

PROPOSED FORMATS FOR REQUESTING SALMONID DATA AND EXCHANGING  
BIOLOGICAL SAMPLES AMONG PARTIES OF THE NORTH  
PACIFIC ANADROMOUS FISH COMMISSION

by

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## ABSTRACT

A document of proposed formats for exchanges of salmonid biological samples and data was prepared by U.S. scientists for consideration by the Committee on Scientific Research and Statistics. Because access to historical data formats and information on present and future research needs was limited, the document is meant to serve only as a starting point for consideration of formats by the Committee. Proposed formats include those for notification and reporting, electronic records, historical and new data series, and for collection and exchange of biological samples including scales, molecular genetic and protein electrophoresis samples, parasites, salmonids lacking adipose fins, and high-seas tag release and recovery data. Appendices of some of the historical data forms and tables used to record and report catch, fishing effort, oceanographic, specimen examination, and tagging data are included for reference. The preparation of a manual of formats for standardized collection and exchange of data and biological samples is suggested.

## INTRODUCTION

The report of the Inaugural Meeting of the Committee on Scientific Research and Statistics (CSRS) states that "under interim term of reference (1)," which pertains to the review and coordination of the collection and exchange of scientific data and collection of specimens of anadromous species, "the Committee will develop a format for request for data exchanges for consideration at the 1993 Annual Meeting" (NPAFC 1993). This document of proposed formats for exchanges of biological samples and data was prepared by U.S. scientists for consideration by the Committee.

Our approach in preparing this document was to review the language of the Convention, as well as historical exchanges under bilateral and previous international agreements, to identify the types of data and biological samples that may be involved in future exchanges, and to suggest formats that would: (1) maintain continuity and consistency in long-term data series (for example, the high-seas tag and coded-wire tag recovery databases) and (2) lead to standardization of biological sample and data collection and reporting techniques for new data series. Because we do not have access to all historical data and formats, this document is limited in scope, and is meant to serve only as a starting point for consideration of formats by the Committee. In addition, because of recent changes in scientific research on anadromous salmonids in Convention waters, it is not possible to anticipate all present and future research needs.

## NOTIFICATION AND REPORTING

Requests for scientific data and exchanges of biological samples are to be made at the time of the Annual Meeting or through correspondence between the parties when research plans are completed. Requests made at the time of the annual meeting shall be listed in the Proceedings of the Annual Meeting. Copies of correspondence or documentation of all NPAFC-related sample and data requests and exchanges must be provided to the Secretariat. Documentation of exchanges provided to the Secretariat should include information on (1) date of exchange, (2) the names of the individuals and agencies sending and receiving the materials and data, and (3) the nature of the exchange. The Secretariat shall prepare a document for the Annual Meeting listing all material and data exchanges for the preceding year.

## ELECTRONIC RECORDS

Electronic records are data in a form that can be read and processed by a computer. Because of the relative ease of transfer of information, the exchange of electronic records stored on magnetic tape, floppy disks, tape

cartridges, or optical disks or other electronic media is often desirable. Fulfillment of requests for electronic data, however, may not always be possible because of limited access to computers, insufficient funds for computer data entry, lack of international standardization of computer hardware and operating systems, and unresolved legal, professional, and ethical questions about access to and use of electronic databases. Exchange of electronic records should be encouraged within the limits agreed to by the Parties involved, however, it is beyond the scope of this document to propose data formats for electronic records. In general, ASCII files of data in a fixed format should be accompanied by a documentation file explaining the data format.

#### FORMATS FOR HISTORICAL DATA SERIES

To maintain the continuity of historical databases, we propose the continued use of historical data formats, until the CSRS agrees to propose new or revised formats. Appendices to this document include examples of historical data forms and tables used to record and report high seas catch, fishing effort, and oceanographic data (Appendix A), specimen examination data (Appendix B), and tagging data (Appendix C). Because we do not have access to all historical data records and forms, these are meant to provide only an example of the types of data formats that have been used in the past. It should, however, be useful to members of the Committee to refer to these appendices when making requests for data recorded in historical formats.

#### FORMATS FOR NEW DATA SERIES

For new data series, we propose the following general recommendations:

1. *Units of Measure.* All quantities must be expressed in metric units. If measures are converted from other units, information on the method of conversion and conversion factors should be supplied with the data.
2. *Order of Reporting Species in Data Records and Tables.* For data records and tables that include multiple species, the order of listing of species must be as follows:
  1. *Oncorhynchus nerka* - sockeye salmon
  2. *Oncorhynchus keta* - chum salmon
  3. *Oncorhynchus gorbuscha* - pink salmon
  4. *Oncorhynchus kisutch* - coho salmon
  5. *Oncorhynchus tshawytscha* - chinook salmon
  6. *Oncorhynchus masou* - masu salmon
  7. *Oncorhynchus mykiss* - steelhead trout
  8. *Salvelinus malma* - Dolly Varden

This order of listing species conforms to the order of listing in many historical databases.

3. *Age Designation.* Age of anadromous fish caught in Convention waters should be designated by the European formula, whereby years in freshwater and years in the ocean are separated by a decimal point. For example, 1.2 is used to designate the age of a fish that spent one year in freshwater and two years in the ocean. All anadromous fish caught in Convention waters automatically become one year older on January 1, regardless of whether or not an annual mark is present on scales, otoliths, or other body parts used to determine age.

4. *Length Measurement.* Body length of salmonids caught migrating to sea or caught at sea should be measured in a straight line from the tip of the snout to the fork of the tail (TSFT length) and recorded in millimeters. Body

length of spawning salmonids should be measured in a straight line from the middle of the eye to the fork of the tail (MEFT).

5. *Sex Designation.* In historical databases, codes used to designate sex have varied. For example, the Fisheries Agency of Japan has used the codes: 1=female, 2=male. The Fisheries Research Institute, University of Washington, and the Alaska Department of Fish and Game have used the codes: 1=male, 2=female. Because codes used to designate sex are varied, they should be clearly defined on all data forms.

6. *Body Weight.* Round body weight should be recorded in whole grams. If weight was estimated from length, information on the length-weight relationship should be noted.

7. *Gonad Weight.* Gonad weight, which can be used to indicate whether or not the fish would have reached maturity in the year of sampling, should be recorded in whole grams for fish caught in Convention waters.

The Committee may wish to consider the addition of other general recommendations to this list.

#### FORMATS FOR COLLECTION AND EXCHANGE OF BIOLOGICAL SAMPLES

Many exchanges of biological samples and data are likely to be concerned with materials for stock identification research. In this document formats are suggested for collection and exchanges of scale samples, samples for molecular genetic analysis and protein electrophoresis, parasite samples, information on fish lacking adipose fins, and high-seas tag recovery information. In this section, "baseline" refers to samples, preferably collected from adult fish on the spawning grounds, that will be used to identify fish in mixed-stock samples. Requests for baseline samples should include specific information on which stocks are to be sampled (for example, species, region, and river). Desired level of time and area stratification should be indicated in requests for mixed-stock samples. The Party making the request should provide materials for sample collection, labels, storage, and shipping, if necessary. The best method of shipping samples should be determined beforehand by the parties involved.

##### Scale Samples

*Body Area of Scale Collection.* Samples of scales should be collected from the NPFC preferred area (formerly called the International North Pacific Fisheries Commission (INPFC) preferred area) of the body (Area A, Fig. 1). The preferred area is easily located as the point on an imaginary line drawn from the posterior insertion of the dorsal fin to the anterior insertion of the anal fin in the second row of scales above (or below) the lateral line on the left side of the fish. If more than one scale is collected from each fish (see recommendation below), these scales should be taken from slightly different places within the preferred area, and, if possible, from both the left and right sides of the body to reduce the probability that all of the scales collected will be regenerated. If scales are collected from a different area of the body than Area A, this should be designated as "B" or "C" on data records (see Area B and Area C, Fig. 1).

*Preferred Method of Sample Preservation and Exchange.* The preferred method of exchange of samples is by acetate impressions of scales mounted on gummed cards. If the materials, equipment, or personnel needed to make acetate impressions are not available, scales mounted on gummed cards or original scale samples stored in coin envelopes or between pieces of paper should be loaned or exchanged.

*Collection of Baseline Samples.* Baseline samples should be collected from adult salmon caught in terminal fisheries or on the spawning grounds.

*Number of Scales to Collect.* If only a few fish are sampled, we recommend the collection of five or six scales from each fish. If a large number of fish are to be sampled (for example, greater than ten fish), then only two scales may be collected from each fish. Coho and chinook salmon and steelhead trout tend to have a higher rate of scale loss than sockeye, chum, and pink salmon. We recommend collecting five or six scales from coho and chinook salmon and steelhead trout whenever possible.

*Sample Sizes.* For baseline data, we recommend sample sizes of at least 200 fish per stock. For mixed-stock samples, we recommend a minimum sample size of at least 100 fish for each time and area stratum to be analyzed.

*Accompanying Biological and Catch Information.* Biological and catch data accompanying the samples should include sample date in an agreed format such as year, month, day, and location to the nearest minute of latitude and longitude, type of capture gear and haul number, scale card number, fish number (position of scales on card), body area of scale collection, species, length, weight, sex, and age. For baseline samples, associated run size (catch and escapement) data should be included. For mixed-stock samples, information on maturity or gonad weight should be included.

#### Samples for Molecular Genetic Stock Identification

*Sample Collection.* The preferred tissues for sampling are liver (first choice) or muscle (second choice). A 1.5 cm cube of tissue is sufficient. If fish are to be released alive, a fin clip or blood sample can be taken. If blood is sampled, the sample should be centrifuged and the blood cells preserved. Extreme care should be taken to avoid cross contamination between samples, especially with small samples such as blood or fin clips. Clean knives and dissecting equipment by rinsing in water or wiping off. Baseline samples should be collected from adult salmon on the spawning grounds, or, if adult salmon are not numerous, from smolts or parr on the spawning grounds.

*Sample Preservation.* The optimum method of sample preservation is to freeze immediately at  $-85^{\circ}\text{C}$ . If immediate freezing is not possible, samples can be preserved in 95% ethanol.

*Accompanying Biological and Catch Information.* Biological and catch data accompanying the samples should include species, sample date in an agreed format such as year, month, day, location to the nearest minute of latitude and longitude and hemisphere, type of capture gear and haul number, length, weight, sex, and age. If the fish are from mixed fishery samples, information on maturity or gonad weight is also useful.

*Sample Sizes.* For baseline samples, we recommend 100 fish per stock (50% males, 50% females). Mixed-stock fishery samples should number at least 100 fish per time and area stratum to be analyzed.

#### Samples for Protein Electrophoresis

*Sample Collection.* The tissues required from each fish are muscle, heart, liver, and eye (whole eye or retina). A 2.5 cm cube of tissue is sufficient. Baseline samples should be collected from adult salmon on the spawning grounds, or, if adult salmon are not numerous, from smolts or parr on the spawning grounds.

*Sample Preservation.* The method of sample preservation is to freeze immediately at  $-85^{\circ}\text{C}$ .

*Accompanying Biological and Catch Information.* Biological and catch data accompanying the samples should include species sample date in an agreed format such as year, month, day, location to the nearest minute of latitude and longitude and hemisphere, type of capture gear and haul number, length, weight, sex, and age. If the fish are from mixed fishery samples, information on maturity or gonad weight is also useful.

*Sample Sizes.* For baseline samples, we recommend a sample size of 100 fish per stock. Mixed-stock fishery samples should number at least 100 fish per time and area stratum to be analyzed.

#### Samples for Parasite Studies

Because sample collection procedures will vary depending on the species of parasite that is to be sampled, no specific recommendations for collection of parasite samples are presented in this report. Parties requesting parasite samples should provide a detailed description of sample procedures and method of preservation.

#### Fish Lacking Adipose Fins

Some North American fisheries agencies identify salmonids by inserting a coded-wire tag into the snout of fingerling salmonids. These wire-tagged salmonids are marked by clipping their adipose fins. Snouts should be collected from all salmonids lacking the adipose fin that are found during experimental, research, or commercial fishing operations in the Convention area.

*Sample Collection.* Remove the snout by cutting well behind the eye (Fig. 1), salt the snout liberally, attach a completed data label to the snout (see below for a description of required data), and seal it in a plastic bag. After a few days, drain off any accumulated liquid, rinse the snout in water and resalt it. Repeat the draining and resalting as needed. The sample snout should have little odor. The label should be filled out in pencil. A scale sample should also be collected, and the scale card number and position of scales on the card should be noted on the tag (see above description of scale sample collection).

*Accompanying Biological Data.* Data to accompany the snout samples should include species, recovery date (year, month, and day), recovery location (degrees and minutes latitude and longitude), TSFT length (mm), body weight (g), gonad weight (g), sex, type of capture gear and haul number, recovery vessel name and type of fishery, name of collector, and description of any additional marks or missing fins. These data should be written in pencil on a waterproof label attached to the snout. In addition, a listing of the data on paper in the format shown in Table 1 should be provided. If possible, data in the same format should be provided on a MS/DOS IBM-compatible diskette.

*Shipment of Samples.* Snout samples and accompanying data should be shipped to the High-Seas Salmonid Program, U.S. National Marine Fisheries Service, Alaska Fisheries Science Center, Auke Bay Laboratory, 11305 Glacier Highway, Juneau, Alaska 99801-8626.

#### High-Seas Tag Release and Recovery Data

Release data on all anadromous fish tagged in Convention waters and information on recovery of high-seas tagged fish should be reported to the Commission by the Party that released the tagged fish. Data should be reported in the format shown in Table 2.

Recovered tags and accompanying data should be returned to the Party that released the tagged fish. If possible, a scale sample from the tagged fish should also be provided (see above description of scale sample collection).

*Accompanying Biological and Catch Data.* Accompanying biological and catch data should include species, tag number, recovery date (year, month, and day), recovery location (degrees and minutes of latitude and longitude and hemisphere), type of capture gear and haul number, age of fish, TSFT length (mm) sex, body weight, and the name or a description of the geographic location of the recovery area (stream, river, bay, city, district, state, province, prefecture, or region). High-seas recoveries should include a description of the fishery or vessel that recovered the tagged fish (for example, "Oshoro maru, Hokkaido University salmon research vessel").

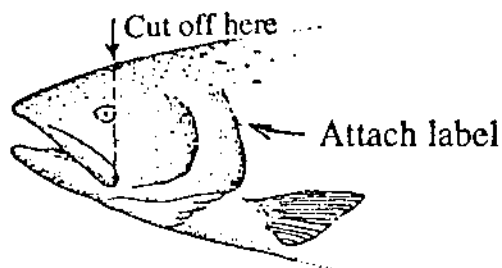
#### GUIDELINES FOR THE COMMITTEE

We suggest that the Committee carefully review historical data formats and procedures for scientific exchange and collection of biological samples, and provide suggestions for updates, revisions, and improvements, if necessary. The Committee should also consider immediate and future needs for exchanges and suggest appropriate additions and changes to formats proposed in this document. In addition, we propose that the CSRS consider the preparation of a NPAFC manual of formats for standardized collection and exchange of data and biological samples, which could be updated periodically. This would provide official documentation of formats and could serve as a guideline for scientists and technicians involved in collecting and preparing samples and data for exchange.

#### REFERENCES

- Dahlberg, M., S. Fowler, N. Maloney, and R. Heintz. 1991. Incidence of coded-wire tagged salmonids in commercial and research catches in the North Pacific Ocean and Bering Seas, 1990-1991. (Document submitted to the Annual Meeting of the International North Pacific Fisheries Commission, Tokyo, Japan, October 1991.) Auke Bay Laboratory, Alaska Fisheries Science Center, NMFS, NOAA, 11305 Glacier Highway, Juneau, AK 99801-8626. 17 p.
- North Pacific Anadromous Fish Commission. 1993. Report of the Committee on Scientific Research and Statistics. NPAFC Doc. 10. North Pacific Anadromous Fish Commission. Vancouver, B.C. Canada. V6T 1X2. 7 p.
- Ogura, M. 1991. Release data for Japanese salmon tagging experiments in 1991 and recovery data up to August, 1991. 24 p. (Document submitted to the Annual Meeting of the International North Pacific Fisheries Commission, Tokyo, Japan, October 1991). National Research Institute of Far Seas Fisheries, Shimizu, Shizuoka 424, Japan.

(1) Sampling snouts from salmonids lacking the adipose fin.



(2) Area of body of fish for scale collection.

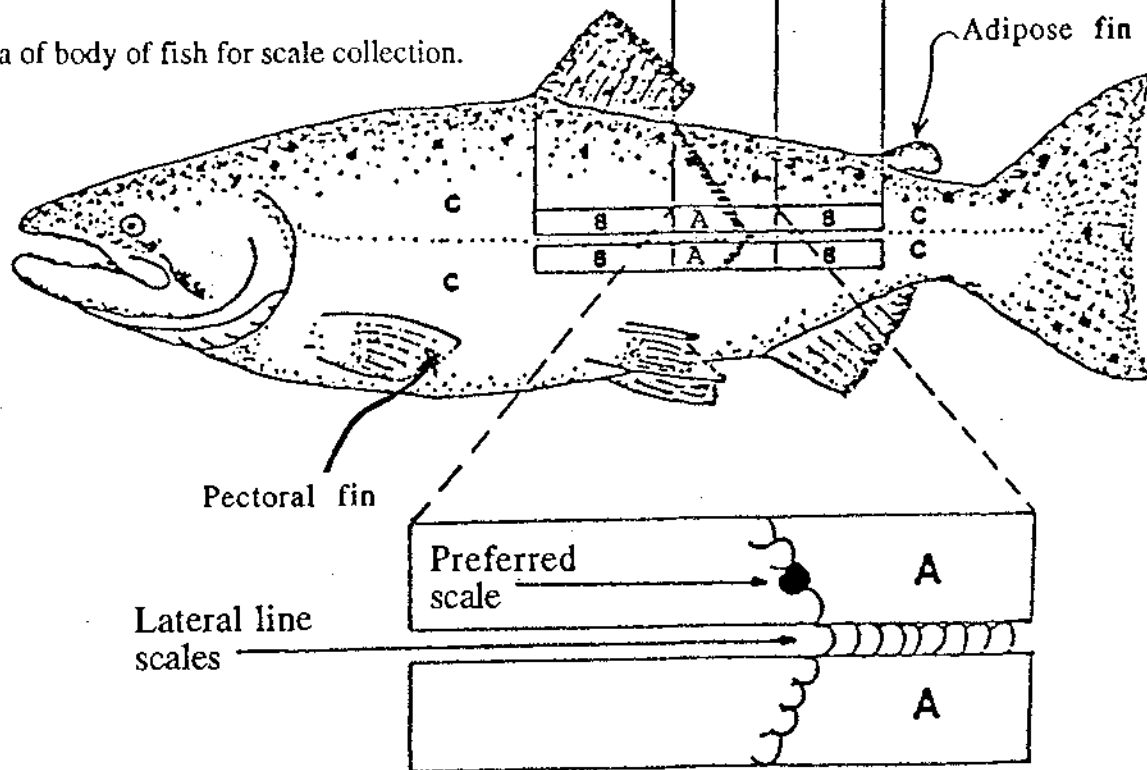


Figure 1. Diagrams showing (1) method for sampling snouts from salmonids lacking the adipose fin and (2) the area of the salmonid's body designated as the North Pacific Anadromous Fish Commission (NPAFC) "preferred" area for collection of scales (Area A). Whenever possible, scales should be taken from Area A. Note the location of the "preferred" scale in the second row of scales above the lateral line. Never collect lateral line scales. If there are no scales in Area A, then collect scales from area B. If there are no scales in Area B, then collect scales from Area C. Scales from Area C should be taken from scale rows as close as possible to areas A and B and the lateral line. If there are no scales in areas A, B, or C, collect scales from under the pectoral fin as close to the tip of the fin as possible. Note the body area of scale collection (A, B, C, or pectoral fin) on sample and data forms.



Table 1. Format of recovery information to be provided with snout samples collected from salmonids lacking the adipose fin (from Table 9, Dahlberg et al. 1991). Information on type of capture gear and haul number, recovery vessel name and type of fishery, and name of collector, and a description of any additional marks or missing fins should also be provided.

RECOVERY												
DATE	LAT		LONG		LENGTH	BODY	GONAD	SEX	GEAR	SPECIES		
	D	M	D	M	TSFT (mm)	WT (g)	WT (g)					
900504	47	58	N	125	18	W	530	1600		M	TRAWL	COHO
900802	44	08	N	158	06	W	850		15	M	SODGILL	STEELHEAD
900811	45	46	N	152	6	W	940	6130			SODGILL	STEELHEAD
900616	43	33	N	175	40	E	720	3600	3	M	RESLLINE	STEELHEAD
900811	45	46	N	152	6	W	640	2750			SODGILL	STEELHEAD
900716	47	30	N	170	0	E	580	1740	3	M	RESGILL	STEELHEAD
900816	45	36	N	160	14	W	670	4000		M	SODGILL	STEELHEAD
900711	55	54	N	142	4	W	658	2900	60	F	RESGILL	STEELHEAD
900706	53	4	N	152	0	W	590	2200	20	M	RESGILL	STEELHEAD
900614	44	29	N	175	29	E	758	4700	9	M	RESLLINE	STEELHEAD

Table 2. Format of (a) release and (b) recovery data for anadromous fish tagged in Convention waters (from Tables 1 and 2, Ogura 1991).

(a) Tag release data.

Vessel name	Release		Number of longline (Hachi)	Number of fish caught					Number of fish released					Type of tag & tag No. (Missing tag No.)					
	No.	Date		Position	Sock	Chum	Pink	Coho	Chin	head	Total	Sock	Chum		Pink	Coho	Chin	head	Total
910101 Waka-shio maru	1	7.23	4535N 15200E	20	4	0	214	0	0	0	218	2	0	65	0	0	0	67	Disc.BB2101~BB2167
	2	7.23	4555N 15130E	10	0	1	45	0	0	0	46	0	0	21	0	0	0	21	Disc.BB2168~BB2188
	3	7.24	4615N 15200E	10	0	2	20	0	0	0	22	0	0	5	0	0	0	5	Disc.BB2188~BB2194
	4	7.25	4555N 15230E	16	1	1	77	1	0	0	80	1	0	42	0	0	0	43	Disc.BB2195~BB2237
	5	7.26	4617N 15300E	20	0	5	180	1	0	0	186	0	1	122	0	0	0	123	Disc.BB2238~BB2360
	6	7.26	4630N 15119E	--*	0	0	11	0	0	0	11	0	0	9	0	0	0	9	Disc.BB2361~BB2369
	7	7.26	4621N 15112E	--*	0	0	8	0	0	0	8	0	0	7	0	0	0	7	Disc.BB2370~BB2376
	8	7.27	4613N 15102E	--*	0	0	6	0	0	0	6	0	0	5	0	0	0	5	Disc.BB2377~BB2381
	9	7.27	4605N 15054E	--*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10	7.27	4559N 15044E	--*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11	7.27	4551N 15033E	--*	0	0	4	0	0	0	4	0	0	3	0	0	0	3	Disc.BB2382~BB2384
	12	7.28	4519N 14939E	--*	0	0	1	0	0	0	1	0	0	0	0	0	0	0	
	13	7.28	4517N 14935E	--*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	14	7.28	4515N 14912E	--*	0	0	1	0	0	0	1	0	0	0	0	0	0	0	
	15	7.28	4507N 14902E	--*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	16	7.29	4336N 14709E	--*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	17	7.29	4330N 14658E	--*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	18	7.29	4326N 14646E	--*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	19	7.29	4319N 14636E	--*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	20	7.29	4315N 14628E	--*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	21	7.30	4251N 14451E	--*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	22	7.30	4253N 14457E	--*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	23	7.30	4253N 14503E	--*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	24	7.30	4259N 14502E	--*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	25	7.30	4257N 14457E	--*	0	4	0	0	0	0	4	0	0	0	0	0	0	0	
	26	8.01	4358N 14715E	--*	0	0	1	0	0	0	1	0	0	0	0	0	0	0	
	27	8.01	4407N 14707E	--*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	28	8.01	4412N 14709E	--*	0	0	10	0	0	0	10	0	0	8	0	0	0	8	Disc.BB2385~BB2392
	29	8.01	4419N 14719E	--*	0	0	1	0	0	0	1	0	0	0	0	0	0	0	
	30	8.02	4425N 14730E	--*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	31	8.02	4433N 14738E	--*	0	0	1	0	0	0	1	0	0	0	0	0	0	0	
	32	8.02	4439N 14749E	--*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	33	8.02	4443N 14802E	--*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

\* Conducted with a purse seine

Table 2. (cont'd)

## (b) Tag recovery data.

Tag No.	Species	Sex	Date		Position		Rec. Area codes	Gear		F.L. (mm)		B.W. (g)		G.W. (g)		Age	Remarks and area of recovery
			Rel.	Rec.	Rel.	Rec.		Rel.	Rec.	Rel.	Rec.	Rel.	Rec.	Rel.	Rec.		
DD3124	Sockeye	F	90.07.04	90.08.16	51-48N,155-59W	50-51N,128-00W	75-	L.L.	-	552	550	----	--	1.2	--		Bull Harbour, Dancoover Is., B.C.
CC1465	Chum	F	90.06.26	90.07.19	57-30N,178-29E	57-57N,162-02E	12-1	L.L.	Gillnet	604	645	3850	--	0.X	0.4		
DD5569	Chum	-	89.06.23	90.08.09	43-30N,175-30E	62-30N,165-40E	08-1	L.L.	-	423	---	2500	--	0.2	--		Penzhyna R., near Slautnoye Released with a longline hook
Y-4739	Chum	-	88.07.16	90.09.08	57-30N,179-30W	43-40N,145-10E	02-0	L.L.	-	462	---	----	---	0.2	--		Shibetu, Hokkaido Nokke strait
CC1375	Chum	-	90.06.23	90.09.11	56-24N,176-28E	42-10N,143-20E	02-1	L.L.	Trapnet	570	---	----	---	0.3	--		Hiroo, Hokkaido Pacific coast
CC1638	Chum	-	90.06.29	90.09.12	57-29N,179-29W	42-02N,143-10E	02-1	L.L.	Trapnet	610	---	----	-	0.3	--		Erimo, Hokkaido Pacific coast
CC1580	Chum	M	90.05.28	90.09.14	56-30N,179-30W	43-37N,145-17E	02-0	L.L.	Trapnet	564	720	3600	-	0.3	0.3		Bekkai, Hokkaido Nokke strait
CC1747	Chum	M	90.07.09	90.09.19	57-30N,179-29W	43-36N,145-19E	02-0	L.L.	Trapnet	532	---	2500	--	0.3	--		Bekkai, Hokkaido Nokke strait
CC1565	Chum	M	90.06.28	90.09.20	56-30N,179-30W	43-40N,145-10E	02-0	L.L.	Trapnet	560	---	2400	-	0.3	0.3		Shibetu, Hokkaido Nokke Strait
CC1611	Chum	M	90.06.29	90.09.20	57-29N,179-29W	43-36N,145-19E	02-0	L.L.	Trapnet	550	515	2000	-	0.3	0.3		Bekkai, Hokkaido Nokke strait
CC1716	Chum	-	90.07.04	90.09.21	57-09N,177-50W	43-59N,145-12E	02-0	L.L.	Trapnet	568	---	----	-	0.3	--		Rausu, Hokkaido Nokke strait
CC5858	Chum	-	90.07.13	90.09.25	56-29N,179-29E	40-11N,141-51E	01-0	L.L.	-	634	---	----	---	0.3	--		Kanada, Kujl, Honshu Pacific coast
BB1551	Chum	-	90.07.06	90.09.27	49-30N,164-32E	45-08N,141-18E	02-3	L.L.	Gillnet	504	550	2200	---	0.2	0.2		Oniwaki, Rishiri Is.
CC5639	Chum	F	90.07.06	90.09.29	56-33N,178-28W	43-57N,145-09E	02-0	L.L.	Trapnet	528	---	2000	--	0.3	--		Rausu, Hokkaido Nokke strait
CC5866	Chum	F	90.07.13	90.10.02	56-29N,179-29E	43-40N,145-10E	02-0	L.L.	Trapnet	530	---	1800	-	0.3	0.3		Shibetu, Hokkaido Nokke Strait
CC1730	Chum	M	90.07.04	90.10.03	57-09N,177-50W	43-13N,145-08E	02-1	L.L.	Trapnet	574	800	2400	--	0.3	--		Hamanaka, Hokkaido Pacific Coast
CC1399	Chum	F	90.06.23	90.10.04	56-24N,176-28E	44-29N,143-08E	02-2	L.L.	Trapnet	586	---	2800	---	0.3	0.3		Okoppe, Hokkaido Okhotsk coast Released with a longline hook
CC5743	Chum	-	90.07.08	90.10.04	57-30N,177-30W	42-10N,142-46E	02-1	L.L.	Trapnet	600	---	----	-	0.3	--		Urakawa, Hokkaido Pacific coast
CC5560	Chum	F	90.07.02	90.10.06	56-33N,179-09E	44-02N,144-17E	02-1	L.L.	Trapnet	538	---	2300	-	0.3	--		Hamanaka, Hokkaido Pacific Coast
CC1642	Chum	-	90.06.29	90.10.10	57-29N,179-29W	42-57N,144-24E	02-1	L.L.	Trapnet	578	---	----	--	0.4	--		Kushiro, Hokkaido Pacific Coast
CC1453	Chum	F	90.06.25	90.10.13	56-25N,176-51E	42-39N,143-39E	02-1	L.L.	Trapnet	600	625	1800	-	0.3	--		Ootsu, Hokkaido Pacific Coast
CC1497	Chum	-	90.06.26	90.10.15	57-30N,178-29E	44-02N,141-40E	02-3	L.L.	Trapnet	572	---	----	-	0.3	--		Obira, Hokkaido Japan sea coast
CC1507	Chum	F	90.06.27	90.10.17	56-29N,178-29E	42-56N,144-27E	02-1	L.L.	Trapnet	572	---	----	--	0.3	--		Kushiro, Hokkaido Pacific Coast
CC1419	Chum	-	90.06.23	90.10.18	56-24N,176-28E	42-17N,143-17E	02-1	L.L.	Trapnet	558	---	----	-	0.4	--		Hiroo, Hokkaido Pacific Coast
CC1348	Chum	M	90.06.20	90.10.20	45-30N,171-29E	37-02N,137-50E	01-1	L.L.	-	492	800	1400	--	0.2	--		Himekawa, Japan Sea Coast
CC1602	Chum	-	90.06.29	90.10.23	57-29N,179-29W	44-00N,144-54E	02-2	L.L.	Trapnet	608	---	----	---	0.3	--		Shari, Hokkaido Okhotsk coast
CC5685	Chum	-	90.07.08	90.10.29	57-30N,178-41W	44-04N,145-12E	02-2	L.L.	Trapnet	548	---	----	-	0.3	--		Rausu, Hokkaido Okhotsk coast
CC5872	Chum	-	90.07.13	90.10.--	56-29N,179-29E	42-39N,143-39E	02-1	L.L.	Trapnet	600	---	----	-	0.2	--		Ootsu, Hokkaido Pacific Coast

APPENDIX A. Examples of historical formats used for catch, fishing effort, and oceanographic data.

FISHING EFFORT and CATCH RECORD

Fisheries Research Institute--North Pacific Salmon Tagging

Net No. 7-1  
 Gear PS  
 Area E6042

Location N Pacific

Line	Area	LOCATION		Set No.	DATE			Day No.	Time of Set	TOW	No. of Skates	Invert.
		Longitude	N. Lat.		Mo.	Day	Year					
1	E6042	150°42'06"	42°06'20"	001	05	02	85	123	99	00	1	

O AGE CATCH							TOTAL CATCH						Invert.
Red	Chum	Pink	Silver	King	Sibd		Red	Chum	Pink	Silver	King	Sibd	
0	0	0	0	0	0		0	4	37	0	0	0	

OCEANOGRAPHIC DATA

Sack (feet)	Temp.		DEPTH (fathoms)	Sea	Wind Dir	Wind Force	TIDE		B.T. Slide No.
	Air °C	Sea °C					Str	Dir	
	4	10.7	70	9	99	-27	3		001

Effect of Haul OK - Tolya mentioned there was a delay in retrieval

Gillnets \_\_\_\_\_

Invertebrates (samples yes no) NI

Mammals NI

Other species (samples yes no) NI

O Age:	Red	Chum	Pink	Silver	King	Sibd	Total	Remarks
Tagged								
Examined								
Preserved								
Tallied								
Total							0	
1+ Age Tagged		3	29				32	
Examined		1	8				9	
Preserved								
Tallied								
Total Catch		4	37				41	

Initials Recorder cat Checker \_\_\_\_\_



Data record of Japanese salmon research vessels in 1991, I - catch data, II - oceanographic data.  
 (INPFC Doc.) Fisheries Agency of Japan.

TABLE NO		DATA RECORD		OF		OCEANOGRAPHICAL OBSERVATIONS															PAGE	
		BY		JAPANESE		SALMON RESEARCH VESSELS IN 1991															2	
				LOCATION		WATER TEMPERATURE (°C)																
UP NO	OB NO	SHIP	DATE	OB TIME	LAT	LONG	0	10	20	30	40	50	75	100	125	150	200	250	SALIN	AIR TEMP	TR ANS	CO LOR
0025	0024	R01	910801	0947	4407	14707E	107	94	73	68	59	51	43	37	36	-	-	-	-	140	11	-
0026	0025	R01	910801	1241	4412	14709E	89	87	84	63	44	44	38	36	37	30	26	-	-	120	8	-
0027	0026	R01	910801	1436	4419	14719E	101	-	-	44	30	27	-	20	19	17	-	-	-	125	10	-
0028	0027	R01	910802	0755	4425	14730E	101	-	-	-	-	-	-	-	-	-	-	-	-	125	11	-
0029	0028	R01	910802	0930	4433	14738E	85	-	-	-	-	-	-	-	-	-	-	-	-	115	8	-
0030	0029	R01	910802	1238	4439	14749E	87	65	44	37	33	29	22	18	18	18	-	-	-	110	11	-
0031	0030	R01	910802	1413	4443	14802E	85	68	59	52	42	35	24	22	20	19	17	-	-	100	6	-
0032	0031	R01	910803	0753	4420	14721E	99	94	79	40	31	27	22	19	18	17	-	-	-	100	12	-
0033	0032	R01	910803	0950	4411	14708E	102	102	84	47	36	43	31	33	26	26	-	-	-	135	10	-
0034	0033	R01	910803	1230	4407	14707E	108	105	74	43	36	47	42	43	32	-	-	-	-	120	10	-
0035	0034	R01	910803	1355	4404	14708E	109	77	70	65	56	53	39	33	33	-	-	-	-	120	11	-
0036	0035	R01	910803	1450	4400	147110	112	79	66	58	55	50	37	35	35	-	-	-	-	115	11	-
0037	0036	R01	910804	0755	4326	14721E	103	103	55	37	26	22	19	16	17	18	-	-	-	120	15	-
0038	0037	R01	910804	1003	4315	14734E	111	110	52	30	28	23	19	17	18	18	-	-	-	-	-	-
0039	0038	R01	910804	1235	4303	14748E	106	101	55	37	26	22	18	17	17	17	-	-	-	135	15	-
0040	0039	R01	910804	1457	4251	14801E	114	82	66	53	43	29	20	17	17	16	17	-	-	145	13	-
0052	0051	R02	910604	2055	4243	15217E	75	71	55	41	33	30	26	21	20	23	28	31	329	55	-	-
0053	0052	R02	910605	1554	4248	15415E	93	93	93	72	42	40	46	37	32	28	36	26	332	52	12	-
0054	0053	R02	910606	1555	4339	15436E	73	71	68	43	33	32	27	20	21	22	26	29	329	93	11	-
0055	0054	R02	910607	1752	4243	15549E	53	52	50	45	38	29	21	20	20	23	28	32	329	62	-	-
0056	0055	R02	910608	1552	4536	15733E	44	44	42	41	33	27	26	24	21	21	29	31	329	46	11	-
0057	0056	R02	910609	1606	4450	15739E	55	52	48	47	44	41	27	26	23	22	28	31	329	50	16	-
0058	0057	R02	910610	1551	4355	15729E	67	66	60	57	43	40	36	31	31	28	25	27	329	81	13	-

Table. 2 Oceanographic data

STATION HO88088								
LATITUDE 36-30.1 N		LONGITUDE 155-00.1 E		DATE 88-06-06	06.4 (GMT)	DEPTH 5700	COL. 6	TR. 9
SEA 31-4A	SWELL 31-3A	WIND 31-5F		AIR TEMP.	DRY 16.2	BAR. 12.7	WEATHER X1	
OBSERVED				CALCULATED				
DEPTH	TEMP	SAL	02	SIG-T	D-T	SUA	D-DY	
0	16.22	34.62	5.67	25.41	256	256	0.000	
10	16.22	34.63	5.70	25.41	256	256	0.026	
20	16.15	34.62	5.72	25.42	255	255	0.052	
30	15.83	34.62	5.44	25.49	248	249	0.077	
40	15.80	34.63	5.19	25.51	246	247	0.102	
50	15.79	34.64	5.35	25.52	246	247	0.127	
75	14.59	34.59	5.03	25.75	224	226	0.188	
100	13.32	34.54	4.91	25.97	202	205	0.241	
125	12.91	34.47	5.05	26.08	192	196	0.292	
150	12.20	34.44	5.01	26.12	189	192	0.340	
200	11.35	34.40	4.73	26.25	176	181	0.434	
250	9.86	34.24	4.26	26.38	163	168	0.522	
300	8.36	34.13	3.96	26.54	149	154	0.603	
400	6.20	34.02	3.33	26.76	128	133	0.749	
500	4.89	34.04	2.43	26.93	112	117	0.876	
600	4.53	34.17	1.64	27.07	98	104	0.988	
700	4.09	34.24	1.19	27.18	88	94	1.089	
800	3.72	34.31	1.00	27.27	79	86	1.180	
900	3.37	34.37	0.89	27.34	72	79	1.263	

STATION HO88089								
LATITUDE 37-15.1 N		LONGITUDE 155-00.0 E		DATE 88-06-07	01.0 (GMT)	DEPTH 5752	COL. 4	TR. 13
SEA 24-2A	SWELL 34-2A	WIND 24-3F		AIR TEMP.	DRY 15.8	BAR. 15.4	WEATHER X1	
OBSERVED				CALCULATED				
DEPTH	TEMP	SAL	02	SIG-T	D-T	SUA	D-DY	
0	14.79	34.34	6.18	25.51	246	246	0.000	
10	14.46	34.43	6.08	25.65	233	233	0.024	
20	14.42	34.45	6.18	25.68	230	231	0.047	
30	14.41	34.46	5.95	25.68	230	231	0.071	
40	14.40	34.46	5.91	25.69	229	230	0.094	
50	14.37	34.46	5.81	25.69	229	230	0.117	
75	14.00	34.45	5.41	25.77	222	224	0.174	
100	11.94	34.38	5.11	26.20	181	183	0.224	
125	10.81	34.32	5.05	26.28	173	176	0.270	
150	10.18	34.26	4.84	26.34	167	170	0.313	
200	8.92	34.15	4.59	26.47	155	159	0.396	
250	7.65	34.05	4.39	26.58	145	149	0.473	
300	6.98	33.97	3.99	26.66	137	141	0.546	
400	5.26	33.99	3.01	26.84	120	124	0.680	
500	4.65	34.05	2.08	26.96	109	113	0.800	
600	4.26	34.18	1.38	27.10	95	101	0.908	
700	4.01	34.25	1.12	27.19	87	93	1.006	
800	3.59	34.31	0.87	27.28	78	85	1.096	
900	3.27	34.36	0.75	27.35	72	78	1.178	

STATION HO88090								
LATITUDE 37-59.8 N		LONGITUDE 155-00.3 E		DATE 88-06-07	06.4 (GMT)	DEPTH 5982	COL. 4	TR. 15
SEA 29-2A	SWELL 34-3A	WIND 23-3F		AIR TEMP.	DRY 16.9	BAR. 12.7	WEATHER X1	
OBSERVED				CALCULATED				
DEPTH	TEMP	SAL	02	SIG-T	D-T	SUA	D-DY	
0	15.38	34.52	5.88	25.53	244	244	0.000	
10	15.13	34.53	5.85	25.58	239	240	0.024	
20	14.89	34.54	5.88	25.65	233	234	0.048	
30	14.85	34.54	5.78	25.65	233	233	0.072	
40	14.83	34.55	5.66	25.66	232	233	0.095	
50	14.80	34.54	5.69	25.66	232	233	0.119	
75	14.47	34.54	5.42	25.73	225	227	0.177	
100	13.18	34.49	5.18	25.96	203	206	0.233	
125	12.46	34.48	4.86	26.09	191	194	0.282	
150	11.90	34.42	5.01	26.16	184	188	0.330	
200	10.59	34.30	4.72	26.30	171	175	0.422	
250	9.50	34.21	4.55	26.42	160	165	0.508	
300	8.27	34.09	4.91	26.52	150	156	0.589	
400	6.09	33.94	3.93	26.71	133	138	0.737	
500	5.17	34.02	2.62	26.88	116	122	0.868	
600	4.60	34.12	1.74	27.02	103	109	0.985	
700	4.13	34.18	1.22	27.12	94	100	1.090	
800	3.82	34.27	1.00	27.23	83	90	1.186	
900	3.46	34.31	0.81	27.29	77	84	1.274	



TABLE I HIGH SEAS SALMON LONGLINE CATCHES BY CANADA IN 1961

SET NO.	AREA	POSITION		DATE		TIME OF DAY	SURF. TEMP. C.	SKATES	SOCK-EYE	CMUM	PINK	CATCHES			TOTAL	BIRDS	POM-FRET	OTHER
		LAT. N.	LONG. W.	MO.	DAY							COMO	CHI-NOOK	STEEL-HEAD				
FORT ROSS																		
1	W5556	56 52	150 15	5	29	1	8.0	20	31	10	2	0	0	0	43			0
2	W5056	56 10	150 00	6	3	1	8.0	20	15	17	1	1	0	0	34			0
3	W5054	55 35	149 50	6	4	1	8.5	19	58	33	1	0	0	0	92			0
4	W5552	53 40	152 00	6	6	1	6.8	20	20	2	0	0	0	0	22			0
5	W5554	55 20	152 00	6	7	1	7.5	20	51	3	0	0	0	0	54	10		0
6	W5054	55 20	150 00	6	8	1	8.5	20	17	11	1	0	0	0	29			0
7	W5554	55 20	154 00	6	9	1	8.1	20	14	4	1	0	0	0	19	A		0
8	W5556	56 45	152 53	6	10	1	9.0	20	0	17	0	0	0	0	17	A		0
9	W5556	56 10	154 00	6	11	1	8.0	20	1	15	3	0	0	0	19			0
10	W5556	57 00	152 00	6	12	1	9.8	20	0	0	0	0	0	0	0			0
11	W5556	56 50	151 30	6	15	1	9.4	10	5	47	1	1	0	0	54			0
12	W5556	56 30	152 30	6	16	1	10.0	25	10	32	1	0	0	0	43			0
13	W5556	56 10	152 40	6	17	1	9.5	25	33	46	4	0	0	0	83	A		0
14	W5556	56 00	153 10	6	18	1	9.5	20	2	5	0	0	0	0	7	A		0
15	W5554	55 20	154 00	6	19	1	10.2	20	26	17	0	0	0	0	43			0
16	W5552	53 40	154 00	6	20	1	10.0	20	1	2	1	0	0	0	4			0
17	W5054	54 30	150 00	6	21	1	10.5	20	2	2	3	0	0	0	7			0
18	W5056	56 20	148 10	6	22	1	10.8	20	25	8	2	2	0	2	39			0
19	W5556	57 00	151 00	6	26	1	11.4	20	7	14	6	3	0	0	30			0
20	W5058	58 00	150 00	6	28	1	11.4	20	1	7	4	1	1	0	14	A		0
21	W5058	58 05	148 25	6	29	1	12.5	20	24	23	29	17	0	1	94			0
22	W5056	57 50	149 00	6	30	1	12.8	20	0	7	1	0	0	0	8			0
23	W5056	57 05	149 50	7	1	1	11.8	20	57	133	24	5	0	0	219			0
24	W5056	57 00	150 00	7	9	1	11.4	20	11	27	33	5	0	2	78			0
25	W5554	55 52	150 33	7	11	1	12.0	20	6	32	42	5	0	2	87			0
26	W5554	55 41	150 39	7	12	1	11.4	20	15	27	25	5	0	0	72			0
27	W5554	55 22	150 57	7	13	1	11.5	20	10	13	37	5	0	0	65			0
28	W5554	55 22	151 42	7	14	1	12.2	25	15	21	30	13	0	0	79			0
29	W5556	56 52	151 45	7	18	1	11.3	10	2	19	7	0	0	0	28	B		0
30	W5554	54 06	151 31	7	20	1	11.1	25	38	15	12	4	0	5	74			0
31	W5554	54 03	151 50	7	21	1	11.1	30	43	41	7	1	2	3	97			0
32	W5552	53 58	150 15	7	22	1	11.4	30	25	37	4	3	0	3	72			0
33	W5554	54 21	150 32	7	23	1	11.6	30	16	148	26	5	0	3	198			0
34	W5554	55 50	150 24	7	24	1	11.8	20	17	56	28	0	0	0	101			0
35	W5556	56 50	150 08	7	25	1	12.1	30	21	100	34	5	0	3	163			0
36	W5556	56 47	150 24	7	26	1	12.2	20	13	53	33	4	0	3	106			0
37	W5556	56 48	150 23	8	1	1	13.6	20	15	42	36	5	0	1	99			0
38	W5056	56 32	146 30	8	2	1	14.0	20	0	11	3	1	0	0	15			0
39	W4556	56 14	142 29	8	3	1	13.5	10	0	17	11	0	0	0	28			0
40	W4054	55 33	138 22	8	4	1	14.0	15	0	0	1	0	0	0	1			0
41	W3554	54 35	133 57	8	5	1	14.0	20	1	0	14	4	0	0	19			0
VESSEL TOTAL									648	1114	468	95	3	28	2356			95
ANNUAL TOTAL									648	1114	468	95	3	28	2356			95

Turner, C.E., and K.V. Aro. 1968. Atlas of salmon catches made by longlines in the eastern North Pacific Ocean, 1961 to 1967. Fish. Res. Bd. Can. Manusc. Rep. Ser. 983.

BRIDGE LOG AND CATCH SUMMARY SHEETS

VESSEL<sup>1</sup> RICKER, DATE (yy/mm/dd)<sup>2</sup> 92/03/23  
 HAUL/SET #<sup>13</sup> 21 GEAR: LONGLINE(LL), GILLNET(ON), ROPE TRAWL(RT)<sup>14</sup> RT

GEAR INFORMATION

LONGLINE: NUMBER OF HACHII<sup>18</sup> \_\_\_\_\_ BAIT \_\_\_\_\_

GILLNET: NUMBER OF TANS<sup>18</sup> \_\_\_\_\_ GILLNET MESH SIZES<sup>20</sup> \_\_\_\_\_

ROPE TRAWL: VERTICAL MOUTH OPENING (ft) 10 WARP LENGTH (ft) 235 SWEEP LENGTH (ft) 40  
 EFFECTIVE CODEND MESH (in) 1 1/2

ROPE TRAWL TOW INFORMATION

START: LAT<sup>23</sup> 48° 33.3 N or S<sup>24</sup> N LONG<sup>29</sup> 125° 05.6 E or W<sup>35</sup> W  
 END LAT<sup>36</sup> 48° 30.1 N or S<sup>41</sup> N LONG<sup>42</sup> 125° 00.3 E or W<sup>48</sup> W  
 TOW DIRECTION (°T)<sup>49</sup> 149 START TIME<sup>52</sup> 13:12 END TIME<sup>60</sup> 14:12  
 DURATION (hrs)<sup>68</sup> 1.00 SHIP SPEED (kn)<sup>72</sup> 05.0 DISTANCE (n.mi)<sup>75</sup> \_\_\_\_\_  
 START DEPTH (m)<sup>74</sup> 40

LONGLINE, GILLNET SET INFORMATION

START: LAT<sup>23</sup> \_\_\_\_\_ ° \_\_\_\_\_ N or S<sup>28</sup> \_\_\_\_\_ LONG<sup>29</sup> \_\_\_\_\_ ° \_\_\_\_\_ E or W<sup>35</sup> \_\_\_\_\_  
 END: LAT<sup>36</sup> \_\_\_\_\_ ° \_\_\_\_\_ N or S<sup>41</sup> \_\_\_\_\_ LONG<sup>42</sup> \_\_\_\_\_ ° \_\_\_\_\_ E or W<sup>48</sup> \_\_\_\_\_  
 SET DIRECTION (°T)<sup>49</sup> \_\_\_\_\_ SET DATE (yy/mm/dd) \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
 SET START TIME<sup>52</sup> \_\_\_\_\_ SET END TIME<sup>56</sup> \_\_\_\_\_  
 HAUL START TIME<sup>60</sup> \_\_\_\_\_ HAUL END TIME<sup>64</sup> \_\_\_\_\_  
 DURATION (hrs)<sup>68</sup> \_\_\_\_\_

METEOROLOGICAL AND OCEANOGRAPHIC OBSERVATIONS

WIND DIRECTION (°T)<sup>80</sup> \_\_\_\_\_ WIND SPEED (kn)<sup>83</sup> \_\_\_\_\_ SEA STATE (BEAUFORT SCALE)<sup>85</sup> 2  
 START SST °C<sup>86</sup> 9.47 END SST °C<sup>89</sup> \_\_\_\_\_ CTD CAST?, IF YES WRITE "CTD"<sup>92</sup> NO  
 WEATHER AND SEA CONDITIONS Low SW and, Ripples sea, light winds.

CATCH SUMMARY

SPECIES	CODE	NUMBER CAUGHT	OTHER SPECIES	CODE	NUMBER CAUGHT
PINK	108	95			
CHUM	112	99			
SOCKEYE	118	103			
CHINOOK	124	107			
COHO	115	111			
STEELHEAD	128	115			

COMMENTS Trawl in SWISSSET Park, following waters from ADIS  
142, 48 31.4 N, 125 02.32 W to HAUL WARP TO 125 M - HESIANUM  
AT 00M

Table 1. Catch summary at each trawl location on the 1990 R/V Tinro cruise.

TRAWL	DATE	START TIME	END TIME	MIN	START LOCATION	END LOCATION	FISHING DEPTH	SST	PINK	CHUM	SOCKEYE	CHINOOK	COHO	POMFRET
81	06/04/90			60	55 00.1N 145 17.7W			4.2	0	0	0	1	0	0
82	07/04/90			60	54 37.8N 144 49.4W			4.4	0	0	0	0	0	0
83	07/04/90			60	54 11.7N 143 57.7W			4.7	0	2	13	0	0	0
84	08/04/90			60	53 35.0N 143 30.5W			4.9	0	2	4	0	0	0
85	08/04/90			60	53 08.8N 142 47.2W			5.2	0	5	4	0	0	0
86	09/04/90			60	52 47.6N 142 18.3W			5.2	0	2	6	1	0	0
87	16/04/90			60	52 29.6N 141 29.5W			5.7	0	0	2	0	0	0
88	16/04/90			60	52 09.1N 140 54.2W			6.1	0	0	0	0	0	0
89	16/04/90			60	51 49.0N 140 16.3W			6.2	0	11	9	0	0	0
90	17/04/90			60	51 19.5N 139 13.2W			6.5	0	1	0	0	2	0
91	17/04/90			60	50 52.2N 138 26.7W			6.8	0	0	0	0	0	0
92	17/04/90			60	50 39.6N 137 44.6W			7.0	0	1	3	0	0	0
93	18/04/90			60	50 03.3N 136 47.1W			7.0	0	44	2	0	1	0
94	18/04/90			60	49 38.0N 136 02.9W			7.6	0	1	0	0	0	0
95	18/04/90			60	49 09.9N 135 18.5W			7.9	7	8	1	0	0	0
96	19/04/90			60	48 37.4N 134 10.5W			8.0	76	91	15	0	213	0
97	19/04/90			60	48 10.0N 133 18.5W			8.8	5	3	0	0	35	0
98	19/04/90			60	47 47.2N 132 37.5W			8.8	168	58	54	0	3	0
99	20/04/90			60	47 22.5N 131 45.4W			9.7	30	7	0	0	1	0
100	20/04/90			60	47 00.8N 131 07.0W			9.3	1	0	0	0	1	0
101	27/04/90	0810	0910	60	49 59.7N 129 00.3W	50 02.2N 129 00.8W	20-40	9.0	0	0	0	0	0	0
102	27/04/90	1722	1822	60	50 39.9N 129 43.2W	50 42.4N 129 36.4W	20-40	7.9	0	0	0	0	0	0
103	28/04/90	0815	0915	60	51 48.5N 131 29.6W	51 44.5N 131 29.2W	20-40	8.0	0	0	0	0	0	0
104	28/04/90	1715	1815	60	51 58.8N 133 14.0W	51 58.8N 133 22.0W	20-40	8.2	0	5	0	0	0	0
105	29/04/90	0815	0915	60	52 01.2N 137 09.3W	52 01.1N 137 16.9W	20-40	7.3	1	23	4	0	1	0
106	29/04/90	1720	1820	60	52 02.0N 139 25.5W	52 02.0N 139 35.5W	20-40	7.0	2	3	15	0	0	0
107	30/04/90	0815	0915	60	51 59.7N 143 08.9W	51 59.7N 143 18.0W	20-40	6.1	0	1	5	0	2	0
108	30/04/90	1710	1810	60	51 59.8N 145 24.5W	51 59.8N 145 33.7W	20-40	6.4	1	0	10	0	0	0
109	01/05/90	1025	1125	60	51 58.6N 149 15.0W	51 54.3N 149 19.4W	20-40	5.5	0	1	1	0	0	0
110	01/05/90	1720	1820	60	51 09.7N 149 59.5W	51 04.9N 150 00.1W	20-40	5.9	0	1	1	0	0	0
111	02/05/90	0815	0915	60	48 49.8N 150 00.8W	48 44.7N 150 01.0W	20-40	6.7	0	18	0	2	1	0

APPENDIX B. Examples of historical formats used for specimen examination data.

SPECIMEN EXAMINATION RECORD

Set No. 8-1  
Gear PS

Fisheries Research Institute - North Pacific Salmon Toggling

Location N. Pacific Page 1 of 1

Agency	Area	Location		Set No.	Date			Gear Used	Dir of Move	Day No.
		Longitude	N. Latitude		Month	Day	Year			
1	E6042	6150	4206	2001	05	02	85	1	0	123

Sp	Length TSFT	Tury	Scale No.	Age	Sex	Gross Meat	Stom Vol.	Weight (g)	Food Items										Matur	Mgms					
									Fish	Squid	Moll	Crust	Amph	Cope	Euph	Deca	Myrads	Unident			Digest	Plant			
			01																						
			02																						
			03																						
			04																						
			05																						
			06																						
			07																						
			08																						
			09																						
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			15																						
			16																						
			17																						
			18																						
			19																						
			20																						
			21																						
3	365	A	22	1	2			0470																	
			23																						
			24																						
			25																						
			26																						
			27																						
			28																						
			29																						
			30																						
2	550		31		2			1300																	
3	400		32		1			0625																	
3	195		33		2			0600																	
3	380		34		1			0480																	
3	390		35		1			0530																	
3	390		36		2			0520																	
3	370		37		2			0460																	
3	355		38		2			0430																	
			39																						
			40																						
			41																						
			42																						
			43																						
			44																						
			45																						
			46																						
			47																						
			48																						
			49																						
			50																						

Initials of Examiner \_\_\_\_\_ Recorder \_\_\_\_\_  
 K C I P S K St Page Total 9  
 R C I P S K St Set Total 9

Subarea 3

## FISHERIES RESEARCH INSTITUTE

### JAPANESE MOTHERSHIP CHINOOK SCALE SAMPLES

MOTHERSHIP VESSEL NAME KIZAN MARU 1 2 05 3 4 00

YEAR 1987 5 6 00 MONTH JUNE 7 8 06 DAY 13 9 10 13

SCALE CARD NO. 101 11 12 13 101 FISHERY 14 1 SPECIES 15 5

Col.	SCALE NO.	TSFT LENGTH (mm)	SEX M,F	BODY WEIGHT (g)	GONAD WEIGHT (g)	CATCHER BOAT NO.	N. LATITUDE	LONGITUDE	TIME	AGE GK 16/NWBT
	1	611				11	5011	17349E		X.2
	2	715				35	4952	17417E		1.3
	3	648				27	4952	17321E		1.2
	4	673				39	4952	17356E		1.3
	5	557				37	5006	17417E		X.2
	6	575				30	4952	17335E		1.2
	7	686				30	4952	17335E		1.3
	8	639				30	4952	17335E		1.2
	9	602				3	4952	17328E		1.2
	10	834				3	4952	17328E		X.3
	11	877				3	4952	17328E		1.3
	12	606				3	4952	17328E		1.2
	13	629				16	5038	17417E		X.2
	14	585				33	4952	17424E		1.2
	15	616				12	5024	17312E		1.2
	16	474				12	5024	17312E		1.2
	17	618				12	5024	17312E		X.2
	18	626				28	5011	17431E		X.2
	19	623				28	5011	17431E		1.3
	20	585				36	5024	17431E		1.2
	21	630				36	5024	17431E		X.2
	22	615				7	5024	17403E		1.2
	23	571				7	5024	17403E		X.2
	24	648				14	4938	17345E		1.2
	25									
	26									
	27									
	28									
	29									
	30									

2nd NO 12/19/89  
?  
damaged  
?  
2nd NO 12/19/89  
2nd NO 12/19/89  
?  
1st NO 14/9/89  
2nd NO 12/19/89  
1.



SALMONID BIOLOGICAL INFORMATION  
Final Data Exchange Format, 1991

Variable	Columns	Description
Source	1	Observer nationality A, C, J, K, T
Host	2	Host nation J, K, T
Fishery	3	S (Squid) or L (Large-mesh)
YR	4, 5	91
	6, 7	Blank
LIC	8 - 10	Lic No.
	11	Blank (Activity on CJ90 form)
OPR	12 - 14	Operation
SEC	15 - 17	Section
OBSVD	18	Observed Section? "Y", "N" or "L" (lost)
ONAME	19 - 31	Observer name (13 characters)
LAT	32 - 35	LAT N (Start set), Degree Degree Minute Minute
LONG	36 - 41	LONG (Start set), DDDMM (Col 41 = E/W)
SST	42 - 44	SST (Start set) Tenths °C
CARD	45 - 48	Scale Card No.
S1	49, 50	Position 1st scale on card. Cards are 5 rows x 10 columns, L to R; position=1,50; Start upper left corner
S2	51, 52	Position last scale on card. Row 1=1-10, row 2=11-20, row 3=21-30, etc.
Species O	53 - 56	Species ID from observer: SOCK, CHUM, PINK, COHO, KING, STHD, UNID
Species S	57 - 60	Species ID from scale: SOCK, CHUM, PINK, COHO, KING, STHD, UNID
FW	61	Freshwater annuli; "X" = unreadable, blank if no scale collected
OC	62	Ocean annuli; "X" = unreadable, " " " " " " " " " " " "
FL	63 - 66	TSFT length (mm)
Sex	67	M, F or U (Unknown)
Weight	68 - 70	Body weight (to 0.1 kg) eg, _92 = 9.2 kg
GW	71 - 73	Gonad weight (g)
Maturity	74	Maturity coded: I = Immature, M = Maturing
	75, 76	BLANK
MON	77, 78	Month (Start retrieval)
DAY	79, 80	Day (Start retrieval)
VNAME	81 - 101	Vessel name (21 characters)
COMMENTS	102 - 150	Comments (49 characters)

Comment: Maturity coding in byte 74 was used when observers had no scales but the maturity of the fish was obvious from visual examination of the gonads.

Source: E:\HISEAS\DRIFTNET\SALFMT91.FNL



SALARIED BIOLOGICAL DATA FROM DRIFTNET SAMPLING, 1991

E7048

Source: (A) (Circle one)

Boat: (1)

Fishery: Non-traditional LBDN

Vessel License Number: 005

Vessel Name (include #): Dai Kitchi maru #11

Observer Name (Full): John Weber

Species Codes

Sack  
Chuk  
Pink  
Coho  
King  
sp-1  
Weld

Protocol for Location and Date of Observation

Fishery	Location	Date
Japan	Start Set Start Retrieval Hours Set	Start Retrieval Start Set

Obs	Set	Obs	Start	Set	or	End	Start	End	Scale	Observer	Scale	Age	Port	Sex	Period	Surviv	Remarks	Comments	
Y/N	Y/N	Y/N	Month	Day	Year	Year	Month	Day	1000s °C	4 Char	4 Char	M, G	1000	M, F or U	1000s	Imm or Mature			
2	(B)		06	04			49°16'N	170°56'E		4	1 31	Sack	Sack	3 3	570	M		M	
											2 22	Sack	Sack	2 3	580	M		M	
											3 33	Sack	Sack	2 2	540	F		I	
											4 24	Sack	Sack	2 3	520	M		T	
											5 15	Sack	Sack	2 2	520	F		I	
											6 26	Sack	Sack	2 2	530	F		I	
											7 27	Sack	Sack	2 2	520	F		I	
											8 28	Sack	Sack	2 3	530	F		I	non preferred - NO
											9 39	Sack	Sack	2 3	540	F		I	
											10 20	Sack	Sack	2 3	560	F		M	non preferred

K.V. Aro, C.E. Turner, and L.W. Barner. 1962. Canadian high seas salmon catches in 1967. Fish. Res. Bd. Can. Manusc. Rep. Ser. 979.

TABLE VIII. DETAILED DATA FOR INDIVIDUAL SALMON AND STEELHEAD IN HIGH SEAS  
 LONGLINE CATCHES BY THE G. R. REED, 1967.

AGY	AREA	LONG	LAT	VES	SET	SKATES	MO	DA	YR	TAG TYPE	TAG NO	SCALE NO	SPEC	CONO	LEN	WT	GONAD WT	SEX	AGE F O	SET COUNT
2	W3048	3000	4930	A	1	1	5	5	67	B	M65572	A01	2	3	720				0 0	
2	W3048	3000	4930	A	1	1	5	5	67	B	M65573	A02	2	1	630				0 3	
2	W3048	3000	4930	A	1	3	5	5	67	B	M65574	A03	3	1	470				0 1	
2	W3048	3000	4930	A	1	3	5	5	67	B	M65575	A04	2	1	640				0 3	
2	W3048	3000	4930	A	1	4	5	5	67	B	M65576	A05	2	1	640				0 3	
2	W3048	3000	4930	A	1	4	5	5	67	B	M65577	A06	1	1	655				1 3	
2	W3048	3000	4930	A	1	4	5	5	67	C	A21910	B01	1	4	685		M		9 9	
																				7
2	W3548	3235	4953	A	2	1	5	6	67	B	M65578	A01	2	1	640				0 3	
2	W3548	3235	4953	A	2	1	5	6	67	B	M65579	A02	3	4	420	75		F	0 1	
2	W3548	3235	4953	A	2	1	5	6	67	B	M65580	A03	2	1	595		38		0 3	
2	W3548	3235	4953	A	2	1	5	6	67	B	M65581	A04	3	1	450				0 1	
2	W3548	3235	4953	A	2	1	5	6	67	B	M65582	A05	2	1	520				0 2	
2	W3548	3235	4953	A	2	1	5	6	67	B	M65583	A06	2	1	660				0 3	
2	W3548	3235	4953	A	2	1	5	6	67	B	M65584	A07	2	1	540				0 2	
2	W3548	3235	4953	A	2	1	5	6	67	B	M65585	A08	3	1	490				0 1	
2	W3548	3235	4953	A	2	1	5	6	67	B	M65586	A09	2	1	555				0 3	
2	W3548	3235	4953	A	2	1	5	6	67	B	M65587	A10	2	1	600				0 3	
2	W3548	3235	4953	A	2	1	5	6	67	B	M65588	A11	2	1	595				0 2	
2	W3548	3235	4953	A	2	1	5	6	67	B	M65589	A12	2	1	595				0 3	
2	W3548	3235	4953	A	2	2	5	6	67	B	M65590	A13	2	1	495				0 2	
2	W3548	3235	4953	A	2	2	5	6	67	B	M65591	A14	2	1	525				0 3	
2	W3548	3235	4953	A	2	2	5	6	67	B	M65592	A15	1	1	515				1 2	
2	W3548	3235	4953	A	2	2	5	6	67	B	M65593	A16	2	1	530				0 2	
2	W3548	3235	4953	A	2	2	5	6	67	B	M65594	A17	2	1	665				0 3	
2	W3548	3235	4953	A	2	2	5	6	67	B	M65595	A18	2	1	550				0 2	
2	W3548	3235	4953	A	2	2	5	6	67	B	M65596	A19	2	1	550				0 3	
2	W3548	3235	4953	A	2	2	5	6	67	B	M65597	A20	2	1	595				0 3	
2	W3548	3235	4953	A	2	2	5	6	67	B	M65598	A21	2	1	675				0 3	
2	W3548	3235	4953	A	2	2	5	6	67	B	M65599	A22	2	1	665				0 2	
2	W3548	3235	4953	A	2	3	5	6	67	B	M65601	A24	2	1	580				9 9	
2	W3548	3235	4953	A	2	3	5	6	67	B	M65602	A25	2	1	570				0 3	
2	W3548	3235	4953	A	2	3	5	6	67	B	M65603	A26	3	1	405				0 1	
2	W3548	3235	4953	A	2	3	5	6	67	B	M65604	A27	2	1	570				0 3	
2	W3548	3235	4953	A	2	3	5	6	67	B	M65605	A28	2	1	585				0 3	
2	W3548	3235	4953	A	2	3	5	6	67	B	M65606	A29	2	1	580				0 3	
2	W3548	3235	4953	A	2	3	5	6	67	B	M65607	A30	3	1	460				0 1	
2	W3548	3235	4953	A	2	3	5	6	67	B	M65608	A31	2	1	670				0 3	
2	W3548	3235	4953	A	2	3	5	6	67	B	M65609	A32	2	1	530				0 3	
2	W3548	3235	4953	A	2	4	5	6	67	B	M65610	A33	3	1	510				0 1	
2	W3548	3235	4953	A	2	4	5	6	67	B	M65611	A34	1	1	550				2 2	
2	W3548	3235	4953	A	2	4	5	6	67	B	M65612	A35	3	1	480				0 1	
2	W3548	3235	4953	A	2	4	5	6	67	B	M65613	A36	2	1	560				0 3	
2	W3548	3235	4953	A	2	4	5	6	67	B	M65614	A37	2	3	475				0 2	

Canada. W.E. PICKER.

STATION #1

VESSEL		DATE (YY/mm/dd)		GEAR (RT,GN,LL)		TOW/SET#		PAGE			
1 RICKER		7 9 2 0 7 1 0		13 6 N		15		04 OF 05			
FISH#	SP	FL mm	FISH WT 0.1g	SCALE BOOK#	SCALE # - # P	AGE O F	SEX	GONAD WT 0.1g	LIVER WT 0.1g	STOMACH WT 0.1g	COMMENTS
18	22	25	29	35	39		X	47	52	57	Unmeasured parts (on head)
24	108	502	1691				M	261	417		
25	108	531	1829				F	916	658		
26	108	464	1310				F	104	385		
27	108	485	1344				F	238	443		
28	108	510	1884				F	1249	681		
29	108	466	1292				F	227	515		
30	108	485	1423				M	157	421		
31	108	478	1351				F	702	486		
32	108	465	1300				F	-	457		measured in segment (measured)
33	108	512	1551				F	649	527		
34	108	505	1930				F	550	566		
35	108	470	1557				F	872	575		
36	108	477	1312				M	122	325		
37	108	490	1446				F	671	495		
38	108	509	1770				F	1000	667		
39	108	500	1574				F	803	532		
40	108	475	1303				F	776	479		
41	108	495	1423				M	253	299		
42	108	459	1267				M	186	250		
43	108	511	1729				M	564	568		
44	108	504	1589				F	1049	598		
45	108	503	1438				F	904	543		
46	108	510	1678				M	120	423		
47	108	498	1526				F	783	450		
48	108	507	1808				F	362	439		
49	08	550	2162				F	1201	784		

\* column "SCALE P" is for recording scales taken from preferred "P" or non-preferred "N" areas.

Table 7. Biological characteristics of fishes caught by drift gillnet research

SOCKEYE SALMON																
No.	Mesh	F.L.	B.W.	Sex	G.W.	Age	F.L.	B.W.	Sex	G.W.	Age	F.L.	B.W.	Sex	G.W.	Age
		(mm)	(gr)		(gr)		(mm)	(gr)		(gr)		(mm)	(gr)		(gr)	
G07	116-A	582	2490	M	45	1.2	544	2080	F	130	1.2	551	2180	M	68	1.2
		586	2700	M	75	2.2	605	2700	F	110	X.X	586	2600	F	150	1.3
		532	1910	F	120	1.2	623	3400	M	40	1.3	541	2020	F	80	1.2
		569	2380	F	175	1.3	511	1110	F	50	1.2	579	2260	M	60	2.2
		627	3230	F	140	1.3	523	1710	F	92	1.2	595	2900	F	190	1.3
		569	2420	F	140	2.2	572	2490	F	220	1.3	530	1830	F	116	2.2
		609	2850	F	180	1.3	507	1590	M	45	1.2	559	2290	F	85	1.2
		640	3740	F	153	1.3	536	2000	M	38	1.2	624	3580	M	105	X.3
		530	2050	M	56	1.2	588	2710	M	29	1.2	589	2480	M	58	2.2
		590	2470	F	190	1.3	511	1010	F	62	1.2	618	3000	F	150	X.X
121-A		536	2100	F	100	2.2	532	2050	M	30	2.2	548	2270	M	38	X.2
		562	2170	M	9	2.2	577	1820	F	97	2.2	524	1800	F	72	1.2
		598	2700	F	230	1.3	560	2280	M	38	1.2	648	3500	M	130	1.3
		642	1970	F	140	2.2	534	2570	F	80	2.2	606	1785	M	80	2.2
		568	2490	F	95	2.2	524	1750	F	68	2.2	554	2060	F	95	X.2
		552	2140	M	65	X.2	546	2160	F	59	1.2	620	3100	M	48	1.3
		592	2580	F	80	2.3	542	1940	F	120	X.2	590	2580	F	520	1.2
		630	3000	F	190	2.3	490	1640	M	46	1.2	594	2550	F	174	1.3
		550	2130	F	110	1.2	558	2680	F	130	2.2	658	4100	M	90	2.3
		538	1830	F	130	1.2	616	2780	F	95	2.3	544	2320	F	80	X.X
48-C		671	3060	M	43	1.3	524	2010	F	58	1.2	587	2590	M	63	X.2
		572	2430	M	38	1.2	572	2530	M	40	2.2	617	3160	M	55	X.X
		584	2830	F	148	1.3	577	2360	F	155	1.3					
55-C		564	2130	M	90	2.3	594	2400	M	95	2.2	552	2200	M	40	2.2
		622	2860	M	74	2.2	588	2840	F	130	1.3	527	1970	M	43	1.2
		641	2290	M	140	1.3	583	3300	F	200	2.2	563	2320	M	43	1.2
		630	3100	M	74	2.2	599	2750	M	36	2.2	512	2980	F	140	1.3
		605	2720	M	62	1.3	555	3750	M	44	1.3	430	1000	M	42	X.2
287	240	M	1	X.1												
63-C		607	2960	M	63	2.2	628	3500	M	65	X.X	537	2110	F	95	2.2
		550	2270	F	60	1.2	482	1430	M	29	1.2	513	2020	F	57	2.2
		494	1425	M	42	1.2	613	3420	M	25	2.2	556	2175	M	80	1.2
		516	1800	F	85	1.2	609	3200	F	180	1.3	624	3055	M	78	1.3
		600	2980	F	205	0.3	635	3600	M	86	1.3	554	2325	F	108	2.2
		609	2915	F	170	2.3	598	2810	F	245	1.3	593	2880	M	40	1.3
		634	3650	M	50	2.3	526	2030	F	125	1.2	594	2910	F	210	X.X
		631	2675	F	135	2.3	507	1630	F	82	1.2	590	2930	F	230	1.3
		314	300	M	3	2.1	310	250	F	4	2.1					
		664	3840	M	118	1.3	582	2540	M	75	2.2	526	2000	F	90	1.2
72-C		656	4450	M	70	0.3	547	1240	M	55	X.X	558	1650	M	48	2.2
		554	1680	F	70	1.2	546	2140	F	50	X.2	494	1140	M	20	1.2
		485	1670	M	23	2.2	620	3800	M	27	X.X	580	2750	F	160	1.3
		503	1680	M	55	2.2	495	1650	M	57	1.2	665	4450	M	83	1.3
		628	3100	M	93	1.3	535	1840	F	93	2.2	585	2630	F	145	1.3
		599	2995	M	70	2.2	551	2110	M	45	X.X	550	2530	M	28	1.2

Alaska Department of Fish & Game. Standard AWL form.

BB-CF/410

STANDARD AWL

DISTRICT	SECTION OR SUB-DISTRICT	RIVER (STREAM)	SAMPLING LOCATION	PRO-JECT	DATE			PERIOD	YEAR	MESH SIZE	SAMPLE NUMBER
					MONTH	DAY	YEAR				
312530			302	1	06	25	91	+	03	7	040

UNIT OF MEASUREMENT	ENGLISH (1)	Check	TYPE OF LENGTH MEASUREMENT	2	AGE CLASS DESIGNATION	GILBERT/RICH (1)	Check
	METRIC (2)	<input checked="" type="checkbox"/>				EUROPEAN (2)	<input checked="" type="checkbox"/>

SP No	SPEC.	SEX		LENGTH	WEIGHT	AGE CLASS	AGE CLASS											GILBERT/RICH (1)					
		M	F				A	B	C	D	E	F	G	H	I								
1	41	✓		6 1 3	9 5	1 2																12C	
2		✓		5 3 2		1 2																	12C
3		✓		5 4 8		1 2																	12C
4			✓	9 2 3	2 9 4	1 4																	RYC
5		✓		7 2 2							3												RRR
6		✓		6 0 0		1 2																	R2C
7		✓		6 0 4		1 2																	R2C
8		✓		6 0 1	1 2 1						3												RRR
9		✓		6 3 5		1 2																	12C
10		✓		6 1 2		1 2																	12C

11		✓		6 2 9		1 2																	R2C
12			✓	6 1 2	1 9 5	1 4																	14C AD
13		✓		7 0 4		1 2																	12C
14		✓		6 1 1							3												RRR
15		✓		6 1 1							3												RRR
16		✓		6 5 2	1 0 5						3												R2C
17		✓		6 4 4							3												RRR
18		✓		5 9 0							3												RRR
19		✓		5 6 3																			RRR
20		✓		5 9 5	8 1	1 2																	12C

21		✓		4 7 5							3												RRR
22		✓		5 4 2		1 2																	R2C
23			✓	8 8 8							2												RYC
24		✓		9 5 9		1 4																	RYC
25		✓		4 5 7							3												RRR
26		✓		6 0 3							3												R2C
27		✓		5 9 8	7 8	1 2																	12C
28		✓		6 5 1		1 2																	12C
29			✓	8 0 9		1 4																	14C
30		✓		5 6 7	7 3	1 2																	R2C

31		✓		8 1 1		1 3																	R3C
32			✓	7 3 8	1 5 6						3												RRR
33			✓	8 4 1		1 2																	R5C
34		✓		9 4 4		1 2																	14C ?
35		✓		5 6 3		1 2																	12C
36			✓	7 6 4	1 6 6	1 3																	13C
37		✓		6 2 2		1 2																	12C
38		✓		7 3 9							3												RRR
39		✓		5 9 1		1 2																	12C
40		✓		5 7 1		1 2																	R2C

Total:     
 Each Sex:

Scales Read By:

Alaska Department of Fish & Game. Opscan biological and scale data.

Table 1. Format of an opscan data file when only one scale per fish is sampled. Comments in boldface were added to describe the information on the file and are not present on an actual file.

Col. No. 1	Litho Code	Species Code	District Code	Subdistrict Code	Stream Code	Location Code	Project Code	Month	Day	Year	Period	Gear	Mesh	Type of Length Measurement	Scale Card Number
	00033984	42	271-13-				-001	5	06/25/84	2301	2			1	
Fish No.	1 1	582	13												
	2 2	546	13												
	3 1	626	13												
Sex	4 2	525	13												
	5 2	538	13												
	6 2	575	13												
	7 2	553	13												
	8 2	565	13												
	9 1	587	13												
	10 1	694	13												
	11 1	620	13												
	12 2	553	13												

Length in mm.

Age

1 - Age Error Code

**SPECIES**

- 1 - Chum (Reg)
- 2 - Rockfish (red)
- 3 - Cobe (silver)
- 4 - Pink (strong)
- 5 - Chum (reg)

**PROJECT**

- 1 - Commercial catch
- 2 - Subsistence catch
- 3 - Escapement (tower, weir, sear site, etc)
- 4 - Escapement - spawning grounds
- 5 - Test fishing
- 6 - Sport catch (marine)
- 7 - Sport catch (freshwater)

**LENGTH TYPE**

- 1 - Tip of snout to fork of tail
- 2 - Mid-eye to fork of tail
- 3 - Past orbit to fork of tail
- 4 - Mid-eye to hypural plate
- 5 - Past orbit to hypural plate
- 6 - Unassigned

**AGE ERROR CODES**

- 1 - Otolith
- 2 - Inverted
- 3 - Regenerated
- 4 - Malign
- 5 - Missing
- 6 - Resorbed
- 7 - Wrong species
- 8 - Not prepared

**GEAR TYPE**

- 8 - Trap
- 9 - Poto seine
- 10 - Beach seine
- 11 - Ditch gillnet
- 12 - Set gillnet
- 13 - Troll
- 14 - Long line
- 15 - Otter trawl
- 16 - Fishhook
- 17 - Pots
- 18 - Sport boat and line
- 19 - Herring purse seine
- 20 - Handpicked
- 21 - Dip net
- 22 - 16 Quasigood
- 23 - Beam trawl
- 24 - Skovole
- 25 - Wale
- 26 - 25 Quasigood

DO NOT WRITE IN THIS MARGIN

101620

DO NOT WRITE IN THIS AREA

CARD: 077-080 SPECIES: 1 DAY: 6 MONTH: 19 YEAR: 66 DISTRICT: 313 SUBDISTRICT: 38 STREAM: 66 LOCATION: 151 PERIOD: 25 PROJECT: 1 GEAR: MESH: TYPE OF LENGTH MEASUREMENT: 2 NUMBER SCALES/FISH: 3 # OF CARDS: 4	DESCRIPTION: <i>Chinook Neon Paper</i> SEX: <input type="checkbox"/> M <input type="checkbox"/> F		LENGTH: 100's 1's		AGE GROUP AGE FROM CODE		LENGTH
	1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0		1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0		1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0		1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0
	1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0		1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0		1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0		1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0
	1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0		1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0		1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0		1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0

NCS OCCUSCAN MB20-17873-54 A3200

*Handwritten notes:*  
 Description: Chinook Neon Paper  
 SEX: M  
 Length: 100's, 1's  
 AGE GROUP, AGE FROM CODE  
 LENGTH

Fisheries and Oceans Canada. Scale card biological data.

LOCATION <u>TAKU</u>										LOCATION <u>TAKU</u>									
SPECIES <u>CO</u> Reader <u>SR/YY</u>					SPECIES <u>CO</u> Reader <u>SR/YY</u>					SPECIES <u>CO</u> Reader <u>SR/YY</u>					SPECIES <u>CO</u> Reader <u>SR/YY</u>				
GEAR <u>GN</u> Date <u>05.08.86</u>					GEAR <u>GN</u> Date <u>05.08.86</u>					GEAR <u>GN</u> Date <u>05.08.86</u>					GEAR <u>GN</u> Date <u>05.08.86</u>				
BOOK NO. <u>9</u>					BOOK NO. <u>9</u>					BOOK NO. <u>9</u>					BOOK NO. <u>9</u>				
1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
W	4 <sub>3</sub>	R	4 <sub>3</sub>	↓	↓	↓	↓	↓	↓	R	R	3 <sub>2</sub>	R	R	R	R	4 <sub>3</sub>	R	W
11	R	4 <sub>3</sub>	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	R	R	4 <sub>3</sub>	4 <sub>3</sub>	↓	W	3 <sub>2</sub>
21	UD	4 <sub>3</sub>	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	R	4 <sub>3</sub>	↓	4 <sub>3</sub>	↓	3 <sub>2</sub>
31	4 <sub>3</sub>	↓	↓	W	↓	↓	↓	↓	↓	↓	↓	W	↓	↓	4 <sub>3</sub>	↓	↓	UD	R
41	4 <sub>3</sub>	↓	NP	R	↓	↓	↓	↓	↓	↓	3 <sub>2</sub>	↓	↓	↓	4 <sub>3</sub>	NS	↓	UD	W

LOCATION <u>TAKU - CANADIAN</u>										LOCATION <u>TAKU - CANADIAN</u>									
SPECIES <u>CO</u> Reader <u>SR/YY</u>					SPECIES <u>CO</u> Reader <u>SR/YY</u>					SPECIES <u>CO</u> Reader <u>SR/YY</u>					SPECIES <u>CO</u> Reader <u>SR/YY</u>				
GEAR <u>GN</u> Date <u>04.08.86</u>					GEAR <u>GN</u> Date <u>04.08.86</u>					GEAR <u>GN</u> Date <u>02.07.86</u>					GEAR <u>GN</u> Date <u>02.07.86</u>				
BOOK NO. <u>6</u>					BOOK NO. <u>6</u>					BOOK NO. <u>4</u>					BOOK NO. <u>4</u>				
1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
R	R	R	4 <sub>3</sub>	R	R	R	4 <sub>3</sub>	R	4 <sub>3</sub>	R	4 <sub>3</sub>	4 <sub>3</sub>	R	R	R	R	4 <sub>3</sub>	R	R
↓	↓	↓	R	4 <sub>3</sub>	↓	↓	4 <sub>3</sub>	3 <sub>2</sub>	R	3 <sub>2</sub>	4 <sub>3</sub>	R	↓	4 <sub>3</sub>	4 <sub>3</sub>	↓	R	↓	↓
21	3 <sub>2</sub>	4 <sub>3</sub>	↓	R	R	↓	3 <sub>2</sub>	4 <sub>3</sub>	R	3 <sub>2</sub>	↓	4 <sub>3</sub>	W	4 <sub>3</sub>	R	↓	↓	↓	3 <sub>2</sub>
31	R	R	W	R	↓	↓	R	↓	↓	↓	↓	W	R	4 <sub>3</sub>	↓	4 <sub>3</sub>	4 <sub>3</sub>	↓	3 <sub>2</sub>
41	3 <sub>2</sub>	4 <sub>3</sub>	R	4 <sub>3</sub>	4 <sub>3</sub>	↓	↓	3 <sub>2</sub>	↓	↓	↓	↓	R	↓	4 <sub>3</sub>	R	4 <sub>3</sub>	↓	3 <sub>2</sub>

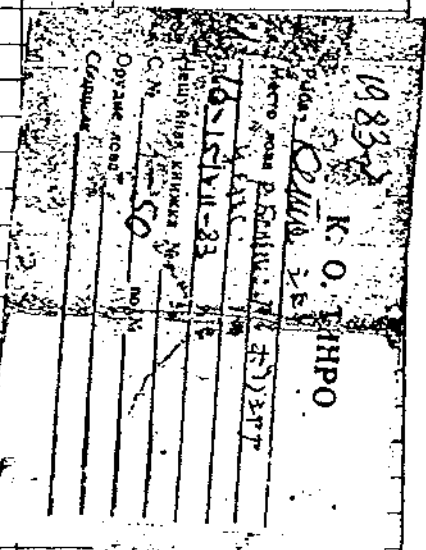


北洋サケ・マス魚体測定表

様式3

(測定番号)

整理番号			漁獲年月日			漁獲位置										漁獲時期		船名
83			7.18 15			度 分 秒 度 分 秒 E W												ボリシヤヤシ
漁具種類	目合	副目合	採獲時刻 時間			漁具構造 果実毛			魚体各部									
魚体番号	魚種	尾丈	体高	体長	尾高	尾長	体重	尾重	年令	採獲部位	No. 1-30							
01	シロ 2																	
02																		
03																		
04																		
05		670	3400	②	♂		340			A B C								
06		655	3530	♀	②		280			A B C								
07		705	4140	♀	③		320			A B C								
08		650	2880	♀	③		300			A B C								
09		610	2710	♀	③		200											
10		605	2670	♀	③		150											
11		630	2720	♀	③		170											
12		760	5000	♀	③		230											
13		690	4160	♀	③		370											
14		695	4050	♀	③		220											
15		620	2000	♀	③		80											
16		690	3800	♀	③		240											
17		720	4260	♀	③		300											
18		670	3870	♀	③		320											
19		710	3650	♀	③		250											
20		650	3170	♀	③		320											
21		680	4220	♀	③		260			A B C								
22		690	3950	♀	③		210			A B C								
23		710	3890	♀	③		320											
24		710	4430	♀	③		310			A B C								
25		660	3480	♀	③		180			A B C								
26		670	3650	♀	③		300			A B C								
27		630	2700	♀	③		350			A B C								
28		670	3850	♀	③		300			A B C								
29		640	3150	♀	③		293			A B C								
30	✓	620	2690	♀	③		40P			A B C								



(1) 測定番号：航海簿に測定順位を一通番号。(2) 整理番号：不要。(3) 漁獲年月日：西暦下2桁、月日で1-9:10を加えて2桁で。(4) 漁獲位置：分単位で、E Wのどちらかに印。(5) 漁獲時期：調査船はR、母船はA。(6) 漁獲種類：調査船、C、D、Eのいずれか、調査船-A、調査明はるわ-B。(7) 目合：減じ船は目合 $\infty$ で、ほえ $\infty$ は $\infty$ 。(8) 副目合：調査船は代入目合以外の目合 $\infty$ で、(9) 採獲時刻：朝、昼、夜に印。(10) 漁具・採果方法は同部を。(11) 魚種：ベニ、シロ、マス、キン、スケ、サクラで、に尾丈に $\infty$ で。(12) 体高： $\infty$ で。(13) 尾重： $\infty$ または $\infty$ に印。(14) 生卵生重果： $\infty$ で。(15) 年令：採獲部位（カムカートの記入に注意）(16) 採獲部位：どの部位から採獲したかを示すA、B、Cのいずれかに印。

Турода №1

Дата	№	Длина	Вес		Пол и стадия зрелости	Число чешуек в 1 см	Число чешуек в 1 см	К.з. Прироста	
			рыбы	пол. пред.					
5.07	S <sub>2</sub> 49	620	2,95	♂	62			2,10	
	• Y <sub>2</sub> 50	535	1,30	♂	85			6,54	
	• S <sub>2</sub> 51	590	2,70	♂	80			2,96	
	X S <sub>2</sub> 52	600	2,75	♀ <sub>20</sub>	93	246	48	3152	3,38
	• S <sub>2</sub> 53	575	2,20	♂	57			2,59	
	чешуя S <sub>2</sub> 54	630	3,05	♂	93			3,05	
	• Y <sub>2</sub> 55	475	1,30	♂	71			5,46	
	X S <sub>2</sub> 56	570	2,20	♀ <sub>25</sub>	173	25	335	2897	4,86
	• S <sub>2</sub> 57	555	2,00	♀ <sub>22</sub>	188	23	241	2547	9,40
	X S <sub>2</sub> 58	600	2,50	♀ <sub>22</sub>	233	22	241	2807	9,32
	X S <sub>2</sub> 59	565	2,15	♀ <sub>22</sub>	210	22	310	4185	9,77
	• Y <sub>2</sub> 60	520	1,70	♂	48				2,82
	X S <sub>2</sub> 61	550	2,10	♀ <sub>20</sub>	207	22	225	2328	9,86
	X S <sub>2</sub> 62	570	2,35	♀ <sub>20</sub>	259	20	257	3328	11,02
	• Y <sub>2</sub> 63	475	1,40	♂	40				2,86
	• S <sub>2</sub> 64	500	1,55	♀ <sub>21</sub>	168	24	260	2184	10,84
	• (31) S <sub>2</sub> 65	475	1,30	♂	50				3,85
	• S <sub>2</sub> 66	560	2,15	♂	56				2,60
	• Y <sub>2</sub> 67	505	1,45	♂	81				5,99
	X S <sub>2</sub> 68	560	2,30	♀ <sub>22</sub>	218	22	235	2581	9,48
	• S <sub>2</sub> 69	565	2,20	♀ <sub>22</sub>	231	22	218	2577	10,50
	• S <sub>2</sub> 70	540	1,80	♀ <sub>22</sub>	196	22	264	1927	8,11
	• S <sub>2</sub> 71	560	2,15	♂	77				3,58
	• S <sub>2</sub> 72	600	2,90	♂	101				3,48

Крытогорова R, 1979, shum Cd. 01  
 Обмен биологическими сведениями по лососям между США и СССР в 1977ом году.  
 W. Kamchatka Дата поимки Авг 9 79 № пробы (1) 2 caught along sea coast  
 Место поимки (2) (р. Крытогорва) прибрежный ил в море  
 Орудие лова (3) ставной невод - trap river KRYTOGOROVA

Номер рыбы	В и д	Длина от конда рыла до вилки хвоста	Длина от середины глаза до вилки хвоста	Вес тела ( г )	П о л		Возраст(4)		ПРИМЕЧАНИЯ
					♂	♀	рес-новод-ная	Солено-водная	
Номер чекуи	Шум	mm TST	mm MET	Weight					
1	О. кета	60,5	-	3000		+			
2		69,4	-	4480	+				
3		64,0	-	3470	+				
4		62,0	-	3200		+			
5		64,5	-	3150		+			
6		63,5	-	2250		+			
7		63,1	-	3150		+			
8		67,8	-	4170	+				
9		62,5	-	3210		+			
10		67,1	62,5	3850	+				
11		60,4	57,2	3050	+				
12		62,8	61,0	3350		+			
13		69,8	67,0	5030	+				
14		68,0	64,6	4450	+				
15		52,9	59,0	3060	+				
16		65,0	61,8	3620	+				
17		67,8	64,5	4380	+				
18		71,9	67,3	5360	+				
19		66,2	63,0	4140	+				
20		64,8	63,0	3430		+			
21		69,2	65,2	4440	+				
22		64,8	61,4	3450	+				
23		68,5	66,0	4970	+				
24		63,2	59,8	3180	+				
25		65,5	62,0	3620	+				
26		70,1	66,3	4400	+				
27		63,2	60,8	2940		+			
28		65,7	62,2	3950	+				
29		61,1	59,2	3030		+			
30		61,5	59,2	2900		+			
31		67,6	63,8	4230	+				
32		62,9	60,9	3430		+			
33		64,0	61,8	3710	+				
34		64,2	66,0	4450		+			
35		64,0	62,1	3350		+			
36		66,2	59,3	3660		+			
37		67,7	63,8	4360	♂				
38		66,0	63,0	4220	+				
39		64,9	62,5	3420		+			
40		66,5	63,9	4000		+			
41		65,2	62,5	3560		+			
42		63,9	61,5	3630		+			
43		68,5	64,7	4130	+				
44		62,6	59,5	3660	+				
45		70,5	65,8	4000	+				
46		64,0	60,2	3420	+				
47		63,5	60,5	3070	+				
48		64,2	60,5	3285	+				
49		62,0	57,2	2100	+				
50		62,8	65,0	4380	+				

- (1) Номер пробы должен быть указан на чешуйной карточке для перекрестной ссылки.  
 (2) Название морского берегового района, реки, озера и т.д. Плюс широта и долгота.  
 (3) Орудие лова или способ сбора проб - мертвыми на речном берегу и т.д.  
 (4) Возраст должен заноситься после того как будет просмотрена чешуя.

## ОПРЕДЕЛЕНИЕ ВОЗРАСТА ЛОСОСЕЙ ПОЙМАННЫХ В СОВЕТСКО-АМЕРИКАНСКОЙ РАБОТЕ В 1985 г.

СТРАН. 1

$P = \text{разница}$       $\Pi = \frac{H}{S}$      надпись "П" - площадь чешуи  
Х" - не могу определить возраст из-за качества чешуи

Замет	№ карт. и чешуи	Вид	Длина	Возраст ФАХ	Возраст ТИЧМО	Замечания
1	A30	2	49.0	0.2		} зрбушка; все 0.1 конечно
	B2	2	33.0	0.1		
	B3	2	39.0	0.1		
2						зрбушка; все 0.1
3						№ 9 и 10 нерка; № 9 чешуя потерянная; № 10 чешуи нет
P	A1	1	44.5	1.2		На судне все считал 1.2; чешуя на картонке
	A2	1	44.5	2.2		
P	A3	1	42.5	2.2		" "
P?	A4	2	51	0.3		Чешуя потерялась и середина на ленте. Могут быть 2.х
	A5	1	53.5	$\Pi$ 3.х?		
	A6	1	49	2.2		
	A7	5	30	X.1		
P	A8	1	44	X.2		на судне все считал 1.2, но чешуя на картонке не маркировалась
	A9	1	47	2.2		
	A10	2	28.5	0.1	1.1	по мнению эта рыба могла быть годовозной
	A11	2	34	0.1		Считал нерка - в 9 часов 45 в первую очередь добавочная (не годовозная) - это будет нерка
6	A1	1	45	1.2		что случилось? эта чешуя из зрбушки нерка а не из нерки на судне считал 1.2
	A2	2	49	0.3		
P	A3	1	30	<del>0.3</del>		
	A4	2	52	0.3		
	A5	1	44.5	1.2		
	A6	3	43	0.1		
P	A7	1	54	1.2		первая чешуя зрбушка по мнению - эта 1.2
	A8	2	56	0.3		
	A9	3	40	0.1		
P	A10	1	45	2.2		на судне все считал 1.2
	A11	3	42	0.1		
	A12	3	47	0.1		Чешуи нет
	A13	3	37.5	0.1		
	A14	1	44	1.2		
	A15	2	51	0.3		

1 = нерка  
 2 = кета  
 3 = зрбушка  
 4 = китора  
 5 = чавота  
 6 = стаиноголовная

APPENDIX C. Examples of historical formats used for tagging data.

TAGGING--RECOVERY RECORD

Fisheries Research Institute--North Pacific Salmon Tagging

Set No. 7-1

Gear PS

Location N Pacific

Page 1 of 2

Agency	Area	Location		Set No.	Date			Gear Used	Dir of Move	Day No.	Tag Type Color
		Longitude	N Latitude		Month	Day	Year				
1	E6042	6150	4206	2001	05	02	85	1	0	123	011

TAGGING

RECOVERY

Tag Number	Sp.	Length TSFT	Scale No.	Rec Body Weight	Rel. Age	Gen. Area	Recovery Location		Rec. Mo.	Rec. Day	Length	Gonad Weight	S & W	Scale Card No.
							Longitude	N. Lat.						
00000	0	3	380	A	01									
	1	3	365		02									
	2	3	360		03									
	3	3	340		04									
	4	3	370		05									
	5	3	380		06									
	6	3	370		07									
	7	3	385		08									
	8	3	370		09									
	9	3	370		10									
	10	3	260		11									
	11	3	380		12									
	12	3	385		13									
	13	3	275		14									
	14	3	390		15									
	15	3	380		16									
	16	3	345		17									
	17	3	345		18									
	18	3	370		19									
	19	3	360		20									
	20	3	370		21									
	21				22									
	22	3	450		23									
	23	3	460		24									
	24	3	380		25									
	25	3	355		26									
	26	3	340		27									
	27	3	340		28									
	28	3	375		29									
	29	2	490		30									
					31									
					32									
					33									
					34									
					35									
					36									
					37									
					38									
					39									
					40									
					41									
					42									
					43									
					44									
					45									
					46									
					47									
					48									
					49									
					50									

Initials of Tagger \_\_\_\_\_ Recorder \_\_\_\_\_

R C P 28 S R Se Page Total 29  
 R C P S R Se Set Total

Fisheries and Oceans Canada. IBM printout. Salmon catches by Canadian research vessels in the northeast Pacific Ocean, April 4 - June 3, 1963.

CANADIAN HIGH SEAS SALMON CATCHES 1963										WESTERN CRUSAIDER				CRUISE I		PAGE 5			
NO	AREA	LONG	LAT.	SEY	MO	BY	VR	GEAR	TAG TYPE NO.	SPEC	LEN.	COND	SCALE	WT.	AGE	G.W.	S.M	SET	CRUISE
															P.O				CHART
1	W5052	4335	5305	4	04	09	03	3	0	M39193	1	443	1	446	2				
2	W5052	4335	5305	4	04	09	03	3	0	M39194	1	450	1	447	1				
2	W5052	4335	5304	4	04	09	03	3	0	M39195	1	330	2	448	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39196	1	495	1	449	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39197	1	539	1	450	2				
2	W5052	4335	5305	4	04	09	03	3	0	M39198	1	530	1	451	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39199	1	530	1	452	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39200	1	545	1	453	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39201	1	468	1	454	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39202	1	540	1	455	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39203	1	530	1	456	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39204	1	540	1	457	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39205	1	535	1	458	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39206	1	500	1	459	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39207	1	540	1	460	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39208	1	540	1	461	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39209	1	510	1	462	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39210	1	600	1	463	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39211	1	370	1	464	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39212	1	505	1	465	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39213	1	505	1	466	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39214	1	545	1	467	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39215	1	530	1	468	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39216	1	470	1	469	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39217	1	550	1	470	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39218	1	560	1	471	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39219	1	560	1	472	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39220	1	445	1	473	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39221	1	488	1	474	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39222	1	608	1	475	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39223	1	480	1	476	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39224	1	538	1	477	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39225	1	520	1	478	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39226	1	580	1	479	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39227	1	520	1	480	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39228	1	490	1	481	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39229	1	510	1	482	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39230	1	535	1	483	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39231	1	550	1	484	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39232	1	515	1	485	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39233	1	510	1	486	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39234	1	555	1	487	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39235	1	540	1	488	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39236	1	480	1	489	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39237	1	545	1	490	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39238	1	545	1	491	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39239	1	530	1	492	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39240	1	460	1	493	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39241	1	480	1	494	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39242	1	460	1	495	1				
2	W5052	4335	5305	4	04	09	03	3	0	M39243	1	460	1	496	1				