0	4	0	0	0	0	0	0	0	4*
1961	0	21*	4	0	0	16*	63*	0	0	4	0	0	0	0	0	0	0	4*
1962	0	21*	4	0	0	16*	16*	0	0	4	4	0	16*	0	0	0	0	4*
1963	0	21*	4	0	0	16*	16*	0	0	4	4	0	16*	0	0	0	0	4*
1964	0	21*	4	0	0	16*	16*	0	0	4	4	0	1*	0	0	0	0	4*
1965	0	21*	4	0	0	16*	16*	0	0	4	4	0	1*	0	0	0	0	4*
1966	0	21*	4	0	0	16*	16*	0	0	4	4	0	1*	0	0	0	0	4*
1967	0	21*	4	0	0	16*	16*	0	0	4	4	25*	1*	0	0	0	0	4*
1968	0	21*	4	4	16*	16*	0	0	0	4	4	25*	1*	0	0	0	0	4*
1969	0	21*	4	4	16*	16*	0	0	0	4	4	25*	1*	4*	0	0	0	77*
1970	0	21*	4	4	16*	16*	0	0	0	4	4	25*	1*	4	1*	0	0	77*
1971	0	2*	4	4	16*	16*	0	0	0	4	4	25*	1*	4	1*	0	0	77*
1972	0	2*	4	4	4	4	63*	0	0	4	4	25*	1*	4	1*	0	0	77*
1973	0	2*	4	4	4	4	63*	0	0	4	4	25*	1*	4	1*	0	0	77*
1974	0	2*	4	4	4	4	63*	0	0	4	4	25*	1*	4	1*	0	0	77*
1975	0	2*	4	4	4	4	63*	0	0	4	4	25*	1*	4	4	1*	0	77
1976	0	6*	4	4	4	4	63*	0	0	4	4	25*	1*	4	4	4	1*	77
1977	0	6*	4	4	4	4	63*	0	0	4	4	25*	1*	4	4	4	1*	77
1978	0	6*	4	4	4	4	63*	0	0	4	4	25*	1*	4	4	4	1*	77
1979	0	6*	4	4	4	4	63*	0	0	4	4	25*	1*	4	4	4	1*	77
1980	0	6*	4	4	4	4	4*	0	0	4	4	25*	1*	4	4	4	1*	0
1981	0	6*	0	0	0	0	1	0	0	0	0	25	1	1	1	1	1	0
1982	0	6*	0	0	0	0	1	0	0	0	0	25	1	1	1	1	1	0
1983	0	6*	0	0	0	0	1	0	0	0	0	25	1	1	1	1	1	0
1984	0	0	0	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0

TABLE C.60 Dam Count Data Sources: Chinook -- Race Unknown

YEAR	Segment																	
	WIFA	BONN	DALL	JODA	MCNA	PRRA	WANA	ROIS	RORE	WELL	ICHA	LOMO	LIGO	LOGR	HECA	OXBO	BROW	OTHR
1933	0	0	0	0	0	0	0	32*	0	0	0	0	0	0	0	0	0	0
1934	0	0	0	0	0	0	0	32*	0	0	0	0	0	0	0	0	0	0
1935	0	0	0	0	0	0	0	32*	0	0	0	0	0	0	0	0	0	0
1936	0	0	0	0	0	0	0	32*	0	0	0	0	0	0	0	0	0	0
1937	0	0	0	0	0	0	0	32*	0	0	0	0	0	0	0	0	0	0
1938	0	9	0	0	0	0	0	32*	0	0	0	0	0	0	0	0	0	0
1939	0	9	0	0	0	0	0	32*	0	0	0	0	0	0	0	0	0	0
1940	0	9	0	0	0	0	0	32*	0	0	0	0	0	0	0	0	0	0
1941	0	9	0	0	0	0	0	32*	0	0	0	0	0	0	0	0	0	0
1942	0	9	0	0	0	0	0	32*	0	0	0	0	0	0	0	0	0	0
1943	0	9	0	0	0	0	0	32*	0	0	0	0	0	0	0	0	0	0
1944	0	9	0	0	0	0	0	32*	0	0	0	0	0	0	0	0	0	0
1945	0	9	0	0	0	0	0	32*	0	0	0	0	0	0	0	0	0	0
1946	0	9	0	0	0	0	0	32*	0	0	0	0	0	0	0	0	0	0
1947	0	9	0	0	0	0	0	32*	0	0	0	0	0	0	0	0	0	0
1948	0	9	0	0	0	0	0	32*	0	0	0	0	0	0	0	0	0	0
1949	0	9	0	0	0	0	0	32*	0	0	0	0	0	0	0	0	0	0
1950	0	9	0	0	0	0	0	32*	0	0	0	0	0	0	0	0	0	0
1951	0	9	0	0	0	0	0	32*	0	0	0	0	0	0	0	0	0	0
1952	0	9	0	0	0	0	0	32*	0	0	0	0	0	0	0	0	0	0
1953	0	9	0	0	0	0	0	32*	0	0	0	0	0	0	0	0	0	0
1954	0	9	0	0	0	9	0	32*	0	0	0	0	0	0	0	0	0	0
1955	0	9	0	0	9	0	0	32*	0	0	0	0	0	0	0	0	0	0
1956	0	9	0	0	9	0	0	32*	0	0	0	0	0	0	0	0	0	0
1957	0	9	9	0	9	0	0	32*	0	0	0	0	0	0	0	0	0	0
1958	0	9	9	9	0	9	0	32*	0	0	0	0	0	0	0	0	0	0
1959	0	9	9	9	0	9	0	32*	0	0	0	0	0	0	0	0	0	0
1960	0	9	9	9	0	9	0	32*	0	0	0	0	0	0	0	0	0	0
1961	0	9	9	9	0	9	0	32*	0	0	0	0	0	0	0	0	0	0
1962	0	9	9	9	0	9	0	32*	0	0	9	0	0	0	0	0	0	0
1963	0	9	9	9	0	9	0	32*	0	0	9	0	0	0	0	0	0	0
1964	0	9	9	9	0	9	0	32*	0	0	9	0	0	0	0	0	0	0
1965	0	9	9	9	0	9	0	32*	0	0	9	0	0	0	0	0	0	0
1966	0	9	9	9	0	9	0	32*	0	0	9	0	0	0	0	0	0	0
1967	0	9	9	9	0	9	0	32*	0	25	9	0	0	0	0	0	0	0
1968	0	9	9	9	9	9	0	32*	0	25	9	0	0	0	0	0	0	0
1969	0	9	9	9	9	9	0	32*	0	25	9	0	0	0	0	0	0	0
1970	0	9	9	9	9	9	0	32*	0	25	9	0	0	0	0	0	0	0
1971	0	9*	9	9	9	9	0	32*	0	25	9	0	0	0	0	0	0	0
1972	0	9*	9	9	9	9	0	32*	0	25	9	0	0	0	0	0	0	0
1973	0	9*	9	9	9	9	0	32*	0	25	9	0	0	0	0	0	0	0
1974	0	9*	9	9	9	9	0	38	0	0	25	9	0	0	0	0	0	0
1975	0	9*	9	9	9	9	0	0	0	0	25	9	0	0	0	0	0	0
1976	0	9*	9	9	9	9	0	0	0	0	25	9	0	0	0	0	0	0
1977	0	9*	9	9	9	9	0	0	0	0	25	9	0	0	0	0	0	0

TABLE C.60 (Cont'd)

YEAR	WIFA	BONN	DALL	JODA	MCNA	PRRA	WANA	ROIS	RORE	WELL	Segment							
											ICHA	LOMO	LIGO	LOGR	HECA	OXBO	BROW	OTHR
1978	0	9*	9	9	9	0	0	0	0	25	9	9	9	9	0	0	0	0
1979	0	9*	9	9	9	9	0	0	9	25	9	9	9	9	0	0	0	0
1980	0	9*	9	9	9	9	0	0	9	25	9	9	9	9	0	0	0	0
1981	0	9*	9	9	9	9	0	0	9	25	9	9	9	9	0	0	0	0
1982	0	9*	9	9	9	9	0	0	9	25	9	9	9	9	0	0	0	0
1983	0	9*	9	9	9	9	0	0	9	25	9	9	9	9	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0

TABLE C.61 Dam Count Data Sources: Coho — Early

YEAR	WIFA	BONN	DALL	JODA	MCNA	PRRA	WANA	ROIS	RORE	WELL	Segment							
											ICHA	LOMO	LIGO	LOGR	HECA	OXBO	BROW	OTHR
1961	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
1962	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
1963	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16*
1964	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16*
1965	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16*
1966	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16*
1967	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16*
1968	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16*
1969	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16*
1970	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16*
1971	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16*
1972	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
1973	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6

TABLE C.62 Dam Count Data Sources: Coho — Late

YEAR	Segment																	
	WIFA	BONN	DALL	JODA	MCNA	PRRA	WANA	ROIS	RORE	WELL	ICHA	LOMO	LIGO	LOGR	HECA	OXBO	BROW	OTHR
1961	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
1962	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
1963	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6*
1964	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6*
1965	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6*
1966	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6*
1967	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6*
1968	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6*
1969	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6*
1970	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6*
1971	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6*
1972	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
1973	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6

TABLE C.63 Dam Count Data Sources: Coho — Race Unknown

YEAR	Segment																	
	WIFA	BONN	DALL	JODA	MCNA	PRRA	WANA	ROIS	RORE	WELL	ICHA	LOMO	LIGO	LOGR	HECA	OXBO	BROW	OTHR
1933	0	0	0	0	0	0	0	71*	0	0	0	0	0	0	0	0	0	0
1934	0	0	0	0	0	0	0	71*	0	0	0	0	0	0	0	0	0	0
1935	0	0	0	0	0	0	0	71*	0	0	0	0	0	0	0	0	0	0
1936	0	0	0	0	0	0	0	71*	0	0	0	0	0	0	0	0	0	0
1937	0	0	0	0	0	0	0	71*	0	0	0	0	0	0	0	0	0	0
1938	0	9	0	0	0	0	0	71*	0	0	0	0	0	0	0	0	0	0
1939	0	9	0	0	0	0	0	71*	0	0	0	0	0	0	0	0	0	0
1940	0	9	0	0	0	0	0	71*	0	0	0	0	0	0	0	0	0	0
1941	0	9	0	0	0	0	0	71*	0	0	0	0	0	0	0	0	0	0
1942	0	9	0	0	0	0	0	71*	0	0	0	0	0	0	0	0	0	0
1943	0	9	0	0	0	0	0	71*	0	0	0	0	0	0	0	0	0	0
1944	0	9	0	0	0	0	0	71*	0	0	0	0	0	0	0	0	0	0
1945	0	9	0	0	0	0	0	71*	0	0	0	0	0	0	0	0	0	0
1946	0	9	0	0	0	0	0	71*	0	0	0	0	0	0	0	0	0	0
1947	0	9	0	0	0	0	0	71*	0	0	0	0	0	0	0	0	0	0
1948	0	9	0	0	0	0	0	71*	0	0	0	0	0	0	0	0	0	0

TABLE C.63 (Cont'd)

YEAR	Segment																		
	WIFA	BONN	DALL	JODA	MCNA	PRRA	WANA	ROIS	RORE	WELL	ICHA	LOMO	LIGO	LOGR	HECA	OXBO	BROW	OTHR	
1949	0	9	0	0	0	0	0	71*	0	0	0	0	0	0	0	0	0	0	0
1950	0	9	0	0	0	0	0	71*	0	0	0	0	0	0	0	0	0	0	32
1951	0	9	0	0	0	0	0	71*	0	0	0	0	0	0	0	0	0	0	32
1952	0	9	0	0	0	0	0	71*	0	0	0	0	0	0	0	0	0	0	32
1953	0	9	0	0	0	0	0	71*	0	0	0	0	0	0	0	0	0	0	32
1954	0	9	0	0	9	0	0	71*	0	0	0	0	0	0	0	0	0	0	32
1955	73	9	0	0	9	0	0	71*	0	0	0	0	0	0	0	0	0	0	32
1956	73	9	0	0	9	0	0	71*	0	0	0	0	0	0	0	0	0	0	32
1957	73	9	9	0	9	0	0	71*	0	0	0	0	0	0	0	0	0	0	32
1958	73	9	9	0	9	0	0	71*	0	0	0	0	0	0	0	0	0	0	32
1959	73	9	9	0	9	0	0	71*	0	0	0	0	0	0	0	0	0	0	32*
1960	73	56*	9*	0	9	63	0	71*	0	0	0	0	0	0	0	0	0	0	32*
1961	73	56*	9*	0	9	63	0	71*	0	0	0	0	0	0	0	0	0	0	32*
1962	73	56*	9*	0	9	63*	0	71*	52*	0	56	0	0	0	0	0	0	0	32*
1963	73	56*	9*	0	9	63*	0	71*	52*	0	56	0	0	0	0	0	0	0	32*
1964	73	56*	9*	0	9	63*	0	71*	52*	0	56	0	0	0	0	0	0	0	32*
1965	73	56*	9*	0	9	63*	0	71*	52*	0	56	0	0	0	0	0	0	0	32*
1966	73	56*	9*	0	9	63*	0	37*	52*	0	56	0	0	0	0	0	0	0	32*
1967	73	56*	9*	0	56*	63*	0	37*	52*	25*	56	0	0	0	0	0	0	0	32*
1968	73	56*	9*	9*	56*	63*	0	37*	52*	25*	56	0	0	0	0	0	0	0	32*
1969	73	56*	9*	9*	56*	63*	0	37*	52*	25*	56	56	0	0	0	0	0	0	32*
1970	73	56*	9*	9*	56*	63*	0	37*	52*	25*	56	56	56	56*	0	0	0	0	32*
1971	73	56*	9*	9*	56*	63*	0	37*	52*	25*	56	56	56	56*	0	0	0	0	32*
1972	73	56*	9*	9*	56*	63*	0	37*	52*	25*	56	56	56	56*	0	0	0	0	32*
1973	73	56*	9*	9*	56*	63*	0	37*	52*	25*	56	56	56	56*	0	0	0	0	54
1974	73	56*	9*	9*	56*	63*	0	37*	52*	25*	56	56	56	56*	0	0	0	0	54
1975	73	56*	9*	9*	56*	63*	0	37*	52*	25*	56	56	56	56*	56	0	0	0	54
1976	73	56*	9*	9*	56*	63*	0	52*	52*	25*	56	56	56	56*	56	0	0	0	54
1977	73	56*	9*	9*	56*	63*	0	52*	52*	25*	56	56	56	56*	56	0	0	0	54
1978	73	56*	9*	9*	56*	63*	0	52*	52*	25*	56	56	56	56*	56	0	0	0	54
1979	73	56*	9*	9*	56*	63*	0	52*	9*	25*	56	56	56	56*	56	0	0	0	54
1980	73	2*	9	9	9	9*	0	0	9	25	0	0	9	0	0	0	0	0	54
1981	73	2*	9	9	9	9*	0	0	9	25	0	0	9	0	0	0	0	0	54
1982	0	2*	9	9	9	9*	0	0	9	25	0	0	0	0	0	0	0	0	54
1983	0	2*	9	9	9	9*	0	0	9	25	0	0	0	0	0	0	0	0	54
1984	0	0	0	0	0	63	0	0	0	25	0	0	0	0	0	0	0	0	0

TABLE C.64 Dam Count Data Sources: Chum – Race Unknown

TABLE C.65 Dam Count Data Sources: Pink — Race Unknown

YEAR	Segment																	
	WIFA	BONN	DALL	JODA	MCNA	PRRA	WANA	ROIS	RORE	WELL	ICHA	LOMO	LIGO	LOGR	HECA	OXBO	BROW	OTHR
1938	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1939	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1940	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1941	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1942	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1943	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1944	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1945	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1946	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1947	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1948	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1949	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1950	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1951	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1952	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1953	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1954	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1955	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1956	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1957	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1958	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1960	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1962	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1964	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1969	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1970	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1971	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1972	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1973	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1974	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1975	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1976	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1977	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1979	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1980	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1981	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1982	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE C.66 Dam Count Data Sources: Sockeye — Race Unknown

YEAR	Segment																	
	WIFA	BONN	DALL	JODA	MCNA	PRRA	WANA	ROIS	RORE	WELL	ICHA	LOMO	LIGO	LOGR	HECA	OXBO	BROW	OTHR
1933	0	0	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1934	0	0	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1935	0	0	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1936	0	0	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1937	0	0	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1938	0	21*	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1939	0	21*	0	0	0	0	0	57*	0	0	0	0	0	0	0	0	0	0
1940	0	21*	0	0	0	0	0	57*	0	0	0	0	0	0	0	0	0	0
1941	0	21*	0	0	0	0	0	57*	0	0	0	0	0	0	0	0	0	0
1942	0	21*	0	0	0	0	0	57*	0	0	0	0	0	0	0	0	0	0
1943	0	21*	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1944	0	21*	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1945	0	21*	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1946	0	21*	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1947	0	21*	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1948	0	21*	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1949	0	21*	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1950	0	21*	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1951	0	21*	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1952	0	21*	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1953	0	21*	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1954	0	21*	0	0	0	9	0	38*	0	0	0	57	0	0	0	0	0	0
1955	0	21*	0	0	0	9	0	38*	0	0	0	57	0	0	0	0	0	0
1956	0	21*	0	0	0	9	0	38*	0	0	0	57	0	0	0	0	0	0
1957	0	21*	9	0	0	9	0	38*	0	0	0	57	0	0	0	0	0	0
1958	0	21*	9	0	0	9	0	38*	0	0	0	57	0	0	0	0	0	0
1959	0	21*	9	0	0	9	0	38*	0	0	0	57	0	0	0	0	0	0
1960	0	1*	9	0	0	9	63	0	38*	0	0	0	57	0	0	0	0	0
1961	0	1*	9	0	0	9	63	0	38*	0	0	0	57	0	0	0	0	0
1962	0	1*	9	0	0	9	63	0	38*	0	0	0	57	0	0	0	0	0
1963	0	1*	9	0	0	9	63	0	38*	0	0	0	57	0	0	0	0	0
1964	0	1*	9	0	0	9	63	0	38*	0	0	0	57	0	0	0	0	0
1965	0	1*	9	0	0	9	63	0	38*	0	0	0	57	0	0	0	0	0
1966	0	37*	9	0	0	9	63	0	38*	0	0	0	57	0	0	0	0	0
1967	0	37*	9	0	0	9	63	0	38*	0	25	57	0	0	0	0	0	0
1968	0	37*	9	0	0	9	63*	0	38*	0	25	57	0	0	0	0	0	0
1969	73	37*	9	9	9	9	63*	0	38*	0	25	57	0	0	0	0	0	73
1970	73	37*	9	9	9	9	1	0	38*	0	25	57	0	9	0	0	0	73
1971	73	37*	9	9	9	9	1	0	38*	0	25	57	0	9	0	0	0	73
1972	73	37*	9	9	9	9	1	0	38*	0	25	57	0	9	0	0	0	73
1973	73	37*	9	9	9	9	1	0	38*	0	25	57	0	9	0	0	0	73
1974	73	37*	9	9	9	9	1	0	38*	0	25	57	0	9	0	0	0	73
1975	73	37*	9	9	9	9	1	0	38*	0	25	57	0	9	0	0	0	73
1976	73	1*	9	9	9	9	1	0	57	0	25	57	0	9	0	0	0	73

TABLE C.66 (Cont'd)

YEAR	WIFA	BONN	OALL	JODA	MCNA	PRRA	WANA	ROIS	RORE	WELL	Segment					HECA	OXBO	BROW	OTHR
											ICHA	LOMO	LIGO	LOGR					
1977	73	1*	9	9	9	1	0	57	0	25	57	0	9	0	0	0	0	73	
1978	73	1*	9	9	9	1	0	57	0	25	57	0	9	0	0	0	0	73	
1979	73	1*	9	9	9	9*	0	57	9	25	57	0	9	0	0	0	0	73	
1980	73	1*	9	9	9	63*	0	0	9	25	0	0	9	0	0	0	0	73	
1981	73	1*	9	9	9	63*	0	0	9	25	0	0	9	0	0	0	0	73	
1982	0	1*	0	0	9	63*	0	0	9	25	0	0	0	0	0	0	0	0	
1983	0	0*	8	8	8	63*	0	0	8	25	0	0	0	0	0	0	0	0	

TABLE C.67 Dam Count Data Sources: St head Summer

TABLE C.68 Dam Count Data Sources: S head Winter

YEAR	Segment															OTH ^R		
	WFA	BONN	DALL	JODA	MCNA	PRRA	WANA	ROIS	RORE	WELL	ICHA	LOMO	LIGO	LOGR	E A	XB ^c	BR ^c	
1953	21	0														0	0	0
1954	21	0														21	4	21
1955	73*	0														21	4	21
1956	73*	0														21	4	21
1957	73*	0														21	4	21
1958	73*	0														21	4	21
1959	73*	0														21	4	21
1960	73*	0														21	4	21
1961	73*	0														21	4	21
1962	73*	0														21	4	21
1963	73*	0														21	4	21
1964	73*	0														21	4	21
1965	73*	0														21	4	21
1966	73*	0														21	4	21
1967	73*	0														21	4	21
1968	73*	0														21	4	21
1969	73*	0														21	4	21
1970	73*	0														21	4	21
1971	73*	0														23	4	53
1972	73*	0														53		53
1973	73*	0														53		53
1974	73*	0														53		53
1975	73*	0														53		53
1976	73*	0														53		53
1977	73*	0														53		53
1978	73*	0														53		53
1979	73*	0														53		53
1980	73*	0														53		53
1981	73*	0														53		53
1982	53	0														53		53
1983	53	0														53		53
1984	53	0														53		53

TABLE C.69 Dam Count Data Sources: Steelhead -- Race Unknown

YEAR	Segment																	
	WIFA	BONN	DALL	JODA	MCNA	PRRA	WANA	ROIS	RORE	WELL	ICHA	LOMO	LIGO	LOGR	HECA	OXBO	BROW	OTHR
1933	0	0	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1934	0	0	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1935	0	0	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1936	0	0	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1937	0	0	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1938	0	9	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1939	0	9	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1940	0	9	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1941	0	9	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1942	0	9	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1943	0	9	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1944	0	9	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1945	0	9	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1946	0	9	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1947	0	9	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1948	0	9	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1949	0	9	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	0
1950	0	9	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	32
1951	0	9	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	32
1952	0	9	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	32
1953	0	9	0	0	0	0	0	38*	0	0	0	0	0	0	0	0	0	32
1954	0	9	0	0	0	9	0	38*	0	0	0	0	0	0	0	0	0	32
1955	0	9	0	0	9	0	0	38*	0	0	0	0	0	0	0	0	0	32
1956	0	9	0	0	9	0	0	38*	0	0	0	0	0	0	0	0	0	32
1957	0	9	9	0	0	9	0	38*	0	0	0	0	0	0	0	0	0	32
1958	0	9	9	9	0	9	0	38*	0	0	0	0	0	0	0	0	0	32
1959	0	9	9	9	0	9	0	38*	0	0	0	0	0	0	0	0	0	32
1960	0	9	9	9	0	9	63	0	38*	0	0	0	0	0	0	0	0	32
1961	0	9	9	9	0	9	63	0	38*	0	0	0	0	0	0	0	0	32
1962	0	9	9	9	0	9	63*	0	38*	0	0	9	0	0	0	0	0	32
1963	0	9	9	9	0	9	63*	0	38*	0	0	9	0	0	0	0	0	32
1964	0	9	9	9	0	9	63*	0	38*	0	0	9	0	0	0	0	0	32
1965	0	9	9	9	0	9	63*	0	38*	0	0	9	0	0	0	0	0	32
1966	0	9	9	9	0	9	63*	0	38*	0	0	9	0	0	0	0	0	32
1967	0	9	9	9	0	9	63*	0	38*	0	0	25	9	0	0	0	0	32
1968	0	9	9	9	9	9	63*	0	38*	0	25	9	0	0	0	0	0	32
1969	0	9	9	9	9	9	63*	0	38*	0	25	9	0	0	0	0	0	32
1970	0	9	9	9	9	9	37*	0	38*	0	25	9	0	0	0	0	0	32
1971	0	9	9	9	9	9	37*	0	38*	0	25	9	0	0	0	0	0	32
1972	0	9	9	9	9	9	37*	0	38*	0	25	9	0	0	0	0	0	0
1973	0	9	9	9	9	9	37*	0	38*	0	25	9	0	0	0	0	0	0
1974	0	9	9	9	9	9	37*	0	38*	0	25	9	0	0	0	0	0	0
1975	0	9	9	9	9	9	37*	0	38	0	25	9	0	0	0	0	0	0
1976	0	9	9	9	9	9	63	0	0	0	25	9	0	0	0	0	0	0
1977	0	9	9	9	9	9	63	0	0	0	25	9	0	0	0	0	0	0

TABLE C.69 (Cont'd)

YEAR	WIFA	BONN	DALL	JODA	MCNA	PRRA	WANA	ROIS	Segment									
									RORE	WELL	ICHA	LOMO	LIGO	LOGR	HECA	OXBO	BROW	OTHR
1978	0	0	0	0	0	0	0	0	0	25	9	9	9	9	0	0	0	0
1979	0	0	0	0	0	0	0	0	9	25	9	9	9	9	0	0	0	0
1980	0	0	0	0	0	0	0	0	9	25	9	9	9	9	0	0	0	0
1981	0	0	0	0	0	0	0	0	9	25	9	9	9	9	0	0	0	0
1982	0	0	0	0	0	0	0	0	9	25	9	9	9	9	0	0	0	0
1983	0	0	0	0	0	0	0	0	9	25	9	9	9	9	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0