

21 (FP-1)

FEB 17 1993

MASTER

FINAL REPORT

KARUK TRIBAL HARVEST MONITORING PROJECT

1991

**KARUK TRIBE OF CALIFORNIA
Department of Natural Resources
Post Office Box 282
Orleans, CA 95556**

FOREWORD

This is the second and final annual report to the United States Fish and Wildlife Service (USFWS) of activities and investigations conducted under the terms of Cooperative Agreement Number 14-16-0001-91544, between the Karuk Tribe of California and the U.S. Fish and Wildlife Service. This final project report covers the period from April 1, 1991 extending through November 15, 1991. The field work for these investigations was conducted by personnel from the Karuk Tribe of California's Department of Natural Resources.

ACKNOWLEDGEMENTS

We wish to express our sincere appreciation to the following persons and agencies whose efforts were invaluable in the completion of these fishery investigations, in both the 1990 and 1991 field seasons as well as in the preparation of this final report:

Leaf Hillman, Project Leader, for direction and supervision.

Norman Goodwin, Assistant Project Leader, for assistance in the field.

Harold "Littleman" Tripp, Harvest Monitor, for assistance in the field.

Susan Smith, for administrative support.

BeaVi McCovey, for administrative support.

Other members of the KTOC fisheries field staff who provided assistance:

Mitchell Camarena
Robert Rohde
Jerome Lang

A special thank you to the Karuk Tribal Dip-Net Fishermen, for their hospitality, assistance and cooperation in our data collection efforts.

U.S. Bureau of Indian Affairs, Northern California Agency, for providing financial assistance and training support.

U.S. Fish and Wildlife Service, Coastal California Fishery Resource Office Arcata, for providing advice, training and access to laboratory equipment.

Final acknowledgement is extended to the U.S. Fish and Wildlife Service for funding these investigations, and to the many personnel who have cooperated with KTOC staff during the 1990 - 1991 field season.

TABLE OF CONTENTS

Foreword	i
Acknowledgements	ii
Table of Contents	iii
List of Appendices, Tables and Figures	iv
BACKGROUND _____	1
INTRODUCTION _____	2
LOCATION	
Description of Study Area _____	2
Figure 1 _____	3
Figure 2 _____	4
OBJECTIVES _____	5
METHODS	
Monitoring Methods _____	6
Sampling Methods _____	6
RESULTS AND FINDINGS	
Final Harvest Figures _____	7
Table 1 _____	10
Table 2 _____	11
Table 3 _____	12
Scale Sample Analysis _____	7
Table 4 _____	13
Final CWT Recoveries _____	8

LIST OF APPENDICES, TABLES AND FIGURES

LIST OF APPENDICES

APPENDIX	TITLE
A	First Quarter
B	Second Quarter
C	Third Quarter
D	Scale Sampling / Age Composition
E	Reports / Invoices

LIST OF TABLES

TABLE	TITLE	PAGE
1	C Harvest Summary _____	10
2	UC Harvest Summary _____	11
3	Final Harvest Summary _____	12
4	Age Composition _____	13

LIST OF FIGURES

FIGURE	TITLE	PAGE
1	Location Map _____	3
2	Area Map _____	4

FINAL REPORT

KARUK TRIBAL HARVEST MONITORING PROJECT

1991

BACKGROUND

There are currently four groups on the Klamath River that actively participate in the harvest of Klamath Basin anadromous fish stocks. These include the Yurok, Karuk, and Hoopa Tribes, along with the in river Sport fishing community.

Historically, the Karuk Dip-Net Fishery has been the most mysterious of all these fisheries, due to several factors. First and probably most notably, is the fact that the Karuk Dip-Net Fishery is the only tribal / Indian net fishery which is conducted off reservation in the Klamath River Basin or in the entire state of California for that matter. This state-recognized aboriginal fishing right is a status that has caused a considerable amount of confusion over the years. In addition to this, the remote and inaccessible location where the Karuk Dip-Net Fishery occurs has added to its mystique by generally eluding such things as television and newspaper coverage, not to mention the eyes of the general public.

It was this mysterious status coupled with the obvious lack of information which was available concerning harvest impacts on natural stocks that prompted the Klamath Fishery Management Council (KFMC), in February of 1990, to request that the Karuk Dip-Net Fishery at Ishi-Pishi Falls be monitored and a data base be established.

Due to the time constraints faced at that time, the Karuk Tribe of California, acting through its Department of Fisheries, proposed a limited monitoring effort for the fall of 1990, with the implementation of full-scale monitoring activities commencing in the spring of 1991.

The Klamath River Basin Fisheries Task Force (KRBFTF) responded to the request of the Klamath Fishery Management Council, by recommending funding for the monitoring of the Karuk Dip-Net Subsistence Fishery beginning in the fall of 1990 and continuing into and through the 1991 fishing season.

Subsequently, harvest monitoring activities were commenced and on September 15, 1990 began operations. The 1990 partial season monitoring efforts were concluded on November 15, 1990. The Karuk Tribal Dip-Net Fishery at Ishi Pishi Falls was monitored through the fall 1990 salmon / steelhead season under Cooperative Agreement Number 14-16-0001-90545. The results of those investigations are described in the annual report for the 1990 Karuk Tribal Harvest Monitoring Project.

INTRODUCTION

The primary objective of the Karuk Tribal Harvest Monitoring Project is to obtain biological and habitat information needed by the Klamath Fishery Management Council for harvest management purposes. Specifically, the objective of the project is to quantify fish species and number of each species, which are harvested for subsistence use by the Karuk Tribe.

DESCRIPTION OF STUDY AREA

The study area for this project is located in the middle portion of the Klamath River near the town of Somes Bar and is directly adjacent to the Humboldt and Siskiyou County line, which is situated due south of the project area.

The actual Project Reach is approximately three quarters of a mile in length. The upper section of this reach extends just beyond the crest of Ishi-Pishi Falls, with the bottom section extending to a point directly upstream from the confluence of the Salmon and Klamath Rivers. Figure(s) 1 & 2

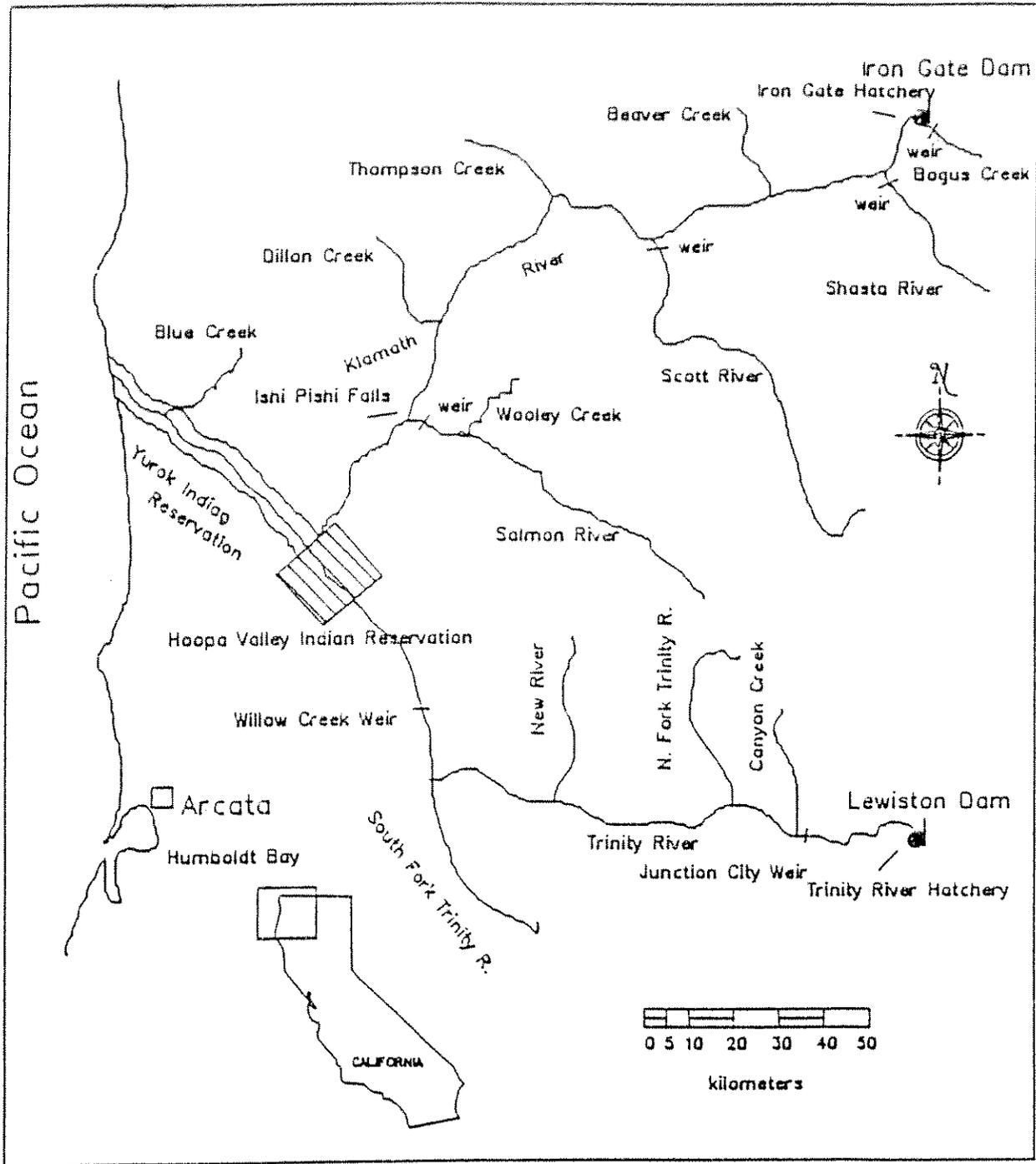


Figure 1. Map of Klamath-Trinity Basin.

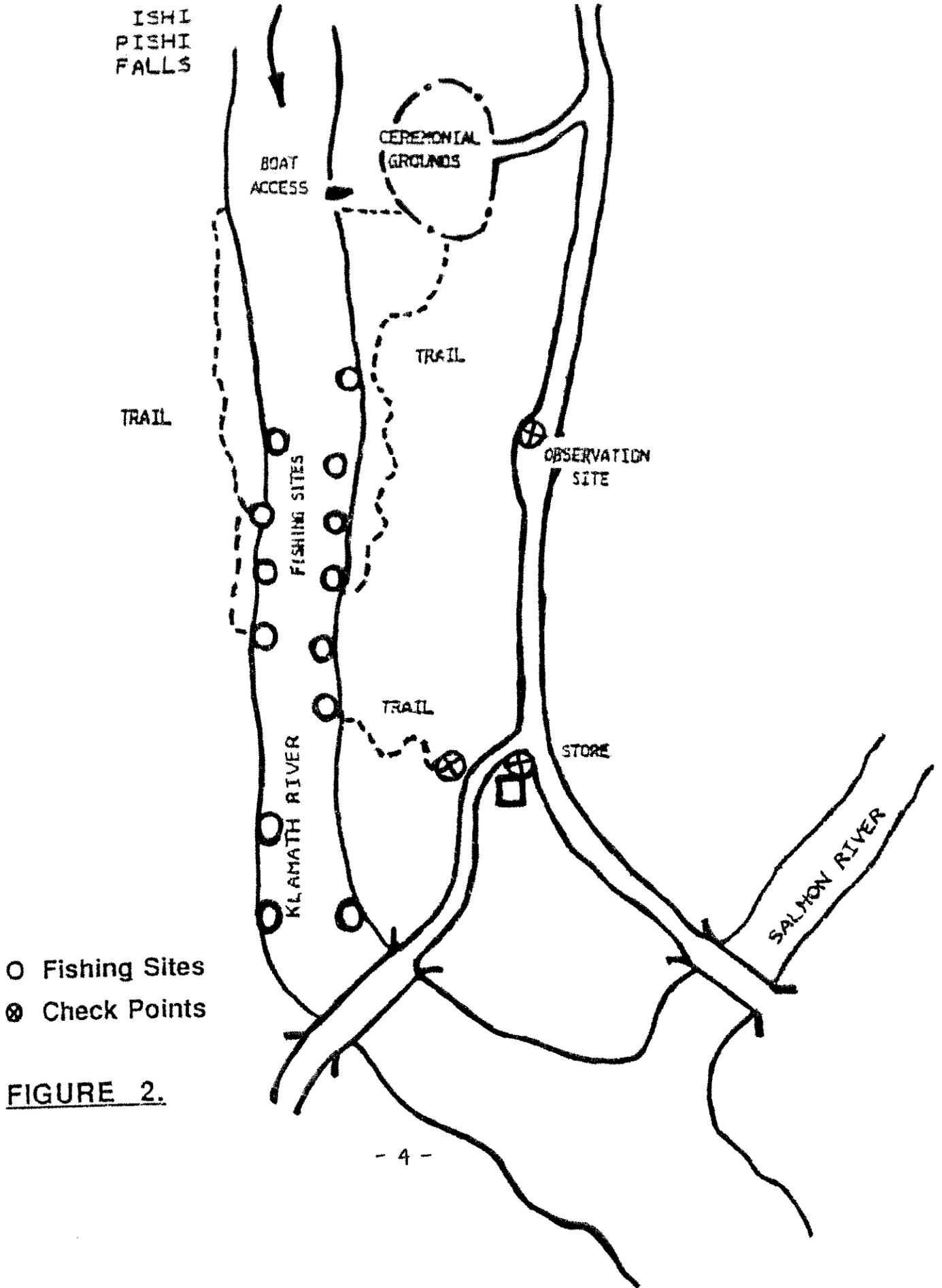


FIGURE 2.

OBJECTIVES

As delineated in the statement of work for Cooperative Agreement Number 14-16-0001-91544, this project contributes to the following goal and objective of the long-range plan for the Klamath Fishery Restoration Program:

GOAL II: Support the Klamath Fishery Management Council in development of harvest regulation recommendations that will provide for viable fisheries and escapement.

PLAN OBJECTIVE: Provide biological and habitat information needed by the Klamath Fishery Management Council for harvest management.

The specific objective of this project is to quantify the fish species, and number of each species, which are harvested for subsistence use by the Karuk Tribe of California.

TASKS

1. Quantify, by species, the total Karuk subsistence fishery at Ishi-Pishi Falls.
2. Recover, decode, and report on coded wire tags from adipose clipped fish.
3. Record and report on length, weight, and scars of adipose clipped fish.
4. Take and analyze scale samples for age, and the data outlined in task 3 above on a 20 % random sample of all fish.
5. Record and report on daily environmental parameters, i.e. ambient temperature, cloud cover, water temperature, flow, depth and social or cultural factors related to harvest.
6. Provide final reports on harvest monitoring and coded wire tag recoveries.
7. Orally present results to the Klamath Task Force.

MONITORING METHODS

Harvest monitoring methodologies utilized in the 1991 field season were similar to those employed in the 1990 field season. A field monitoring crew was employed to conduct direct observation monitoring of the fishery and to carry out other specific objectives enumerated in the statement of work for the Harvest Monitoring Project. This crew consisted of three harvest monitoring technicians with staff from the Tribal Department of Natural Resources providing coordination, supervision and administration.

Personal interviews were also conducted with Indian fishermen who were not contacted at the river. These interviews were conducted at various fish camps, personal residences and the local store to obtain information on the number of fish caught and species.

Harvest levels were sampled, by direct observation and through personal interviews, during the low effort time period of April 1 through September 15 utilizing weekly random shifts equal to a minimum of 32 hours per week. All tasks enumerated for the high effort time period were also performed.

During the high effort period from September 15 through November 15 harvest levels were also sampled utilizing the same direct observation and personal interview methods which were employed during the 1990 fall fishery.

SAMPLING METHODS

Scale samples along with other biological information was collected primarily through random sampling of catch from individual Indian fishers. These random samples, consisting of a thorough examination for fin clips, hook scars, tags, gill-net marks, and other distinguishing characteristics, were conducted on a routine basis each time the crew came in contact with a successful fisherman. Scale samples, fork length and weight measurements were obtained on a random basis as opportunistically as circumstances allowed.

The utilization of two different methodologies to obtain harvest information, necessitated the division of this information into two separate and distinct categories. We have classified these two data groups as:

C Harvest Figures are Based on Confirmed / Verified Accounts

UC Harvest Figures are Based on Reliable / Unconfirmed Accounts

RESULTS AND FINDINGS

FINAL HARVEST FIGURES

Final **C Harvest Figures**, Confirmed / Verified accounts of actual harvest, show a total harvest of **386** for all species. (Table 1)

Final **UC Harvest Figures**, Reliable / Unconfirmed accounts of actual harvest, show a total harvest of **119** for all species. (Table 2)

The cumulative total figures from data classifications **C** and **UC** show a total combined harvest of **505** for all species. (Table 3)

SCALE SAMPLE ANALYSIS

Scale samples, fork length and weight measurements were made on a random sample of harvested fish. Following is a summary of the results obtained through our analysis of scale samples taken randomly throughout the season. A total of 102 scale samples were collected in the 1991 fishing season. All 102 samples were analyzed to determine age class and composition of harvest. (Table 4) Final analysis revealed a total of:

- (1) Two year-old
- (15) Three year-old
- (75) Four year-old
- (5) Five year-old
- (6) Unreadable

FINAL CWT RECOVERIES

Coded wire tag (cwt) recovery and analysis was also proposed in this project, however no tagged fish were harvested in the 1991 Dip-Net Fishery at Ishi-Pishi Falls.

KARUK TRIBE OF CALIFORNIA

DEPARTMENT OF FISHERIES

HARVEST MONITORING PROJECT

TABLES

1 - 4

FINAL SUMMARY OF

HARVEST FIGURES

1991

TABLE 1
FINAL SUMMARY OF
***C HARVEST DATA**

APRIL 1 THROUGH NOVEMBER 15, 1991

	CHINOOK	COHO	STEELHEAD	
FIRST QUARTER				
MALE	15	0	0	
FEMALE	17	0	1	
IMMATURE	1	0	0	
TOTAL	33	0	1	= 34
SECOND QUARTER				
MALE	115	0	2	
FEMALE	129	0	3	
IMMATURE	20	0	0	
TOTAL	264	0	5	= 269
THIRD QUARTER				
MALE	28	6	5	
FEMALE	20	10	7	
IMMATURE	5	2	0	
TOTAL	53	18	12	= 83
FINAL SUMMARY				
MALE	158	6	7	
FEMALE	166	10	11	
IMMATURE	26	2	0	
TOTAL	350	18	18	= 386

** C Harvest Figures Are Based on Confirmed / Verified Accounts of Actual Harvest*

TABLE 2

FINAL SUMMARY OF *UC HARVEST DATA

APRIL 1 THROUGH NOVEMBER 15, 1991

	CHINOOK	COHO	STEELHEAD	
FIRST QUARTER				
MALE	1	0	0	
FEMALE	3	0	0	
IMMATURE	1	0	0	
TOTAL	5	0	0	= 5
SECOND QUARTER				
MALE	38	1	0	
FEMALE	23	2	0	
IMMATURE	12	0	0	
TOTAL	73	3	0	= 76
THIRD QUARTER				
MALE	4	4	4	
FEMALE	9	2	12	
IMMATURE	2	1	0	
TOTAL	15	7	16	= 38
FINAL SUMMARY				
MALE	43	5	4	
FEMALE	35	4	12	
IMMATURE	15	1	0	
TOTAL	93	10	16	= 119

** UC Harvest Figures Are Based On Unconfirmed / Reliable Accounts of Harvest*

TABLE 3

FINAL SUMMARY OF *C AND *UC HARVEST DATA

APRIL 1 THROUGH NOVEMBER 15, 1991

	CHINOOK	COHO	STEELHEAD	
*C HARVEST DATA				
MALE	158	6	7	
FEMALE	166	10	11	
IMMATURE	26	2	0	
TOTAL	350	18	18	= 386
*UC HARVEST DATA				
MALE	43	5	4	
FEMALE	35	4	12	
IMMATURE	15	1	0	
TOTAL	93	10	16	= 119
COMBINED TOTALS				
MALE	201	11	11	
FEMALE	201	14	23	
IMMATURE	41	3	0	
TOTAL	443	28	34	= 505

COMBINED SEASON TOTAL FOR ALL SPECIES

505

TABLE 4

**Age Composition of the 1991 Klamath River
Fall Chinook Harvest at Ishi-Pishi Falls.**

2 year-olds	1	.98%
3 year-olds	15	14.70%
4 year-olds	75	73.53%
5 year olds	5	4.90%
Unreadable	6	5.88%
Total Samples	102	

