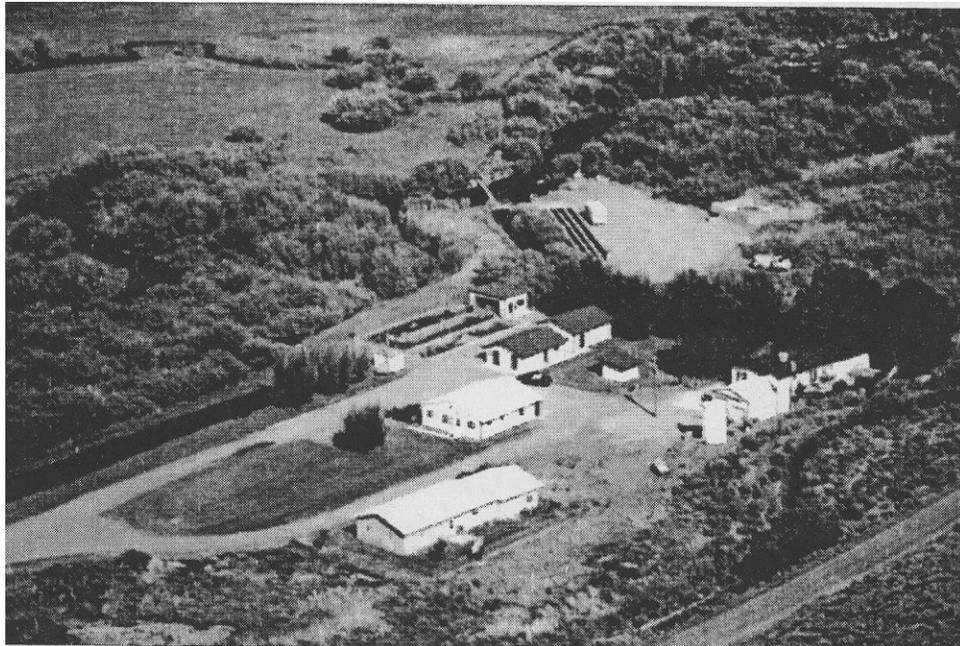




PAHSIMEROI FISH HATCHERY

2001 Summer Chinook Brood Year Report



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ABSTRACT

The summer chinook program at Pahsimeroi Hatchery is part of an Idaho Power Company (IPC) mitigation program. The decision to shift the program's focus from a harvest augmentation program to a supplementation/conservation program was a management decision made by the Idaho Department of Fish and Game (Department) in agreement with the National Marine Fisheries Service (NMFS). The decision came about in 1992 when the Pahsimeroi summer chinook salmon became listed as threatened under the Federal Endangered Species Act of 1973. The program continues to fulfill all of IPC's obligations under its current Federal Energy Regulatory Commission (FERC) operating license for the Hells Canyon Dam Complex.

The Pahsimeroi River weir was installed and trapping of summer chinook salmon began on May 31, 2001. The weir was left in place until trapping ceased on October 1, 2001. The first fish was trapped on June 6, 2001 and the last on September 29th. A total of 1,097 chinook salmon *Oncorhynchus tshawytscha* were trapped during the 2001 brood year (35 jacks, 477 adult males, and 585 females). Of the 1,097 fish trapped, 306 were returned to the Pahsimeroi River to spawn naturally, and 790 were retained for hatchery production. One fish died in the trap prior to sorting. Of the 790 fish retained, 89 died prior to spawning.

Fish returned to the Pahsimeroi River for natural spawning consisted of 79 unmarked females, 79 unmarked males, 77 adipose clipped females, 61 adipose clipped males, 5 unmarked jacks and five adipose clipped jacks. Fish held for hatchery production consisted of 38 unmarked females, 43 unmarked males, 390 adipose clipped females, 294 adipose clipped males, 23 adipose clipped jacks, and 2 unmarked jacks. One trap mortality male included in ponded fish makes the total of 1,097.

Artificial spawning of summer chinook salmon commenced on August 27, 2001 and concluded on October 2, 2001. A total of 340 females were spawned, yielding 1,700,097 green eggs, for an average fecundity rate of 5,000 eggs per female. The overall eye-up percentage was 88.7%. Egg lots 1 through 6 were incubated at Pahsimeroi and then shipped eyed to Sawtooth Fish Hatchery (SFH) for hatching and early rearing. Lots 7 and 8 were shipped green to SFH. Sawtooth Fish Hatchery raises the fish for one year before transporting the pre-smolts back to the Pahsimeroi Hatchery for final rearing in earthen rearing ponds.

Starting on March 29, 2003, outlet screens of rearing pond #1 and #2 were removed to allow volitional release of chinook smolts into the Pahsimeroi River. All fish had migrated volitionally from the pond by April 7, 2003. A total of 1,205,918 smolts weighing 79,403 lbs were released. The fish averaged 15.19 fish per pound (fpp). The fish were divided into two groups; the first group was the reserve group, which totaled 909,926 smolts, the second group was the Idaho Supplementation Study (ISS) group that consisted of 295,992 smolts.

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INTRODUCTION

Pahsimeroi Fish Hatchery (PFH), located near the town of Ellis, Idaho, is one mile upstream of the confluence of the Pahsimeroi and Salmon rivers. Two rearing ponds are located at a separate location seven miles further upstream on the Pahsimeroi River. The hatchery was constructed in 1967 by Idaho Power Company (IPC) and is owned and funded by IPC. Hatchery operations and management are the responsibility of the Idaho Department of Fish and Game (Department). The summer chinook program is IPC's mitigation obligation for anadromous fish losses caused by the construction and operation of the Hells Canyon Complex on the Snake River. However, due to the 1992 listing of Snake River summer chinook salmon *Oncorhynchus tshawytscha* as threatened under the Federal Endangered Species Act of 1973 (ESA), the Pahsimeroi Fish Hatchery has shifted from a harvest augmentation program to a supplementation–conservation program. The number of adult chinook salmon released into the Pahsimeroi River for natural spawning, as well as the number of those kept at the hatchery for artificial propagation, depends on marked and unmarked fish returns and their listing status. NOAA Fisheries (NOAA) permits #922 and #903 authorize the direct and incidental take of listed, naturally produced and artificially propagated summer chinook salmon.

OBJECTIVES

The hatchery's mitigation goals focus on summer chinook salmon and A-run steelhead. The following objectives are designed to help accomplish the goals:

1. Rear 1.0 million summer chinook smolts for release into the Pahsimeroi River.
2. Trap and spawn sufficient adult summer chinook returning to the PFH to produce 1.5 million green eggs.
3. Trap adult steelhead and produce 1.5 million steelhead eggs, incubate to the eyed stage, and transport eyed eggs to Niagara Springs Hatchery for rearing to smolt size.
4. Work with Department management, research, and IPC personnel to identify the most effective operating procedures and rearing strategies and develop the facility to enhance survival, fish health, and genetic diversity.

HATCHERY FACILITIES

Pahsimeroi Fish Hatchery is split into two locations. The main site consists of six buildings, two of which are residences for full-time employees (a 1994 wood-frame home and a 1999 double-wide mobile home). The third building houses a garage, shop, and two-bedroom living quarters for temporary employees. The fourth contains the office, public restrooms, and an incubation room. The storage building has two sections: one for chemical and machinery storage, the other for non-chemical equipment storage. The sixth building is the spawning building. The upper site consists of a garage/shop, walk-in freezer, and a 7-ft x 10-ft storage shed.

The fish production facilities include the following:

Main Facility

1. Removable adult weir across the Pahsimeroi River
2. Fish ladder and 3 ponds (each pond measures 70-ft x 16-ft x 6-ft; two are for holding and the center one is considered the trap).
3. Four raceways (100-ft x 4-ft x 3-ft) supplied by river water and limited 200 gpm spring water.
4. Incubation room with twenty 16-tray stacks of Heath tray vertical-flow incubators supplied by pumped spring water.

Upper Facility

1. Two 300-ft x 40-ft x 5-ft earthen rearing ponds supplied with water from the Pahsimeroi River.
2. Two 300-ft x 40-ft x 4-ft earthen settling ponds located directly below the rearing ponds.

Holding capacity for the trap and holding ponds is approximately 2,000 adult summer chinook and 5,000 adult A-run steelhead. With 3 cfs of river water, the raceways can hold up to one million two-inch chinook fry at a 0.50 lbs/cuft/inch density index. At inflows of 20 cfs, holding capacity in the two rearing ponds at the upper facility is one million summer chinook smolts. Incubation capacity is for two million chinook eggs and three million steelhead eggs.

WATER SUPPLY

Incubation water consists of specific-pathogen-free (SPF) spring water, which is pumped to a 10,000-gallon holding tank and gravity fed to the incubators. The spring source can produce up to 200 gpm of 52°F to 56°F water.

The adult trap and holding ponds are supplied with water from the Pahsimeroi River through a 0.25-mile earthen intake canal. Water from the canal may also be used to supply the early rearing raceways. A water right for 40 cfs held by IPC allows hatchery personnel to divert water from the Pahsimeroi River for hatchery operation. Water quality varies throughout the year. Water temperatures also vary from seasonal lows of 33°F in the winter to seasonal highs of 72°F in the summer. Daily fluctuations can be as much as 12 degrees.

Water for the rearing ponds also comes from a diversion in the Pahsimeroi River. A water right for 20 cfs allows a flow of 10 cfs per pond. The water is diverted down a concrete

canal and flows through the ponds and into the settling ponds before being discharged back to the Pahsimeroi River.

Both intake canals are equipped with NOAA-approved rotating drum screens designed to prevent entrainment of wild chinook and steelhead from the river into the hatchery facilities.

STAFFING

The hatchery is staffed by both permanent and temporary employees. The permanent staff consists of a Hatchery Manager 1 and an Assistant Hatchery Manager. The temporary employees who assist during the steelhead and summer chinook trapping and spawning seasons include two bio-aides and one laborer. Temporary employees worked approximately 3,299 hours during Brood Year 2001.

At the height of the steelhead and chinook spawning seasons, Department regional staff, Sawtooth Hatchery staff, and one fishery technician from the Nampa Fisheries Research Office also assist with hatchery operations.

ADULT SUMMER CHINOOK TRAPPING

The trap was operational from May 31 through October 1, 2001. The first adult summer chinook arrived on June 6, while the last arrived on September 29, 2001. Summer chinook returning in 2001 originated from brood years 1996, 1997 and 1998. Hatchery-origin fish from these brood years were supplementation-listed fish and were marked with an adipose fin clip. There were no reserve group fish in these brood years. The supplementation fish were derived from natural-origin x hatchery-origin or natural-origin x natural-origin crosses.

A total of 1,097 summer chinook were trapped in 2001. The run consisted of 1,062 adults and 35 jacks, with a sex ratio of 477 adult males to 585 adult females. Of the 477 adult males trapped, 355 were of hatchery-origin and 122 were of natural-origin. Hatchery-origin summer chinook were marked with an adipose (AD) clip. Summer chinook of natural-origin were unmarked. Of the 585 adult females trapped, 468 were of hatchery-origin and 117 were of natural-origin (Tables 1–3; Figures 1–4).

ADULT AGE CLASS DETERMINATION

The age of both hatchery-origin and natural-origin summer chinook was determined by fork length as follows:

1. Chinook with fork lengths greater than 82 cm were classified as five years old.
2. Chinook with fork lengths between 62 cm and 82 cm inclusive were classified as four years old.
3. Chinook with a fork length less than 62 cm were classified as jacks.

SPECIAL MARKS/TAGS

At the request of Department research personnel no fish were scanned for PIT tags this season. Scanning the adults for Passive Integrated Transponder (PIT) tags when they return from the ocean is time consuming. Also, the number of adults containing PIT tags is so few that the information recovered from these PIT-tagged fish is insignificant. None of the adults were checked for coded wire tags (CWT) because the fish returning from these three brood years were marked with CWTs prior to release as smolts.

Of the 1,097 chinook trapped this year eight were found to have specialty tags. Six of the fish were of hatchery-origin and two were of natural-origin. Fish that contained radio tags were part of a study being conducted by the University of Idaho and fish that contained jaw tags were part of a migration study being conducted by the Washington Department of Fish and Wildlife. All jaw tagged fish died prior to spawning.

Specific information on these fish with specialty marks is as follows:

TRAP DATE	SEX	FL(CM)	CLIPS OR MARKS	TAG NUMBERS
				RADIO/ JAW TAG/ VISUAL IMPLANT TAGS
17-Jun	f	85	adrad	channel14, code 127
18-Jun	f	80	adjt	WDFW 00298, jaw tag was red
21-Jun	f	82	rad	channel14, code 113
26-Jun	f	81	adjt	WDFW 01190, jaw tag was yellow
26-Jun	f	76	adjt	WDFW 00640, jaw tag was red
11-Jul	f	93	adrad	channel 15, code 47
15-Jul	f	80	adrad	channel 8, code 33
23-Jul	f	79	rad	channel 15, code 94

ad = adipose clipped, ra = radio tagged, jt=jaw tagged

ADULT HANDLING PROCEDURES

The trap was checked daily and all fish were handled in accordance with protocols established by the NOAA. All salmon were anesthetized in a solution of MS-222. While anesthetized, fish were examined for fin clips, measured to the nearest centimeter for fork length, and identified by sex. Also, each fish was injected (intraperitoneally) with erythromycin at a double dosage rate of 20-mg/kg body weight. All fish were allowed to recover in a freshwater recovery tank before being ponded or released.

All summer chinook held for spawning were marked with a floy tag. Floy tagging each salmon during trapping ensures identification of each fish for ESA tracking and tissue sampling.

ADULT HOLDING POND RECORD

The number of chinook retained for spawning each year is recommended to management personnel by Department fisheries biologists, based on the number and origin of returning adults. Forty-three natural-origin males plus two natural-origin jacks and 294 hatchery-origin males and 23 hatchery-origin jacks were ponded for spawntake. Thirty-eight natural-origin females and 390 hatchery-origin females were ponded for spawntake.

Natural males ponded included 22 four year olds, 21 five year olds and two jacks. Twenty-three of the hatchery-origin males ponded were three year olds (jacks), 162 were four year olds and 132 were five year olds. Two hundred sixty six of the hatchery-origin females ponded were four year olds and 124 were five year olds. One four-year-old hatchery female died in the trap prior to ponding. Twenty-four of the natural-origin females were four year olds and 14 were five year olds (Table 4).

Beginning July 1 and continuing through September 15 both the male and female holding ponds were treated 3 times weekly with a 1-hour, 167 ppm formalin treatment to prevent mortality caused by secondary mycotic infections. Female chinook were sorted for ripeness for the first time on August 27.

This year's prespawning mortality equated to 11.3% of the 790 fish held for spawning. Several of the prespawning mortalities were examined and found to have BKD lesions in the kidneys. At one point during the trapping season the salmon were dying at a maximum of five fish per day. Hatchery personnel were concerned that the added stress associated with routine sorting and spawning operations would elevate mortality even further. However, just the opposite happened. Apparently, all the weak fish died off prior to spawning resulting in only healthy fish left for spawning. Female prespawning mortality totaled 75 fish and male prespawning mortality totaled 14 fish. Only six of the total prespawning mortalities were of natural-origin (three females and three males). Afternoon water temperatures reached highs of 69°F and are believed to have contributed to some of the prespawning mortality. Also, fish were held longer due to the fact they started arriving three weeks earlier than normal.

ADULT RELEASES

Seventy-seven hatchery-origin and 79 natural-origin female summer chinook were released to spawn naturally in the Pahsimeroi River. Sixty-one hatchery-origin and 79 natural-origin adult male summer chinook were released for the same purpose along with five hatchery-origin and 5 natural-origin jacks (Table 4). Most of the fish released for natural spawning were released the same day they were trapped. Only one group release of ten fish was made during the season. Research personnel from the Department's Nampa office conducted redd counts on the Pahsimeroi River and found a total of 173 redds. Of those redds, 28 were below the weir and 145 were found above the weir. The majority of the redds were found within one mile above and below Dowton Lane Bridge.

SUMMER CHINOOK SPAWNING AND INCUBATION

Spawning began on August 27 and concluded on October 2, 2001. Each ripe female was killed and then spawned by the incision method. Prior to incision, a 1cc sample of ovarian fluid was collected from 60 fish to test for the viral pathogens IHN/IPN. After egg collection and fertilization, kidney samples were collected to test for BKD and head wedges were collected to test for whirling disease. All samples were sent to the Eagle Fish Health Laboratory. A small piece of pelvic fin was removed from 73 summer chinook during different spawning sessions and placed into a vial of lysis buffer for later DNA analysis and conservation genetics studies being conducted by the Department.

To create the hatchery reserve group, crosses of hatchery supplementation x hatchery supplementation fish were used. Hatchery-origin supplementation females were spawned at a 1:1 male/female ratio. Consequently, some males were spawned more than once due to the fact that we have no way to segregate spawned and un-spawned males and it becomes too time consuming to search for unspawned males. Additionally a shortage of males necessitated they be spawned multiple times.

Natural-origin x natural-origin and natural-origin x hatchery supplementation fish were crossed to create the supplementation group. The eggs from most of the natural females were divided into halves and each half was placed into a separate bucket. Males were then selected at random and a different male was used to fertilize each half. This method is known as a split random cross. Each male was spawned directly into the bucket and allowed to fertilize the eggs from 15 to 30 seconds. Then the eggs were pooled together and egg buckets were set aside for five minutes. A small portion of the natural females was also spawned at a 1:1 male/female ratio. Both methods were used to increase genetic diversity.

Wellwater was then used to rinse the eggs. The eggs were water hardened in a 100-ppm solution of Argentyne and allowed to sit for 60 minutes. Finally, eggs were poured directly into vertical stack incubator trays at Pahsimeroi Hatchery.

With the exception of lot 7 and lot 8, all eggs were incubated to eye-up at Pahsimeroi Hatchery. The incubator trays were loaded at the rate of one female's eggs per tray, except for lot 6 in which some of the trays were loaded at two female's eggs per tray. Due to incubation space constraints eggs from lots 7 and 8 were sent green to Sawtooth Hatchery. From 48 hours after spawning until eye up, eggs were treated three times a week with a 1,667-ppm formalin treatment at both Pahsimeroi and Sawtooth hatcheries.

At eye-up, (approximately 450 temperature units [TUs]), the eggs were shocked twice by pouring them into a bucket of water from a height of approximately 16 inches. The dead eggs were picked and enumerated by the use of a Jensorter electronic counter/picker. The number of dead eggs was added to the eyed-egg number to obtain the total number of green eggs per female.

The eyed-egg number was divided by the green egg number to determine the overall eye-up percentage (Table 5). Once the eggs reached the eyed stage, they were poured into aqua-seed tubes, placed in coolers of water and transported to Sawtooth Fish Hatchery for final incubation and early rearing.

Prior to transport, ice was placed into the coolers to chill the water and eggs. Upon arrival at the Sawtooth Hatchery, all eggs were tempered and disinfected with an iodine solution before being placed in standard vertical stack incubators.

A total of 353 females were initially spawned, yielding approximately 1,759,060 green eggs. Fecundity averaged 5,000 eggs per female. The eggs from 12 females were rejected prior to eye-up due to poor egg quality or high ELISA values. These eggs were not enumerated electronically, but their number was estimated by multiplying the number of females rejected in a given lot times the average fecundity of the lot. The eggs from the remaining 341 females were allowed to eye-up and were enumerated using a Jensorter electronic counter/picker.

A total of 1,508,269 eyed-eggs were obtained, resulting in an average eye-up percentage of 88.7% (Table 5). Viral samples tested negative for IPN/IHN. Kidney sample test results ranged from negative to high positive for BKD. Under direction from the Department Fisheries Bureau Pahsimeroi Hatchery personnel normally cull eggs from fish that have an ELISA optical density of 0.4 or greater. This year due to the large number of adults retained for spawning a decision was made by the Fisheries Bureau to cull all eggs from female fish with an optical density of 0.2 or greater. However, only 11 females had an optical density of 0.2 or greater. Therefore, hatchery personnel were directed to destroy eggs from healthy fish since there were no options available for utilizing surplus eggs. A total of 28,087 eyed-eggs were culled due to high BKD (12%) and 208,096 other eggs (88%) were also destroyed, for a total of 236,183 eyed eggs culled. This resulted in 1,272,086 eyed-eggs utilized for production.

The breakdown of the resulting different groups of eyed eggs utilized for production is as follows:

Reserve Group Listed	967,380
Supplementation (ISS) Listed	304,706

CRYOPRESERVATION

With the future projection of few returning adult chinook salmon to the Pahsimeroi Fish Hatchery, the Nez Perce Tribe initiated a cryopreservation program in 2000 using Pahsimeroi stock summer chinook. During the spawning season personnel from the Nez Perce Tribe collected milt from naturally produced and artificially propagated adult male chinook salmon. The milt was tested for motility prior to freezing and is currently being stored in repositories at the University of Idaho and Washington State University (Table 6).

ADULT CARCASS DISPOSITION

During the spawning season some of the carcasses were hauled to the landfill and some were buried at the upper facility.

FISH PRODUCTION

Summer chinook salmon are more susceptible to whirling disease when they are less than 3.5 inches in length. To minimize the impact of whirling disease, it is recommended that fish be reared on Specific-Pathogen-Free (SPF) water until they reach approximately 3.5 inches in length. Once the summer chinook reach this size, they can be safely transferred to raw water.

Sawtooth Hatchery began ponding 944,385 reserve group fry on January 2, 2003. These fry were placed into four indoor vats supplied with well water at 44°F. Sawtooth Fish Hatchery reared the summer chinook reserve group according to Integrated Hatcheries Operation Team (IHOT) guidelines for density and flow indices of .5 lbs/cuft/inch and 1.5 lbs/gpm/inch, respectively. On February 6, 2002, one-half of the fish in each indoor vat were thinned to large raceway 9 (L-9) outside on river water. The river water temperature at that time was 36°F. The remaining fish were moved outside March 6, 2002 when the river water temperature was 42°F. Fish in L-9 were later split among raceways L-6, L-7, L-8 and L-9.

Due to space and water limitations not all of the Pahsimeroi stock inventory could be reared at Sawtooth Hatchery. A total of 303,145 ISS fry were transferred back to Pahsimeroi Hatchery at swim-up during January 2002. These fry were ponded in Pahsimeroi's four early rearing raceways.

To control BKD, all fish received two 28-day, prophylactic-medicated feed treatments. The first medicated feed treatment at Pahsimeroi took place from May 31, 2002 through June 27, 2002. The second medicated treatment took place from August 27, 2002 through September 23, 2002. The first medicated feed treatment at Sawtooth Hatchery occurred from June 3, 2002 through June 30, 2002. The second medicated treatment took place August 16, 2002 through September 12, 2002. A total of 16,865 lbs of Bio-Oregon Aquamycin feed was administered (Table 7).

All ISS group fingerlings at Pahsimeroi Hatchery were marked with coded wire tags (none were adipose clipped) from May 17, 2002 through May 20, 2002. The marking inventory total was 298,465 fish. All ISS group fingerlings were transferred from Pahsimeroi early rearing raceways 1-4 to rearing pond #2 on May 28 and 29, 2002. All Sawtooth Hatchery reserve group fish were ad-clipped September 16, 2002 to September 20, 2002. From September 23, 2002 through September 25, 2002, all 912,418 reserve group fish were transported to the Pahsimeroi rearing ponds. Sawtooth Hatchery personnel reported an average size of 45.6 fpp at the time of transfer. A total of 611,800 reserve group fish were placed in pond #1 and a total of 300,618 reserve group fish were placed in rearing pond #2.

Brood year 2001 smolts were fed 99,766 lbs of feed during their rearing cycle, resulting in a feed conversion of 1.3 (Table 7). The original number of summer chinook, less observable mortalities, was used to calculate the conversion rate. It should be noted, however, that predation by river otters and various bird species was observed but could not be quantified. Attempts to live-trap otters in the past were unsuccessful. This otter problem is becoming a yearly occurrence.

Also, common mergansers invade the ponds in March and April when the fish are starting to smolt. An attempt was made to obtain a kill permit from the US Fish and Wildlife Service (USFWS), but was denied since there's been no attempt to install bird screens around

the ponds. Idaho Power Company plans to install bird netting as part of a hatchery renovation tentatively scheduled to begin in 2006.

Prerelease organosomatic indices can be found in Table 8. Production costs are summarized in Table 9. Survival percentages by life stage are summarized in Table 10.

SMOLT RELEASES

A total of 1,205,918 smolts were released volitionally from March 29, 2003 to April 7, 2003. The outlet screens were pulled on March 29 and a set of dam boards was pulled each day thereafter until all fish migrated from the pond. Pulling dam boards increases the turnover rate through the pond and speeds outmigration. This year two groups of fish were released: 909,026 reserve group and 295,992 ISS group smolts. All reserve group fish were marked with an adipose clip. All ISS group fish were marked with coded wire tags. No ISS group fish were adipose clipped.

FISH HEALTH

Diseases Encountered and Treatments. No diseases were encountered in BY2001 summer chinook reared at this facility. *Renibacterium salmoninarum* and *Myxobolus cerebralis* were detected in routine sampling of brood chinook. *M. cerebralis* was not detected in brood steelhead. *Myxobolus cerebralis* was detected in BY2001 juvenile chinook at preliberation. Two prophylactic applications of erythromycin were given to BY2001 chinook to reduce the risk of an epizootic of bacterial kidney disease (BKD).

Acute Losses. No acute nor chronic losses were experienced at this facility.

Other Assessments. Department and IPC personnel are cooperating to renovate Pahsimeroi Hatchery. This renovation is projected to provide a SPF water source and early rearing raceways. This renovation will provide the Pahsimeroi staff with management options that will help circumvent WHD until the fish reach approximately 9.0 cm. Due to budget restrictions this project may have to be done in stages.

Organosomatic Indices

See Table 8.

FISH MARKING

Brood Year 2001 reserve group fish received adipose clips while at Sawtooth Fish Hatchery. The ISS group all received coded wire tags at Pahsimeroi. For a summary of mark types refer to the smolt release section. All BY2001 summer chinook are considered listed. Four hundred and ninety-eight of the ISS group and 486 of the reserve group were marked with

PIT tags in February 2003 prior to release. The purpose for the PIT tags is to determine survivability of the chinook smolts on their downstream migration to the ocean.

HATCHERY IMPROVEMENTS

1. Department Information Technology personnel installed a new Dell desktop computer and connected it to the existing desktop computer to network.
2. New backup hard drives were purchased for the hatchery office computers.
3. A new HP LaserJet 3330 printer was purchased for the two hatchery office computers.
4. A new HP LaserJet 6122 printer was purchased for the hatchery laptop computer.
5. A new miter saw fence and Vega table saw fence were purchased for the hatchery shop.
6. New carpet and linoleum were installed in the Manager's residence.
7. New pine doors were installed in the Manager's residence.
8. A new hardwood entry floor and wainscoting wall were installed in the Manager's residence.
9. Archways and window frames received new pine trim in the Manager's residence.
10. Hatchery personnel constructed and installed new countertops in the Manager's residence.
11. New doors for the heating/cooling unit were installed in the Manager's residence.
12. A new workbench was installed in the garage of the Manager's residence.
13. A new heating and cooling unit was installed at the Assistant Manager's residence.
14. New carpet and floor trim were installed in the Assistant Manager's residence.
15. New linoleum was installed in the entrance and restrooms of the Assistant Manager's residence.
16. Both residences received new interior paint.
17. New ceiling fans were installed in the hatchery dormitory and Assistant Manager's residence.
18. Block heaters were installed in all hatchery vehicles.
19. New fish screens were built for the lower facility raceways.

20. The hatchery received a 1-ton pickup truck transferred from the fish marking project in Lewiston.
21. The hatchery received a ½-ton Chevrolet pickup truck transferred from Cabinet Gorge Hatchery.

RECOMMENDATIONS

Recommendations for Pahsimeroi Fish Hatchery include developing a SPF water source to provide rearing conditions free of disease. Due to the presence of whirling disease at Pahsimeroi all chinook eggs are currently sent either green or eyed to Sawtooth Fish Hatchery for incubation and early rearing. A minimum of 14 cfs of SPF water will be needed to allow 1,000,000 chinook to reach a size of 9 cm prior to exposure to water containing the whirling disease causative agent. Complete renovation of the upper facility should be completed in 2006.

ACKNOWLEDGMENTS

We would like to thank Paul Abbott and the staff of IPC for their continued help and support. Also, we would like to thank the crew at Sawtooth Fish Hatchery for all their help with incubation and early rearing.

Table 1. Pahsimeroi Hatchery Brood Year 2001 summer chinook salmon run timing.

Date Trapped	Hatchery Males	Natural Males	Total Males	Hatchery Females	Natural Females	Total Females	Total Trapped
6-Jun	0	1	1	0	1	1	2
7-Jun	0	1	1	0	0	0	1
8-Jun	0	1	1	0	0	0	1
9-Jun	0	0	0	1	0	1	1
10-Jun	1	0	1	2	0	2	3
11-Jun	1	0	1	3	2	5	6
12-Jun	2	2	4	5	2	7	11
13-Jun	1	0	1	1	0	1	2
14-Jun	2	1	3	2	0	2	5
15-Jun	2	0	2	3	2	5	7
16-Jun	4	2	6	5	4	9	15
17-Jun	3	2	5	3	1	4	9
18-Jun	6	1	7	7	2	9	16
19-Jun	3	1	4	4	0	4	8
20-Jun	3	1	4	5	0	5	9
21-Jun	3	1	4	6	3	9	13
22-Jun	5	0	5	4	1	5	10
23-Jun	6	3	9	13	4	17	26
24-Jun	3	2	5	6	2	8	13
25-Jun	1	2	3	5	5	10	13
26-Jun	11	1	12	11	2	13	25
27-Jun	8	1	9	9	8	17	26
28-Jun	4	0	4	11	1	12	16
29-Jun	12	5	17	17	5	22	39
30-Jun	12	8	20	14	3	17	37
1-Jul	13	6	19	20	6	26	45
2-Jul	4	2	6	9	0	9	15
3-Jul	7	4	11	16	3	19	30
4-Jul	16	2	18	21	3	24	42
5-Jul	0	0	0	0	0	0	0
6-Jul	20	5	25	19	0	19	44
7-Jul	6	2	8	3	1	4	12
8-Jul	2	3	5	5	4	9	14
9-Jul	5	2	7	5	4	9	16
10-Jul	17	5	22	18	6	24	46
11-Jul	12	3	15	11	1	12	27
12-Jul	6	0	6	14	5	19	25
13-Jul	10	1	11	7	4	11	22
14-Jul	9	1	10	16	1	17	27
15-Jul	2	0	2	8	2	10	12
16-Jul	3	2	5	7	0	7	12
17-Jul	5	0	5	4	0	4	9

Table 1. continued

18-Jul	2	1	3	2	1	3	6
19-Jul	0	1	1	2	0	2	3
20-Jul	1	0	1	2	1	3	4
21-Jul	1	1	2	6	1	7	9
22-Jul	4	1	5	6	1	7	12
23-Jul	4	2	6	9	3	12	18
24-Jul	4	0	4	6	0	6	10
25-Jul	0	0	0	5	0	5	5
26-Jul	6	1	7	4	0	4	11
27-Jul	8	0	8	8	1	9	17
28-Jul	4	3	7	3	0	3	10
29-Jul	5	2	7	2	0	2	9
30-Jul	2	0	2	5	0	5	7
31-Jul	1	1	2	2	0	2	4
1-Aug	6	0	6	2	0	2	8
2-Aug	2	1	3	4	0	4	7
3-Aug	1	1	2	4	0	4	6
4-Aug	1	2	3	4	0	4	7
5-Aug	1	0	1	5	0	5	6
6-Aug	4	1	5	2	0	2	7
7-Aug	3	0	3	3	0	3	6
8-Aug	4	0	4	3	0	3	7
9-Aug	2	0	2	2	1	3	5
10-Aug	1	0	1	2	0	2	3
11-Aug	2	0	2	2	0	2	4
12-Aug	1	1	2	2	0	2	4
13-Aug	3	0	3	2	0	2	5
14-Aug	0	0	0	0	0	0	0
15-Aug	0	0	0	0	0	0	0
16-Aug	1	0	1	1	0	1	2
17-Aug	0	1	1	1	0	1	2
18-Aug	1	0	1	1	0	1	2
19-Aug	0	0	0	2	0	2	2
20-Aug	1	0	1	0	0	0	1
21-Aug	0	0	0	0	0	0	0
22-Aug	0	0	0	0	0	0	0
23-Aug	0	1	1	1	0	1	2
24-Aug	2	0	2	1	0	1	3
25-Aug	2	0	2	0	0	0	2
26-Aug	1	0	1	0	0	0	1
27-Aug	0	1	1	0	0	0	1
28-Aug	2	2	4	1	0	1	5
29-Aug	3	1	4	1	0	1	5
30-Aug	2	0	2	1	0	1	3

Table 1. continued

31-Aug	1	0	1	2	0	2	3
1-Sep	3	0	3	0	0	0	3
2-Sep	1	0	1	1	0	1	2
3-Sep	2	0	2	2	0	2	4
4-Sep	3	0	3	1	0	1	4
5-Sep	4	0	4	0	0	0	4
6-Sep	3	0	3	1	0	1	4
7-Sep	2	1	3	0	1	1	4
8-Sep	1	0	1	0	1	1	2
9-Sep	1	1	2	0	0	0	2
10-Sep	2	3	5	1	0	1	6
11-Sep	6	6	12	0	3	3	15
12-Sep	14	3	17	1	3	4	21
13-Sep	5	3	8	6	2	8	16
14-Sep	6	5	11	4	1	5	16
15-Sep	4	1	5	6	1	7	12
16-Sep	3	1	4	4	3	7	11
17-Sep	1	1	2	0	0	0	2
18-Sep	0	0	0	3	0	3	3
19-Sep	0	0	0	0	2	2	2
20-Sep	0	0	0	5	1	6	6
21-Sep	0	1	1	1	1	2	3
22-Sep	1	2	3	0	0	0	3
23-Sep	1	1	2	0	0	0	2
24-Sep	1	1	2	0	0	0	2
25-Sep	0	0	0	0	1	1	1
26-Sep	0	0	0	0	0	0	0
27-Sep	0	0	0	0	0	0	0
28-Sep	0	0	0	0	0	0	0
29-Sep	0	0	0	1	0	1	1
TOTAL:	383	129	512	468	117	585	1,097

Table 2. Length frequency of male summer chinook for Pahsimeroi Fish Hatchery, 2001

MALES

TOTAL TRAPPED		AD-CLIP PONDED		AD-CLIP RELEASED		UNMARKED PONDED		UNMARKED RELEASED	
FL(CM)	NUMBER	FL(CM)	NUMBER	FL(CM)	NUMBER	FL(CM)	NUMBER	FL(CM)	NUMBER
41	0	41	0	41	0	41	0	41	0
42	0	42	0	42	0	42	0	42	0
43	0	43	0	43	0	43	0	43	0
44	0	44	0	44	0	44	0	44	0
45	1	45	1	45	0	45	0	45	0
46	1	46	1	46	0	46	0	46	0
47	1	47	1	47	0	47	0	47	0
48	1	48	0	48	1	48	0	48	0
49	1	49	0	49	0	49	1	49	0
50	2	50	2	50	0	50	0	50	0
51	5	51	1	51	2	51	0	51	2
52	2	52	1	52	0	52	0	52	1
53	1	53	1	53	0	53	0	53	0
54	2	54	1	54	0	54	0	54	1
55	0	55	0	55	0	55	0	55	0
56	4	56	4	56	0	56	0	56	0
57	3	57	2	57	0	57	0	57	1
58	3	58	3	58	0	58	0	58	0
59	1	59	1	59	0	59	0	59	0
60	3	60	1	60	2	60	0	60	0
61	4	61	3	61	0	61	1	61	0
62	5	62	4	62	0	62	1	62	0
63	5	63	4	63	0	63	1	63	0
64	4	64	0	64	2	64	0	64	2
65	2	65	2	65	0	65	0	65	0
66	3	66	3	66	0	66	0	66	0
67	4	67	3	67	1	67	0	67	0
68	2	68	1	68	1	68	0	68	0
69	0	69	0	69	0	69	0	69	0
70	8	70	4	70	0	70	0	70	4
71	6	71	4	71	1	71	0	71	1
72	8	72	5	72	1	72	1	72	1
73	7	73	4	73	0	73	0	73	3
74	9	74	3	74	2	74	1	74	3
75	16	75	9	75	2	75	1	75	4
76	14	76	10	76	1	76	1	76	2
77	24	77	10	77	1	77	7	77	6
78	28	78	20	78	3	78	0	78	5
79	24	79	17	79	3	79	1	79	3
80	25	80	15	80	4	80	3	80	3
81	30	81	18	81	7	81	2	81	3
82	36	82	26	82	1	82	3	82	6

Table 2. continued

83	30	83	24	83	2	83	0	83	4
84	47	84	31	84	8	84	3	84	5
85	24	85	11	85	8	85	2	85	3
86	26	86	17	86	4	86	3	86	2
87	31	87	20	87	5	87	3	87	3
88	19	88	9	88	2	88	1	88	7
89	13	89	8	89	0	89	3	89	2
90	12	90	6	90	1	90	2	90	3
91	4	91	2	91	0	91	2	91	0
92	3	92	1	92	1	92	0	92	1
93	0	93	0	93	0	93	0	93	0
94	1	94	1	94	0	94	0	94	0
95	0	95	0	95	0	95	0	95	0
96	2	96	0	96	0	96	0	96	2
97	2	97	1	97	0	97	0	97	1
98	1	98	0	98	0	98	1	98	0
99	0	99	0	99	0	99	0	99	0
100	1	100	1	100	0	100	0	100	0
101	0	101	0	101	0	101	0	101	0
102	0	102	0	102	0	102	0	102	0
103	1	103	0	103	0	103	1	103	0
104	0	104	0	104	0	104	0	104	0
105	0	105	0	105	0	105	0	105	0
TOTALS:	512		317		66		45		84

Table 3. Length frequency of female summer chinook for Pahsimeroi Fish Hatchery, 2001

FEMALES

TOTAL TRAPPED		AD-CLIP PONDED		AD-CLIP RELEASED		UNMARKED PONDED		UNMARKED RELEASED	
FL(CM)	NUMBER	FL(CM)	NUMBER	FL(CM)	NUMBER	FL(CM)	NUMBER	FL(CM)	NUMBER
55	0	55	0	55	0	55	0	55	0
56	0	56	0	56	0	56	0	56	0
57	0	57	0	57	0	57	0	57	0
58	0	58	0	58	0	58	0	58	0
59	0	59	0	59	0	59	0	59	0
60	0	60	0	60	0	60	0	60	0
61	0	61	0	61	0	61	0	61	0
62	0	62	0	62	0	62	0	62	0
63	0	63	0	63	0	63	0	63	0
64	1	64	1	64	0	64	0	64	0
65	0	65	0	65	0	65	0	65	0
66	1	66	0	66	1	66	0	66	0
67	0	67	0	67	0	67	0	67	0
68	2	68	0	68	1	68	0	68	1
69	2	69	0	69	1	69	0	69	1
70	6	70	2	70	2	70	0	70	2
71	3	71	2	71	1	71	0	71	0
72	4	72	2	72	0	72	0	72	2
73	7	73	4	73	0	73	1	73	2
74	14	74	6	74	1	74	0	74	7
75	16	75	8	75	5	75	2	75	1
76	25	76	20	76	0	76	2	76	3
77	39	77	23	77	5	77	2	77	9
78	49	78	29	78	7	78	1	78	12
79	48	79	27	79	8	79	5	79	8
80	63	80	50	80	9	80	2	80	2
81	64	81	48	81	8	81	5	81	3
82	63	82	45	82	7	82	4	82	7
83	45	83	36	83	5	83	2	83	2
84	44	84	29	84	6	84	2	84	7
85	35	85	22	85	4	85	6	85	3
86	17	86	12	86	4	86	1	86	0
87	10	87	5	87	0	87	2	87	3
88	7	88	3	88	2	88	1	88	1
89	4	89	3	89	0	89	0	89	1
90	5	90	4	90	0	90	0	90	1
91	1	91	1	91	0	91	0	91	0
92	2	92	2	92	0	92	0	92	0
93	3	93	2	93	0	93	0	93	1
94	0	94	0	94	0	94	0	94	0
95	3	95	3	95	0	95	0	95	0

Table 3. continued

96	0	96	0	96	0	96	0	96	0
97	1	97	1	97	0	97	0	97	0
98	1	98	1	98	0	98	0	98	0
99	0	99	0	99	0	99	0	99	0
100	0	100	0	100	0	100	0	100	0
101	0	101	0	101	0	101	0	101	0
102	0	102	0	102	0	102	0	102	0
103	0	103	0	103	0	103	0	103	0
104	0	104	0	104	0	104	0	104	0
105	0	105	0	105	0	105	0	105	0
106	0	106	0	106	0	106	0	106	0
107	0	107	0	107	0	107	0	107	0
108	0	108	0	108	0	108	0	108	0
TOTALS:	585		391		77		38		79

Table 4. Pahsimeroi Fish Hatchery summer chinook disposition summary, Brood Year 2001

PAH_BY01_SUMMER_CHINOOK

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Released For Natural Spawning

	4 year old Hatchery Males	5 year old Hatchery Males	4 year old Hatchery Females	5 year old Hatchery Females	4 year old Natural Males	5 year old Natural Males	4 year old Natural Females	5 year old Natural Females	Natural Jacks	Hatchery Jacks
Total	30	31	56	21	46	33	60	19	5	5
% of Total Rel.	15.6%	19.0%	17.3%	14.5%	67.6%	61.1%	71.4%	57.6%	71.4%	17.9%

Ponded for Hatchery Production

	4 year old Hatchery Males	5 year old Hatchery Males	4 year old Hatchery Females	5 year old Hatchery Females	4 year old Natural Males	5 year old Natural Males	4 year old Natural Females	5 year old Natural Females	Natural Jacks	Hatchery Jacks
Total	162	132	267	124	22	21	24	14	2	23
% of Total Pnd.	84.4%	81.0%	82.7%	85.5%	32.4%	38.9%	28.6%	42.4%	28.6%	82.1%

Trap Totals by Year Class and Origin for Brood Year 2001

	4 year old Hatchery Males	5 year old Hatchery Males	4 year old Hatchery Females	5 year old Hatchery Females	4 year old Natural Males	5 year old Natural Males	4 year old Natural Females	5 year old Natural Females	Natural Jacks	Hatchery Jacks
Total	192	163	323	145	68	54	84	33	7	28
% of Total Trpd.	17.5%	14.9%	29.4%	13.2%	6.2%	4.9%	7.7%	3.0%	0.6%	2.6%

Trap Totals by Origin for Brood Year 2001

	Hatchery Adult Males	Hatchery Adult Females	Total Hatchery Adults	Natural Adult Males	Natural Adult Females	Total Natural Adults	Hatchery Jacks	Natural Jacks	Total Jacks	Total Chinook Trapped
Total	355	468	823	122	117	239	28	7	35	1,097
% of Total Trpd.	32.4%	42.7%	75.0%	11.1%	10.7%	21.8%	2.6%	0.6%	3.2%	100.0%

Table 5. Brood Year 2001 summer chinook egg incubation record for Pahsimeroi Fish Hatchery

LOT NO.	SPAWN DATE	TOTAL SPAWNED	FEMALES NOT UTILIZED			INITIAL EGG ENUMERATION INFORMATION+						EYED EGG DISPOSITION		
			POOR EGGS*	HIGH ELISA*	HIGH ELISA**	EYED EGGS	DEAD EGGS	TOTAL EGGS	PERCENT EYE-UP	AVERAGE FECUNDITY	ESTIMATED EGGS TAKEN*	EYED EGGS CULLED		EYED EGGS UTILIZED
												HIGH ELISA**	SURPLUS	
1	8/27/2001	1	0	0	0	2,837	932	3,769	75.3%	3,769	3,769	0	0	2,837
2	9/2/2001	7	2	0	0	19,293	7,437	26,730	72.2%	5,346	37,422	0	0	19,293
3	9/10/2001	68	0	0	0	274,291	40,533	314,824	87.1%	4,630	314,824	0	0	274,291
4	9/17/2001	137	2	0	0	634,989	67,662	702,651	90.4%	5,205	713,061	0	151,891	483,098
5	9/20/2001	63	3	0	2	272,521	29,589	302,110	90.2%	5,035	317,216	8,684	37,236	226,601
6	9/24/2001	49	0	5	0	183,402	23,700	207,102	88.6%	4,227	228,235	0	14,737	168,665
7	9/28/2001	17	0	0	3	83,969	13,285	97,254	86.3%	5,721	97,254	17,509	4,232	62,228
8	10/2/2001	11	0	0	1	36,967	8,690	45,657	81.0%	4,151	45,657	1,894	0	35,073
TOTALS:		353	7	5	6	1,508,269	191,828	1,700,097	88.7%	4,914	1,759,060	28,087	208,096	1,272,086

*EGGS DISCARDED PRIOR TO EYE-UP. GREEN EGG NUMBERS ESTIMATED BY FECUNDITY PER LOT

**EYED EGGS FROM THESE FEMALES COUNTED PRIOR TO DISPOSAL

+NUMBERS OBTAINED FROM ELECTRONIC PICKER COUNTER

Table 6. Pahsimeroi Hatchery summer chinook cryopreservation sampling, Brood Year 2001

Collection Date	Sex	Floy Tag ID No.	NPT Sample Number	Straw Number	WSU % Sperm Motility	WSU 0.5 ML	WSU 5.0 ml	UI % Sperm Motility	UI 0.5 ml.	UI 5.0 ml
09/26/01	M	428	NPT-789-01	693	90	20	5	80	20	2
09/26/01	M	395	NPT-790-01	694	90	20	5	70	20	2
09/26/01	M	265	NPT-791-01	695	80	20	5	70	20	2
09/26/01	M	624	NPT-792-01	696	70	20	5	90	20	2
09/26/01	M	681	NPT-793-01	697	80	20	5	50	20	2
09/26/01	M	258	NPT-794-01	698	80	20		90	20	2
09/26/01	M	74	NPT-795-01	699	90	20		80	20	2
09/26/01	M	19	NPT-796-01	700	90	20		80	20	2
09/26/01	M	205	NPT-797-01	701	70	20		90	20	2
09/26/01	M	470	NPT-798-01	702	80	20		90	20	2
09/26/01	M	15	NPT-799-01	703	60	20		70	20	2
09/26/01	M	579	NPT-880-01	704	90	20		90	20	2
09/26/01	M	147	NPT-881-01	705	90	20		70	20	2
09/26/01	M	769	NPT-882-01	706	70	20	5	70	20	2
09/26/01	M	302	NPT-883-01	707	90	20	5	90	20	2
09/26/01	M	571	NPT-884-01	708	80	20	5	80	20	2
09/26/01	M		NPT-885-01	709	10			50	20	2
09/26/01	M	147	NPT-886-01	710	10			70	20	2
09/26/01	M	739	NPT-887-01	711	60	20	5	80	20	2
09/26/01	M	746	NPT-888-01	712	70	20	3	80	20	2
09/26/01	M	702	NPT-889-01	713	90	20		90	20	2
09/26/01	M	368	NPT-890-01	714	70	20	5	70	20	2
09/26/01	M	531	NPT-891-01	715	90	20		90	20	1
10/02/01	M	750	NPT-892-01	718	50	20	5			
10/02/01	M	352	NPT-893-01	719	60	20	5	70	20	
10/02/01	M		NPT-894-01	720	80	20	5	50	20	
10/02/01	M	188	NPT-895-01	721	80	20	5	80	20	
10/02/01	M		NPT-896-01	722	10			50	20	

Table 6. continued

10/02/01	M	197	NPT-897-01	723	80	20	5		
10/02/01	M	199	NPT-899-01	725	90	20	5	50	20
10/02/01	M		NPT-900-01	726	5	20		70	20
10/02/01	M		NPT-938-01	727	90	20		80	20
10/02/01	M	520	NPT-939-01	728	90	20		90	20
10/02/01	M	771	NPT-940-01	729	90	20		80	20
10/02/01	M	622	NPT-941-01	730	70	20		80	20
10/02/01	M	290	NPT-942-01	731	0				
10/02/01	M	286	NPT-943-01	732	90	20	5		
10/02/01	M	120	NPT-944-01	733	90	20	5		
10/02/01	M	442	NPT-945-01	734	90	20	5	70	20
10/02/01	M		NPT-946-01	735	60	20	3		
10/02/01	M	738	NPT-947-01	736	70	20	5	50	20
10/02/01	M	322	NPT-948-01	737	10			80	20
10/02/01	M		NPT-949-01	738	10				
10/02/01	M	135	NPT-950-01	739	90	20	5	50	20
10/02/01	M	129	NPT-951-01	740	50			60	20
10/02/01	M		NPT-952-01	741	90	20	5	70	20
10/02/01	M	418	NPT-953-01	742	90	20	5	70	20
10/02/01	M	389	NPT-954-01	743	90	20	5	60	20
10/02/01	M	695	NPT-955-01	744				90	20

*All returning fish listed this year, regardless of origin

Table 7. Brood Year 2001 feed summary for Pahsimeroi Fish Hatchery

Feed Type/Size	Pounds Fed To Date	Cost per Pound	Total Feed Cost
Rangen Soft-Moist Starter	528.0	\$0.83	\$440.35
Rangen Soft-Moist 1/32"	1,584.0	\$0.78	\$1,237.10
Rangen Soft-Moist 3/64"	2,904.0	\$0.77	\$2,227.37
Rangen Soft-Moist 1/16"	5,808.0	\$0.75	\$4,350.19
Rangen Soft-Moist 3/32"	4,400.0	\$0.73	\$3,194.40
Bio-Diet Starter #2	176.0	\$1.01	\$177.76
Bio-Diet Starter #3	616.0	\$1.01	\$622.16
Bio-Diet Grower 1.0 mm	484.0	\$0.80	\$387.20
Bio-Diet Grower 1.3 mm	1,320.0	\$0.78	\$1,029.60
Bio-Diet Grower 1.5 mm	792.0	\$0.72	\$570.24
Bio-Diet Grower 1.5 mm AQM-100	5,940.0	\$1.60	\$9,504.00
Bio-Diet Grower 2.0 mm AQM-100	880.0	\$1.60	\$1,408.00
Bio-Diet Grower 2.0 mm	968.0	\$0.68	\$658.24
Bio-Diet Grower 2.5 mm	3,168.0	\$0.58	\$1,837.44
Bio-Moist Grower 2.5 mm AQM-100	6,525.0	\$1.98	\$12,919.50
Bio-Diet Grower 3.0 mm	37,009.3	\$0.55	\$20,170.07
Bio-Diet Grower 3.0 mm AQM-100	3,520.0	\$2.29	\$8,060.80
Rangen Soft-Moist 1/8"	23,144.0	\$0.77	\$17,844.02
Totals:	99,766		\$86,638.45

Table 8. Fish Pathology Report

Summary of Fish Autopsy			
ACCESSION NO:	03-101	LOCATION:	Pah
SPECIES:	su	AUTOPSY DATE:	3/27/2003
STRAIN:	pah	AGE:	juv
UNIT:	P1	SAMPLE SIZE:	20
RIVER FOR AUTOPSY:	Prelib.		
INVESTIGATOR(S):	Munson		
REMARKS:	Blood parameters not assayed		

	MEAN	STANDARD DEVIATION	COEFFICIENT OF VARIATION
LENGTH	0.00	0.00	0.00
WEIGHT	0.00	0.00	0.00
KTL*	0.00	0.00	0.00
CTL*	0.00	0.00	0.00
HEMATOCRIT	46.00	4.76	0.10
LEUCOCRIT	0.00	0.00	0.00
SERUM PROTEIN	9.93	2.25	0.23

*EXPRESSED AT KTL TIMES 10 TO THE FIFTH POWER

**CONVERTED FROM KTL; EXPRESSED AS CTL TIMES 10 TO FOURTH POWER

EYES		GILLS		PSEUDO-BRANCHS		THYMUS		FAT		MESEN. SPLEEN		GUT		HIND KIDNEY		LIVER		BILE	
N	20	N	20	N	20	0	20	0	0	B	20	0	20	N	20	A	2	0	0
B1	0	F	0	S	0	1	0	1	0	R	0	1	0	S	0	B	18	1	0
B2	0	C	0	L	0	2	0	2	1	G	0	2	0	M	0	C	0	2	0
E1	0	M	0	S&L	0			3	15	NO	0			G	0	D	0	3	0
E2	0	P	0	I	0	Mean=0.00		4	4	E	0	Mean=0.00		U	0	E	0		
H1	0	OT	0	OT	0					OT	0			T	0	F	0	Mean=0.00	
H2	0			O	0			Mean=3.15								OT	0		
M1	0																		
OT	0																		

SUMMARY OF NORMALS									
	20	20	20	20	20	20	20	20	0
SEX		M: 0		F: 0		U: 0			

GENERAL REMARKS:	
FINS:	GONADS:
SKIN:	OTHER:

Table 9. Brood Year 2001 production costs by life stage, Pahsimeroi Hatchery.

Number of fish	Pounds of feed	Cost of Feed	Pounds of Fish	Conversion	Total Budget	Cost per Thousand Fish	Cost per Pound of Fish
1,205,918	99,766	\$86,638.45	79,403	1.3	\$811,246.98	\$672.72	\$10.22

*Does not include capital outlay

Table 10. Brood Year 2001 smolt survival by life stage, Pahsimeroi Hatchery

Life Stages	Numbers	Survival Percentages From Eyed Egg
Green Eggs	1,700,097	n/a
Egg Pickoff	191,828	n/a
Eyed Eggs	1,508,269	n/a
Eyed Eggs Culled	236,183	n/a
Eyed Eggs Remaining	1,272,086	n/a
Alevin Pickoff	23,995	n/a
Fry Poned	1,248,091	98.1%
Fry Mortality	37,208	
Fingerling Poned	1,210,883	95.2%
Fingerling Mortality	4,965	
Smolts Released	1,205,918	94.8%

Figure 1. Brood Year 2001 summer chinook salmon run timing.

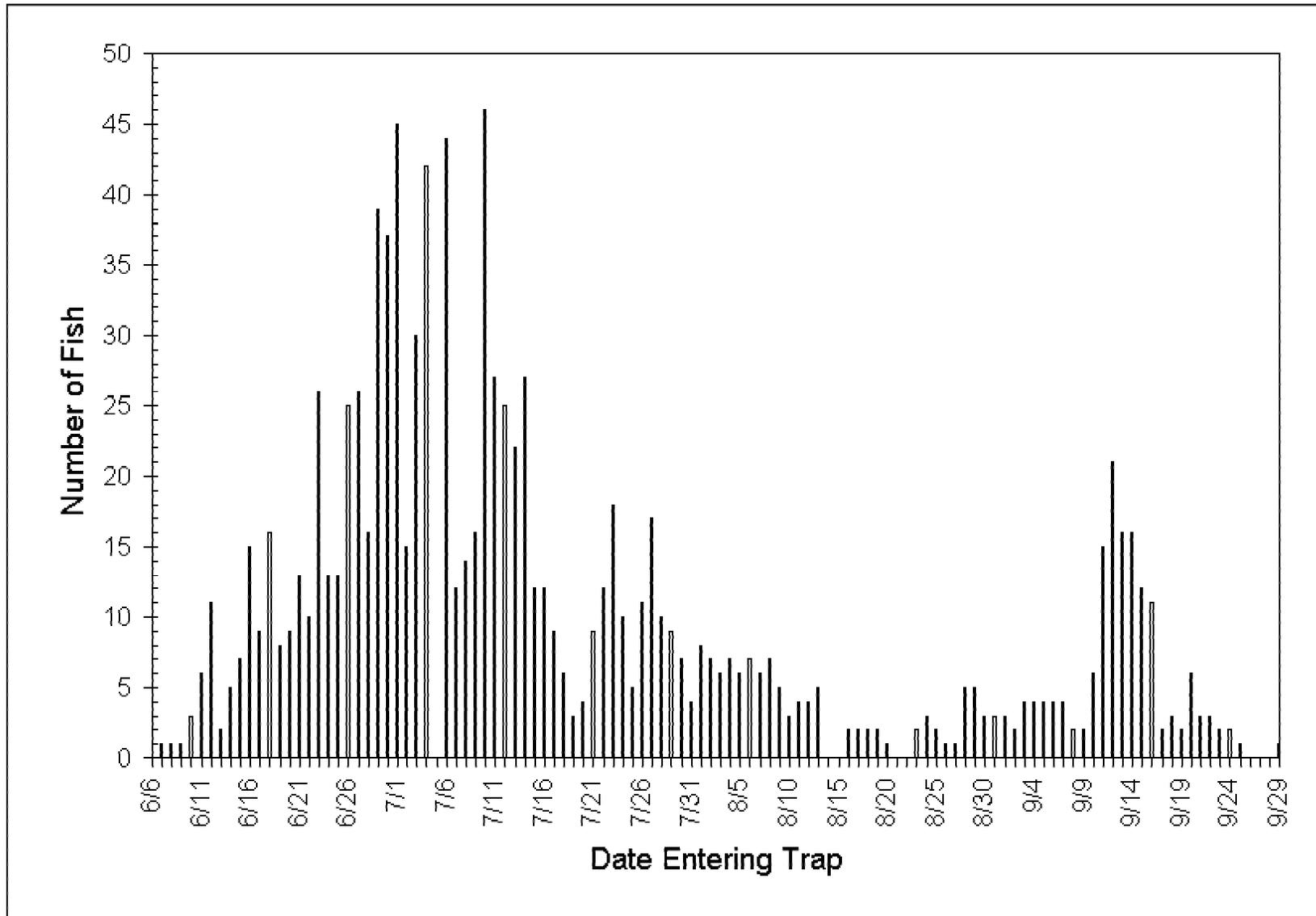
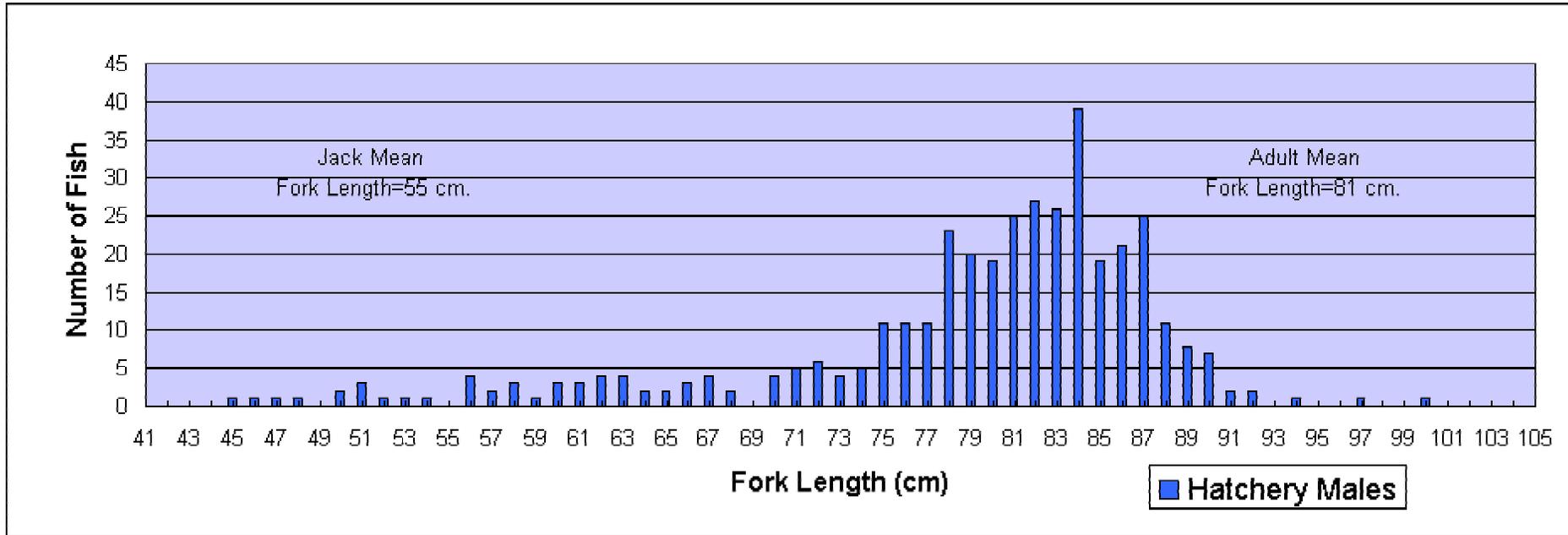
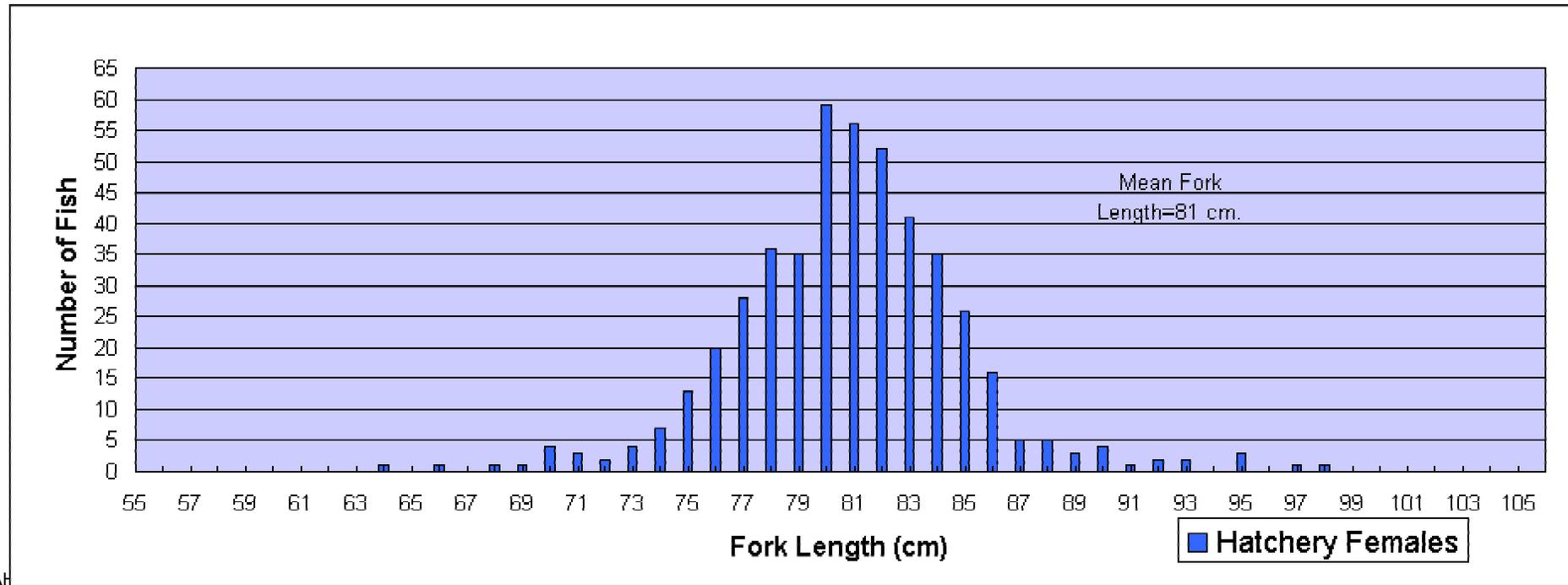


Figure 2. Length frequency of hatchery-origin summer chinook salmon, Brood Year 2001

PAH_BY01_SUMMER_CHINOOK



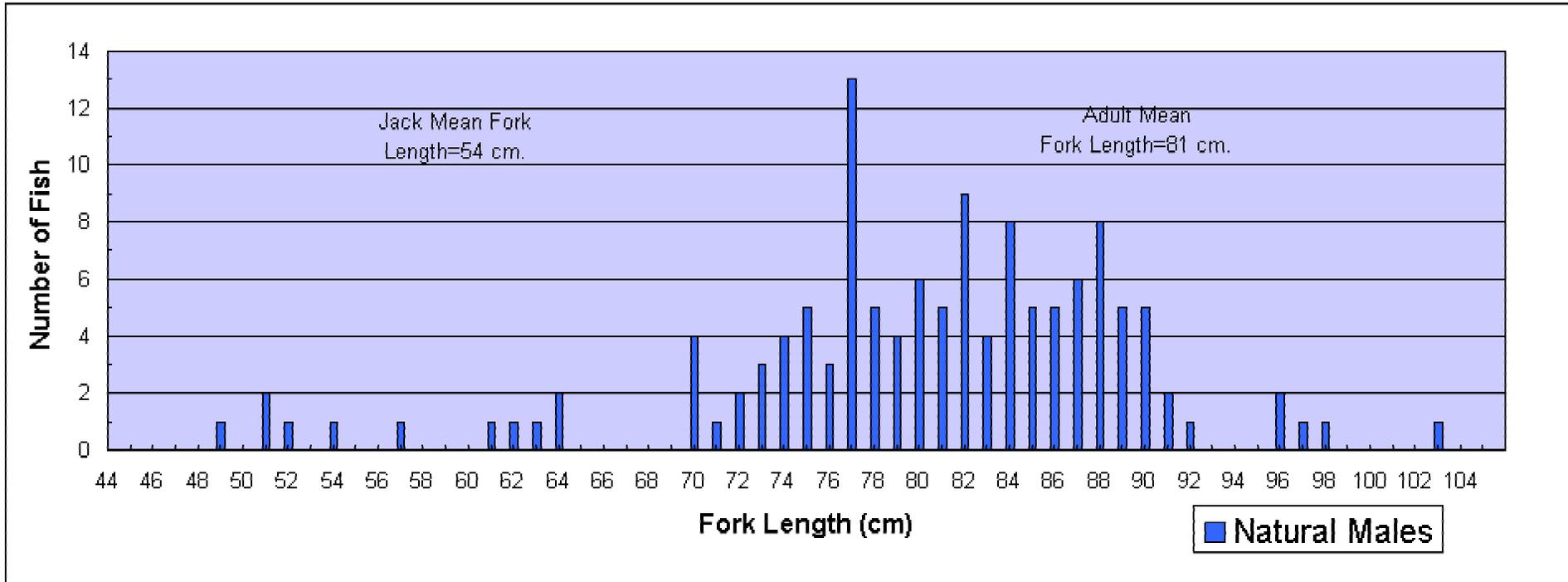
30



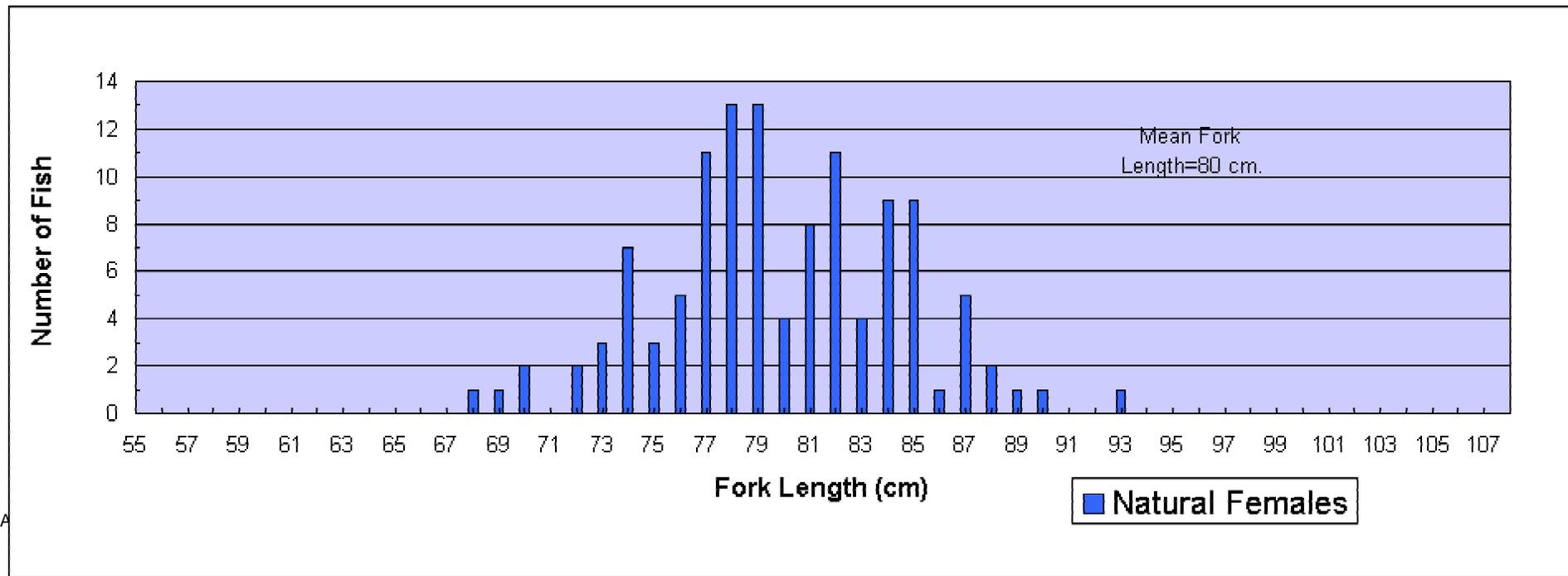
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Figure 3. Length frequency of natural-origin summer chinook salmon, Brood Year 2001

PAH_BY01_SUMMER_CHINOOK



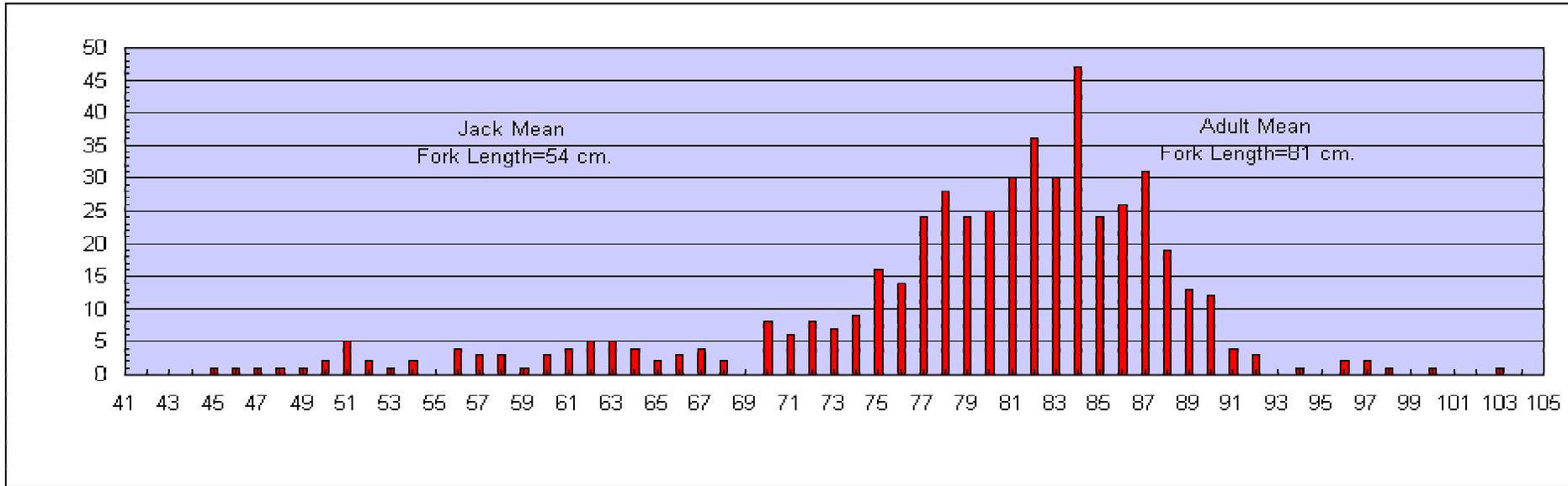
31



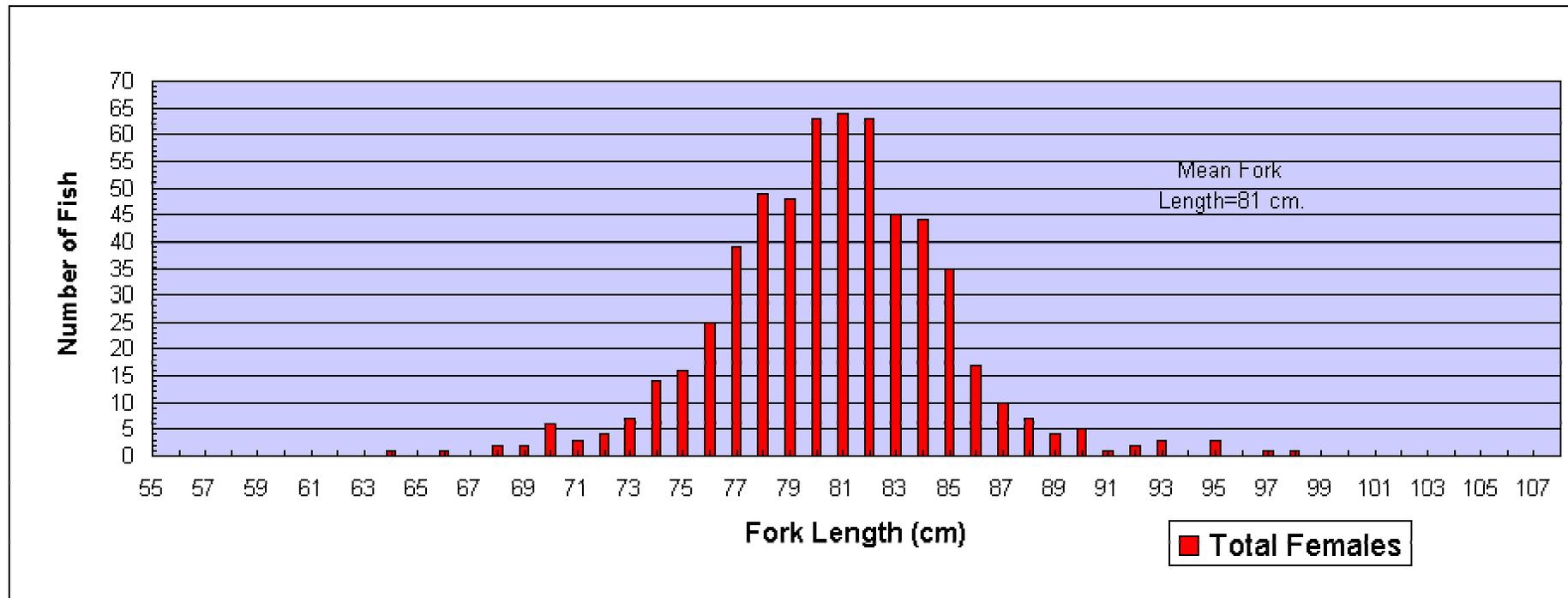
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Figure 4. Length frequency of all summer chinook salmon trapped, Brood Year 2001

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Appendix A. Pahsimeroi Fish Hatchery summer chinook smolt release and adult return information.

RELEASE DATE	NUMBER	3-YRS	4-YRS	5-YRS	TOTAL	RETURN YEARS	% RETURN
May-70	300,000	89	N/A	101	N/A	71,72,73	N/A
May-71	250,000	40	425	14	479	72,73,74	0.192%
May-72	250,000	20	138	76	234	73,74,75	0.094%
May-73	347,000	1	5	32	38	74,75,76	0.011%
May-74	330,000	8	189	436	633	75,76,77	0.192%
May-75	114,000	53	115	X	X	76,77,78	N/A
May-76	121,000	7	X	32	X	77,78,79	N/A
May-77	235,000	X	O	4	X	78,79,80	N/A
May-78	218,000	1	29	13	43	79,80,81	0.020%
Mar-83	13,690	11	72	30	113	84,85,86	0.825%
Apr-84	55,800	27	278	52	357	85,86,87	0.640%
Apr-85	209,155	37	408	716	1,161	86,87,88	0.555%
Mar-86	12,095	13	47	31	91	87,88,89	0.752%
Mar-87	258,600	75	180	42	297	88,89,90	0.115%
Mar-88	598,500	135	389	79	603	89,90,91	0.101%
Mar-89	1,016,300	39	139	27	205	90,91,92	0.020%
Mar-90	1,058,000	20	98	119	237	91,92,93	0.022%
Mar-91	227,500	6	37	1	44	92,93,94	0.019%
Mar-92	605,900	13	26	0	39	93,94,95	0.006%
Apr-93	375,000	7	73	8	88	94,95,96	0.023%
Apr-94	130,510	7	27	9	43	95,96,97	0.033%
Apr-95	147,429	5	60	34	99	96,97,98	0.067%
Apr-96	0	n/a	n/a	n/a	n/a	97,98,99	n/a
Apr-97	122,017	18	207	32	257	98,99,00	0.210%
Apr-98	65,648	78	259	308	645	99,00,01	0.980%
Apr-99	135,669	73	515	256	844	00,01,02	0.622%
Apr-00	53,837	28	360	n/a	n/a	01,02,03	n/a
Apr-01	283,063	308	n/a	n/a	n/a	02,03,04	n/a

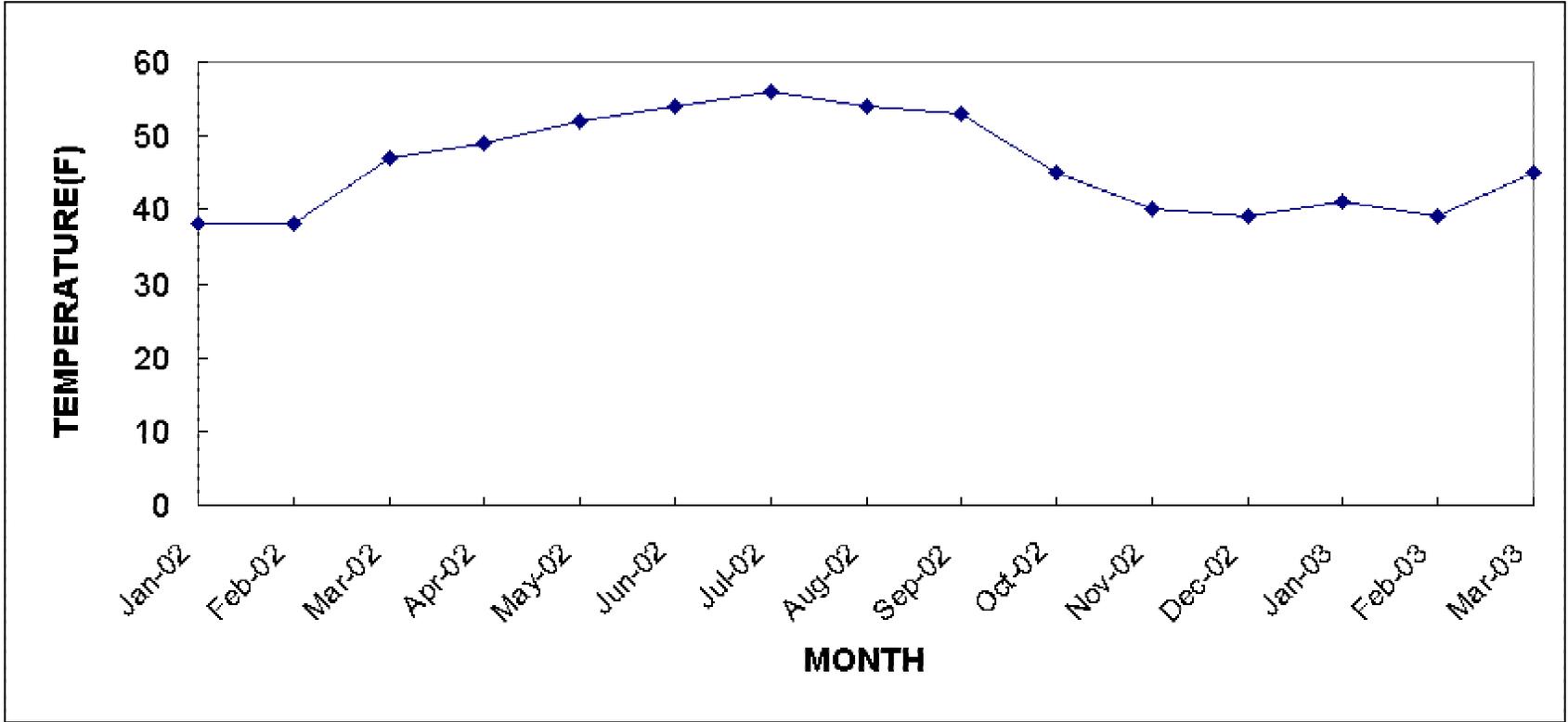
Appendix B. Pahsimeroi Fish Hatchery chinook salmon stock history.

Brood Year	Egg Source	No. Eggs	Genetic Stock	Release Year	Smolts Released	Release Site
1981	Hayden Creek	<500,000	Spring Chinook	1983	437,332	Pahsimeroi River
1981	Pahsimeroi	<25,000	Summer Chinook	1983	13,700	Pahsimeroi River
1982	Pahsimeroi	75,402	Summer Chinook	1984	55,800	Pahsimeroi River
1982	Hayden Creek	107,234	Spring Chinook	1984	99,750	Pahsimeroi River
1982	Sawtooth	451,902	Spring Chinook	1984	420,400	Pahsimeroi River
1982	Rapid River	669,500	Spring Chinook	1984	622,850	Pahsimeroi River
1983	Pahsimeroi	261,188	Summer Chinook	1985	209,105	Pahsimeroi River
1983	Hayden Creek	279,398	Spring Chinook	1985	178,800	Pahsimeroi River
1984	Pahsimeroi	23,999	Summer Chinook	1986	12,100	Pahsimeroi River
1984	Hayden Creek	145,341	Spring Chinook	1986	81,000	Pahsimeroi River
1985	Pahsimeroi	2,602,404	Spring Chinook	1987	1,200,000	Hayden Creek and Yankee Fork
1985	Pahsimeroi	200,448	Summer Chinook	1987	158,007	Pahsimeroi River
1985	Pahsimeroi	127,332	Summer Chinook	1987	100,593	Pahsimeroi River
1987	Pahsimeroi	2,128,750	Spring Chinook	1989	1,128,750	Sawtooth Hatchery
1987	Pahsimeroi	696,004	Summer Chinook	1989	536,500	Pahsimeroi River
1987	McCall	605,091	Summer Chinook	1989	479,800	Pahsimeroi River
1988	Pahsimeroi	1,053,536	Summer Chinook	1990	808,536	Pahsimeroi River
1988	McCall	317,272	Summer Chinook	1990	245,000	Pahsimeroi River
1989	Pahsimeroi	294,893	Summer Chinook	1991	227,500	Pahsimeroi River
1990	Pahsimeroi	662,641	Summer Chinook	1992	605,900	Pahsimeroi River
1991	Pahsimeroi	22,235	Spring Chinook	1993	15,000	Rapid River
1991	Pahsimeroi	437,157	Summer Chinook	1993	375,000	Pahsimeroi River
1992	Pahsimeroi	172,139	Summer Chinook	1994	130,510	Pahsimeroi River
1993	Pahsimeroi	167,200	Summer Chinook	1995	147,429	Pahsimeroi River
1994	Pahsimeroi	0	Summer Chinook	1996	0	Pahsimeroi River
1995	Pahsimeroi	157,938	Summer Chinook	1997	122,017	Pahsimeroi River
1996	Pahsimeroi	85,660	Summer Chinook	1998	65,648	Pahsimeroi River
1997	Pahsimeroi	171,836	Summer Chinook	1999	135,669	Pahsimeroi River
1998	Pahsimeroi	74,105	Summer Chinook	2000	53,837	Pahsimeroi River
1999	Pahsimeroi	371,354	Summer Chinook	2001	283,063	Pahsimeroi River
2000	Pahsimeroi	633,906	Summer Chinook	2002	508,340	Pahsimeroi River
2001	Pahsimeroi	1,699,991	Summer Chinook	2003	1,205,918	Pahsimeroi River

Appendix C. Brood Year 2001 water temperature profile for Pahsimeroi Hatchery

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Appendix D. Pahsimeroi Hatchery Brood Year 2001 summer chinook genetic tracking form

Trap Date	Collection Date	Fork Length	Sex	Floy Tag Number	Initial Disposition	Final Disposition	Unmarked Fish (y/n)
6-Jul	10-Sep	82	f	358	ponded	spawned	n
12-Aug	10-Sep	77	f	685	ponded	spawned	n
28-Jun	10-Sep	77	f	151	ponded	spawned	n
4-Jul	10-Sep	80	f	325	ponded	spawned	n
11-Jul	10-Sep	76	f	459	ponded	spawned	n
22-Jun	10-Sep	98	f	79	ponded	spawned	n
30-Jun	10-Sep	80	f	214	ponded	spawned	n
17-Jul	10-Sep	81	f	537	ponded	spawned	n
10-Jul	10-Sep	78	f	433	ponded	spawned	n
12-Jul	10-Sep	84	f	472	ponded	spawned	n
25-Jun	10-Sep	81	f	107	ponded	spawned	y
26-Jun	10-Sep	75	f	113	ponded	spawned	n
11-Jul	10-Sep	75	f	447	ponded	spawned	n
4-Jul	10-Sep	81	f	326	ponded	spawned	n
12-Jul	10-Sep	81	f	464	ponded	spawned	n
1-Jul	10-Sep	79	f	249	ponded	spawned	n
24-Aug	10-Sep	86	f	706	ponded	spawned	n
N/A	10-Sep	77	f	missing	ponded	spawned	n
1-Jul	10-Sep	79	f	223	ponded	spawned	n
30-Jun	10-Sep	83	f	204	ponded	spawned	y
17-Jul	26-Sep	65	m	531	ponded	spawned	n
23-Aug	26-Sep	49	m	702	ponded	spawned	y
11-Sep	26-Sep	85	m	746	ponded	spawned	y
30-Aug	26-Sep	90	m	717	ponded	spawned	n
22-Sep	26-Sep	77	m	804	ponded	spawned	y
7-Jul	26-Sep	82	m	368	ponded	spawned	y
10-Sep	26-Sep	77	m	739	ponded	spawned	y
23-Jul	26-Sep	77	m	571	ponded	spawned	y
13-Sep	26-Sep	80	m	769	ponded	spawned	y
13-Sep	26-Sep	80	m	760	ponded	spawned	y
6-Aug	26-Sep	62	m	660	ponded	spawned	y
29-Aug	26-Sep	79	m	715	ponded	spawned	n
6-Jul	26-Sep	100	m	334	ponded	spawned	n
14-Jul	26-Sep	81	m	511	ponded	spawned	n
6-Aug	26-Sep	73	m	659	ponded	spawned	n
25-Aug	26-Sep	78	m	708	ponded	spawned	n
26-Jul	26-Sep	78	m	590	ponded	spawned	n
#N/A	26-Sep	87	m	missing	ponded	spawned	n
3-Jul	26-Sep	78	m	289	ponded	spawned	n
#N/A	26-Sep	73	m	missing	ponded	spawned	n

Appendix D. continued

#N/A	26-Sep	86	M	Missing	Ponded	Spawned	n
#N/A	26-Sep	78	m	missing	ponded	spawned	n
#N/A	26-Sep	88	m	missing	ponded	spawned	n
11-Jul	26-Sep	82	m	440	ponded	spawned	n
30-Jun	26-Sep	84	m	202	ponded	spawned	n
26-Jul	26-Sep	85	m	589	ponded	spawned	n
1-Jul	28-Sep	83	f	228	ponded	spawned	n
29-Jun	28-Sep	84	f	180	ponded	spawned	n
4-Aug	28-Sep	82	f	646	ponded	spawned	n
8-Aug	28-Sep	77	f	666	ponded	spawned	n
9-Aug	28-Sep	84	f	676	ponded	spawned	y
20-Sep	28-Sep	85	f	800	ponded	spawned	n
17-Jul	28-Sep	85	f	535	ponded	spawned	n
25-Jul	28-Sep	80	f	582	ponded	spawned	n
10-Jul	28-Sep	79	f	429	ponded	spawned	n
21-Jul	28-Sep	80	f	545	ponded	spawned	n
31-Jul	28-Sep	83	f	623	ponded	spawned	n
12-Jul	28-Sep	81	f	461	ponded	spawned	n
20-Sep	28-Sep	80	f	799	ponded	spawned	n
10-Jul	28-Sep	78	f	426	ponded	spawned	n
29-Jun	28-Sep	82	f	177	ponded	spawned	n
23-Jun	28-Sep	80	f	95	ponded	spawned	n
16-Sep	2-Oct	78	f	790	ponded	spawned	n
11-Jul	2-Oct	78	f	445	ponded	spawned	n
14-Jul	2-Oct	86	f	507	ponded	spawned	n
11-Jul	2-Oct	83	f	454	ponded	spawned	n
14-Jul	2-Oct	79	f	502	ponded	spawned	n
#N/A	2-Oct	72	f	missing	ponded	spawned	n
18-Sep	2-Oct	79	f	793	ponded	spawned	n
21-Jul	2-Oct	80	f	549	ponded	spawned	n
29-Jun	2-Oct	79	f	176	ponded	spawned	n
9-Jul	2-Oct	75	f	385	ponded	spawned	y
3-Jul	2-Oct	83	f	282	ponded	spawned	n

Appendix E. Pahsimeroi summer chinook spawning crosses, Brood Year 2001

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Female Disp. Codes:
 1=Spawned/Killed
 2=SpawnedOut
 3=Killed/Rejected(Disease)
 4=Killed/Rejected(Egg Quality)
 5=Killed/Green

Male Disp. Codes
 1=Spawned/Ponded
 2=Spawned/killed
 3=Spawned/Released

Clip Type Codes:
 ad=Adipose Clip
 unmk=No Clip

ADULT SUMMER CHINOOK DATA SECTION													EGG DISTRIBUTION SECTION					
ADULT FEMALE DATA					MALE #1 DATA				MALE #2 DATA				FIRST CROSS			SECOND CROSS		
SPAWN DATE	FLOY TAG	DISP. CODE:	FL(CM)	MARK TYPE	FLOY TAG	DISP. CODE:	FL(CM)	MARK TYPE	FLOY TAG	DISP. CODE:	FL(CM)	MARK TYPE	BUCKET NUMBER	1ST TRAY #	PROGENY LISTING	BUCKET NUMBER	1ST TRAY #	PROGENY LISTING
8/27/2001	503	1	75	ad	236	1	85	ad	556	1	61	ad	1	st1, tray 1	RESERVE	2	st1, tray 1	RESERVE
9/2/2001	354	1	84	ad	615	1	87	ad	394	1	84	ad	1	st1, tray 2	RESERVE	1	st1, tray2	RESERVE
9/2/2001	missing	5	91	ad			#N/A				#N/A		n/a					
9/2/2001	13	5	74	ad			#N/A				#N/A		n/a					
9/2/2001	275	1	90	ad	659	1	73	ad	147	1	79	ad	2	st1, tray 3	RESERVE	2	st1, tray 3	RESERVE
9/2/2001	240	1	81	ad	67	1	85	unmk			#N/A		3	st1, tray 4	ISS			
9/2/2001	76	1	80	unmk	159	1	81	ad			#N/A		4	st1, tray 5	ISS			
9/2/2001	94	1	79	unmk	417	1	77	ad	84	1	83	ad	5	st1, tray 6	ISS	5	st1, tray 6	ISS
9/10/2001	386	1	80	ad	482	1	79	ad			#N/A		1	St2, tray 1	RESERVE			
9/10/2001	266	1	79	ad	260	1	78	ad			#N/A		2	St2, tray 2	RESERVE			
9/10/2001	73	1	80	ad	205	1	84	ad			#N/A		3	St2, tray 3	RESERVE			
9/10/2001	missing	1	80	ad	520	1	70	ad	276	1	83	ad	4	St2, tray 4	RESERVE	4	St2, tray 4	RESERVE
9/10/2001	317	1	80	ad	258	1	82	ad			#N/A		5	St2, tray 5	RESERVE			
9/10/2001	370	1	82	ad	122	1	76	ad			#N/A		6	St2, tray 6	RESERVE			
9/10/2001	25	1	77	ad	444	1	88	ad			#N/A		7	St2, tray 7	RESERVE			
9/10/2001	524	1	85	ad	215	1	77	ad			#N/A		8	St2, tray 8	RESERVE			
9/10/2001	684	1	77	ad	439	1	76	ad			#N/A		9	St2, tray 9	RESERVE			
9/10/2001	462	1	86	ad	184	1	61	ad			#N/A		10	St2, tray 10	RESERVE			
9/10/2001	226	1	90	ad	178	1	89	ad			#N/A		11	St2, tray 11	RESERVE			
9/10/2001	62	1	76	ad	307	1	83	ad			#N/A		12	St2, tray 12	RESERVE			
9/10/2001	191	1	80	ad	308	1	81	ad			#N/A		13	St2, tray 13	RESERVE			
9/10/2001	96	1	79	ad	416	1	82	ad			#N/A		14	St2, tray 14	RESERVE			
9/10/2001	625	1	73	ad	147	1	79	ad			#N/A		15	St2, tray 15	RESERVE			
9/10/2001	170	1	78	ad	32	1	87	ad			#N/A		16	St3, tray 1	RESERVE			
9/10/2001	116	1	71	ad	137	1	75	ad			#N/A		17	St3, tray 2	RESERVE			
9/10/2001	726	1	82	ad	290	1	81	ad			#N/A		18	St3, tray 3	RESERVE			
9/10/2001	152	1	81	ad	322	1	86	ad			#N/A		19	St3, tray 4	RESERVE			
9/10/2001	711	1	83	ad	494	1	82	ad			#N/A		20	St3, tray 5	RESERVE			
9/10/2001	690	1	83	ad	missing	1	77	ad			#N/A		21	St3, tray 6	RESERVE			
9/10/2001	496	1	75	ad	289	1	78	ad			#N/A		22	St3, tray 7	RESERVE			
9/10/2001	353	1	83	ad	202	1	84	ad			#N/A		23	St3, tray 8	RESERVE			
9/10/2001	134	1	76	ad	192	1	83	ad			#N/A		24	St3, tray 9	RESERVE			
9/10/2001	643	1	80	ad	15	1	85	ad			#N/A		25	St3, tray 10	RESERVE			
9/10/2001	699	1	76	ad	missing	1	91	ad			#N/A		26	St3, tray 11	RESERVE			
9/10/2001	271	1	90	ad	missing	1	94	ad			#N/A		27	St3, tray 12	RESERVE			
9/10/2001	287	1	81	ad	44	1	60	ad			#N/A		28	St3, tray 13	RESERVE			
9/10/2001	245	1	86	ad	363	1	84	ad			#N/A		29	St3, tray 14	RESERVE			
9/10/2001	722	1	92	ad	341	1	76	ad			#N/A		30	St3, tray 15	RESERVE			
9/10/2001	358	1	82	ad	477	1	82	ad			#N/A		31	St4, tray 1	RESERVE			
9/10/2001	685	1	77	ad	302	1	84	ad			#N/A		32	St4, tray 2	RESERVE			
9/10/2001	151	1	77	ad	605	1	79	ad			#N/A		33	St4, tray 3	RESERVE			

Appendix E. continued

ADULT SUMMER CHINOOK DATA SECTION														EGG DISTRIBUTION SECTION					
ADULT FEMALE DATA					MALE #1 DATA				MALE #2 DATA					FIRST CROSS			SECOND CROSS		
SPAWN DATE	FLOY TAG	DISP. CODE:	FL(CM)	MARK TYPE	FLOY TAG	DISP. CODE:	FL(CM)	MARK TYPE	FLOY TAG	DISP. CODE:	FL(CM)	MARK TYPE	BUCKET NUMBER	1ST TRAY #	PROGENY LISTING	BUCKET NUMBER	1ST TRAY #	PROGENY LISTING	
9/10/2001	325	1	80	ad	105	1	76	ad			#N/A		34	St4, tray 4	RESERVE				
9/10/2001	459	1	76	ad	575	1	83	ad			#N/A		35	St4, tray 5	RESERVE				
9/10/2001	79	1	98	ad	89	1	90	ad			#N/A		36	St4, tray 6	RESERVE				
9/10/2001	214	1	80	ad	514	1	63	ad			#N/A		37	St4, tray 7	RESERVE				
9/10/2001	537	1	81	ad	430	1	80	ad			#N/A		38	St4, tray 8	RESERVE				
9/10/2001	433	1	78	ad	missing	1	76	ad			#N/A		39	St4, tray 9	RESERVE				
9/10/2001	472	1	84	ad	75	1	82	ad			#N/A		40	St4, tray 10	RESERVE				
9/10/2001	107	1	81	ad	610	1	87	unmk	207	1	85	ad	41	St4, tray 11	ISS	42	St4, tray 11	ISS	
9/10/2001	113	1	75	ad	missing	1	89	ad	509	1	87	unmk	43	St4, tray 12	ISS	44	St4, tray 12	ISS	
9/10/2001	447	1	75	ad	missing	1	86	unmk	717	1	90	ad	45	St4, tray 13	ISS	46	St4, tray 13	ISS	
9/10/2001	326	1	81	ad	182	1	82	unmk	484	1	78	ad	47	St4, tray 14	ISS	48	St4, tray 14	ISS	
9/10/2001	464	1	81	ad	188	1	76	unmk	24	1	83	ad	49	St4, tray 15	ISS	50	St4, tray 15	ISS	
9/10/2001	249	1	79	ad	396	1	72	unmk	561	1	74	ad	51	St5, tray 1	ISS	52	St5, tray 1	ISS	
9/10/2001	706	1	86	ad	189	1	86	unmk	575	1	83	ad	53	St5, tray 2	ISS	54	St5, tray 2	ISS	
9/10/2001	missing	1	77	ad	211	1	80	unmk	633	1	86	ad	55	St5, tray 3	ISS	56	St5, tray 3	ISS	
9/10/2001	223	1	79	ad	221	1	81	unmk	296	1	84	ad	57	St5, tray 4	ISS	58	St5, tray 4	ISS	
9/10/2001	204	1	83	unmk	255	1	81	unmk	247	1	86	ad	59	St5, tray 5	ISS	60	St5, tray 5	ISS	
9/10/2001	656	1	78	ad	563	1	75	ad		1	#N/A		61	St5, tray 6	RESERVE				
9/10/2001	300	1	77	ad	missing	1	80	ad		1	#N/A		62	St5, tray 7	RESERVE				
9/10/2001	88	1	81	ad	235	1	82	ad		1	#N/A		63	St5, tray 8	RESERVE				
9/10/2001	264	1	80	ad	659	1	73	ad		1	#N/A		64	St5, tray 9	RESERVE				
9/10/2001	58	1	77	ad	65	1	58	ad		1	#N/A		65	St5, tray 10	RESERVE				
9/10/2001	150	1	81	unmk	87	1	74	unmk	431	1	84	ad	66	St5, tray 11	ISS	66	St5, tray 11	ISS	
9/10/2001	154	1	82	ad	78	1	88	ad		1	#N/A		67	St5, tray 12	RESERVE				
9/10/2001	256	1	80	ad	657	1	75	ad		1	#N/A		68	St5, tray 13	RESERVE				
9/10/2001	323	1	91	ad	696	1	61	unmk	600	1	82	ad	69	St5, tray 14	ISS	70	St5, tray 14	ISS	
9/10/2001	398	1	75	ad	missing	1	89	ad			#N/A		71	St5, tray 15	RESERVE				
9/10/2001	109	1	81	ad	375	1	87	ad			#N/A		72	St6, tray 1	RESERVE				
9/10/2001	473	1	88	ad	716	1	86	ad			#N/A		73	St6, tray 2	RESERVE				
9/10/2001	564	1	82	ad	179	1	86	ad			#N/A		74	St6, tray 3	RESERVE				
9/10/2001	97	1	84	ad	74	1	81	ad			#N/A		75	St6, tray 4	RESERVE				
9/10/2001	82	1	82	ad	missing	1	91	ad			#N/A		76	St6, tray 5	RESERVE				
9/10/2001	136	1	81	ad	61	1	75	ad			#N/A		77	St6, tray 6	RESERVE				
9/10/2001	64	1	76	ad	324	1	87	ad			#N/A		78	St6, tray 7	RESERVE				
9/10/2001	734	1	87	unmk	19	1	78	ad	732	1	88	ad	79	St6, tray 8	ISS	80	St6, tray 8	ISS	
9/17/2001	319	1	88	unmk	382	1	87	unmk	missing	1	84	ad	1	st6, tr9	ISS	2	st6, tr9	ISS	
9/17/2001	387	1	85	unmk	189	1	86	unmk	721	1	89	ad	3	st6, tr10	ISS	4	st6, tr10	ISS	
9/17/2001	279	1	85	unmk	1	1	79	unmk	232	1	82	ad	5	st6, tr11	ISS	6	st6, tr11	ISS	
9/17/2001	565	1	83	unmk	246	1	87	unmk	351	1	86	ad	7	st6, tr12	ISS	8	st6, tr12	ISS	
9/17/2001	185	1	85	unmk	153	1	86	ad	181	1	81	ad	9	st6, tr13	ISS	10	st6, tr13	ISS	
9/17/2001	7	1	79	unmk	552	1	98	ad	425	1	85	ad	11	st6, tr14	ISS	12	st6, tr14	ISS	
9/17/2001	753	1	86	unmk	340	1	80	ad	242	1	82	ad	13	st6, tr15	ISS	14	st6, tr15	ISS	
9/17/2001	588	1	80	unmk	missing	1	60	ad	312	1	84	ad	15	st7, tr1	ISS	16	st7, tr1	ISS	
9/17/2001	268	1	79	ad	381	1	81	ad			#N/A		17	st7, tr2	RESERVE				
9/17/2001	43	1	76	ad	553	1	81	ad			#N/A		18	st7, tr3	RESERVE				
9/17/2001	402	1	78	ad	not tagged	1	46	ad			#N/A		19	st7, tr4	RESERVE				
9/17/2001	70	1	80	ad	729	1	71	ad			#N/A		20	st7, tr5	RESERVE				
9/17/2001	140	1	80	ad	416	1	82	ad			#N/A		21	st7, tr6	RESERVE				
9/17/2001	216	1	81	ad	337	1	83	ad			#N/A		22	st7, tr7	RESERVE				
9/17/2001	243	1	76	ad	missing	1	82	ad			#N/A		23	st7, tr8	RESERVE				
9/17/2001	438	1	76	ad	272	1	73	ad			#N/A		24	st7, tr9	RESERVE				
9/17/2001	311	1	89	ad	415	1	87	ad			#N/A		25	st7, tr10	RESERVE				
9/17/2001	259	1	84	ad	129	1	79	ad			#N/A		26	st7, tr11	RESERVE				
9/17/2001	206	1	82	ad	84	1	83	ad			#N/A		27	st7, tr12	RESERVE				

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ADULT SUMMER CHINOOK DATA SECTION													EGG DISTRIBUTION SECTION					
ADULT FEMALE DATA				MALE #1 DATA				MALE #2 DATA				FIRST CROSS			SECOND CROSS			
SPAWN DATE	FLOY TAG	DISP CODE:	FL(CM)	MARK TYPE	FLOY TAG	DISP CODE:	FL(CM)	MARK TYPE	FLOY TAG	DISP CODE:	FL(CM)	MARK TYPE	BUCKET NUMBER	1ST TRAY #	PROGENY LISTING	BUCKET NUMBER	1ST TRAY #	PROGENY LISTING
9/17/2001	475	1	81	ad	427	1	65	ad			#N/A		28	st7,tr13	RESERVE			
9/17/2001	481	1	83	ad	590	1	78	ad			#N/A		29	st7,tr14	RESERVE			
9/17/2001	770	1	81	ad	414	1	77	ad			#N/A		30	st7,tr15	RESERVE			
9/17/2001	412	1	84	ad	missing	1	86	ad			#N/A		31	st8,tr1	RESERVE			
9/17/2001	167	1	78	ad	29	1	79	ad			#N/A		32	st8,tr2	RESERVE			
9/17/2001	700	1	83	ad	521	1	61	ad			#N/A		33	st8,tr3	RESERVE			
9/17/2001	499	1	83	ad	12	1	87	ad			#N/A		34	st8,tr4	RESERVE			
9/17/2001	379	1	78	ad	295	1	84	ad			#N/A		35	st8,tr5	RESERVE			
9/17/2001	777	1	80	ad	373	1	86	ad			#N/A		36	st8,tr6	RESERVE			
9/17/2001	645	1	77	ad	444	1	88	ad			#N/A		37	st8,tr7	RESERVE			
9/17/2001	262	1	82	ad	613	1	79	ad			#N/A		38	st8,tr8	RESERVE			
9/17/2001	388	1	81	ad	434	1	84	ad			#N/A		39	st8,tr9	RESERVE			
9/17/2001	492	1	80	ad	428	1	82	ad			#N/A		40	st8,tr10	RESERVE			
9/17/2001	338	1	85	ad	41	1	82	ad			#N/A		41	st8,tr11	RESERVE			
9/17/2001	28	1	77	ad	102	1	85	ad			#N/A		42	st8,tr12	RESERVE			
9/17/2001	420	1	76	ad	423	1	62	ad			#N/A		43	st8,tr13	RESERVE			
9/17/2001	164	1	82	ad	missing	1	88	ad			#N/A		44	st8,tr14	RESERVE			
9/17/2001	missing	1	78	ad	489	1	80	ad			#N/A		45	st8,tr15	RESERVE			
9/17/2001	422	1	81	ad	missing	1	78	ad			#N/A		46	st9,tr1	RESERVE			
9/17/2001	585	1	78	ad	330	1	85	ad			#N/A		47	st9,tr2	RESERVE			
9/17/2001	198	1	77	ad	74	1	81	ad			#N/A		48	st9,tr3	RESERVE			
9/17/2001	114	1	84	ad	765	1	94	ad			#N/A		49	st9,tr4	RESERVE			
9/17/2001	506	1	79	ad	125	1	79	ad			#N/A		50	st9,tr5	RESERVE			
9/17/2001	569	1	84	ad	720	1	52	ad	696	1	61	ad	51	st9,tr6	RESERVE	51	st9,tr6	RESERVE
9/17/2001	16	1	97	ad	470	1	83	ad			#N/A		52	st9,tr7	RESERVE			
9/17/2001	380	1	83	ad	290	1	81	ad			#N/A		53	st9,tr8	RESERVE			
9/17/2001	110	1	85	ad	203	1	75	ad			#N/A		54	st9,tr9	RESERVE			
9/17/2001	157	1	83	ad	622	1	84	ad			#N/A		55	st9,tr10	RESERVE			
9/17/2001	315	1	85	ad	741	1	84	ad			#N/A		56	st9,tr11	RESERVE			
9/17/2001	48	1	79	ad	37	1	87	ad			#N/A		57	st9,tr12	RESERVE			
9/17/2001	missing	1	91	ad	205	1	84	ad			#N/A		58	st9,tr13	RESERVE			
9/17/2001	251	1	81	ad	596	1	80	ad			#N/A		59	st9,tr14	RESERVE			
9/17/2001	731	1	81	ad	318	1	87	ad			#N/A		60	st9,tr15	RESERVE			
9/17/2001	603	1	83	ad	662	1	72	ad			#N/A		61	st10,tr1	RESERVE			
9/17/2001	missing	1	75	ad	658	1	81	ad			#N/A		62	st10,tr2	RESERVE			
9/17/2001	400	1	83	ad	493	1	83	ad			#N/A		63	st10,tr3	RESERVE			
9/17/2001	160	1	84	ad	691	1	47	ad			#N/A		64	st10,tr4	RESERVE			
9/17/2001	missing	1	84	ad	138	1	84	ad			#N/A		65	st10,tr5	RESERVE			
9/17/2001	541	1	85	ad	265	1	80	ad			#N/A		66	st10,tr6	RESERVE			
9/17/2001	488	1	77	ad	236	1	85	ad			#N/A		67	st10,tr7	RESERVE			
9/17/2001	124	1	80	ad	135	1	85	ad			#N/A		68	st10,tr8	RESERVE			
9/17/2001	517	1	80	ad	592	1	66	ad			#N/A		69	st10,tr9	RESERVE			
9/17/2001	144	1	81	ad	595	1	79	ad			#N/A		70	st10,tr10	RESERVE			
9/17/2001	101	1	81	ad	534	1	80	ad			#N/A		71	st10,tr11	RESERVE			
9/17/2001	104	1	81	ad	543	1	79	ad			#N/A		72	st10,tr12	RESERVE			
9/17/2001	93	1	81	ad	576	1	81	ad			#N/A		73	st10,tr13	RESERVE			
9/17/2001	141	1	84	ad	443	1	81	ad			#N/A		74	st10,tr14	RESERVE			
9/17/2001	missing	1	79	ad	785	1	82	ad			#N/A		75	st10,tr15	RESERVE			
9/17/2001	155	1	78	ad	329	1	84	ad			#N/A		76	st11,tr1	RESERVE			
9/17/2001	675	1	71	ad	35	1	85	unmk			#N/A		77	st11,tr2	ISS			
9/17/2001	401	1	84	ad	610	1	87	unmk			#N/A		78	st11,tr3	ISS			
9/17/2001	131	1	70	ad	382	1	87	unmk			#N/A		79	st11,tr4	ISS			
9/17/2001	252	1	81	ad	35	1	85	unmk			#N/A		80	st11,tr5	ISS			
9/17/2001	66	1	79	ad	missing	1	92	unmk			#N/A		81	st11,tr6	ISS			

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ADULT SUMMER CHINOOK DATA SECTION													EGG DISTRIBUTION SECTION					
ADULT FEMALE DATA					MALE #1 DATA				MALE #2 DATA				FIRST CROSS			SECOND CROSS		
SPAWN DATE	FLOY TAG	DISP CODE:	FL(CM)	MARK TYPE	FLOY TAG	DISP CODE:	FL(CM)	MARK TYPE	FLOY TAG	DISP CODE:	FL(CM)	MARK TYPE	BUCKET NUMBER	1ST TRAY #	PROGENY LISTING	BUCKET NUMBER	1ST TRAY #	PROGENY LISTING
9/17/2001	269	1	80	ad	not tagged	1	49	unmk	382	1	87	unmk	82	st11.tr7	ISS	82	st11.tr7	ISS
9/17/2001	9	1	88	ad	182	1	82	unmk			#N/A		83	st11.tr8	ISS			
9/17/2001	60	1	85	ad	769	1	80	unmk			#N/A		84	st11.tr9	ISS			
9/17/2001	376	1	77	ad	702	1	49	unmk			#N/A		85	st11.tr10	ISS			
9/17/2001	218	1	78	ad	50	1	77	unmk	221	1	81	unmk	86	st11.tr11	ISS	86	st11.tr11	ISS
9/17/2001	22	1	80	unmk	missing	1	77	unmk			#N/A		87	st11.tr12	ISS			
9/17/2001	27	1	73	unmk	302	1	84	ad			#N/A		88	st11.tr13	ISS			
9/17/2001	128	1	78	unmk	235	1	82	ad			#N/A		89	st11.tr14	ISS			
9/17/2001	273	1	80	ad	330	1	85	ad	19	1	78	ad	90	st11.tr15	RESERVE	90	st11.tr15	RESERVE
9/17/2001	261	1	81	ad	704	1	80	ad			#N/A		91	st12.tr1	RESERVE			
9/17/2001	292	1	82	ad	286	1	84	ad			#N/A		92	st12.tr2	RESERVE			
9/17/2001	133	1	79	ad	532	1	67	ad			#N/A		93	st12.tr3	RESERVE			
9/17/2001	403	1	80	ad	236	1	85	ad			#N/A		94	st12.tr4	RESERVE			
9/17/2001	331	1	83	ad	253	1	84	ad			#N/A		95	st12.tr5	RESERVE			
9/17/2001	654	1	82	ad	24	1	83	ad			#N/A		96	st12.tr6	RESERVE			
9/17/2001	523	1	80	ad	90	1	84	ad	607	1	63	ad	97	st12.tr7	RESERVE	97	st12.tr7	RESERVE
9/17/2001	missing	1	84	ad	622	1	84	ad			#N/A		98	st12.tr8	RESERVE			
9/17/2001	missing	1	79	ad	324	1	87	ad			#N/A		99	st12.tr9	RESERVE			
9/17/2001	195	1	80	ad	757	1	86	ad			#N/A		100	st12.tr10	RESERVE			
9/17/2001	348	1	84	ad	436	1	78	ad			#N/A		101	st12.tr11	RESERVE			
9/17/2001	752	1	78	ad	120	1	79	ad			#N/A		102	st12.tr12	RESERVE			
9/17/2001	108	1	84	ad	89	1	90	ad			#N/A		103	st12.tr13	RESERVE			
9/17/2001	466	1	78	ad	missing	1	93	ad			#N/A		104	st12.tr14	RESERVE			
9/17/2001	10	1	80	ad	232	1	82	ad			#N/A		105	st12.tr15	RESERVE			
9/17/2001	158	1	77	ad	260	1	78	ad			#N/A		106	st13.tr1	RESERVE			
9/17/2001	468	1	86	ad	427	1	65	ad			#N/A		107	st13.tr2	RESERVE			
9/17/2001	23	1	81	ad	129	1	79	ad			#N/A		108	st13.tr3	RESERVE			
9/17/2001	14	1	77	ad	missing	1	88	ad			#N/A		109	st13.tr4	RESERVE			
9/17/2001	665	1	80	ad	479	1	83	ad			#N/A		110	st13.tr5	RESERVE			
9/17/2001	476	1	78	ad	432	1	80	ad			#N/A		111	st13.tr6	RESERVE			
9/17/2001	460	1	76	ad	318	1	87	ad			#N/A		112	st13.tr7	RESERVE			
9/17/2001	233	1	82	ad	417	1	77	ad			#N/A		113	st13.tr8	RESERVE			
9/17/2001	759	1	87	ad	776	1	86	ad			#N/A		114	st13.tr9	RESERVE			
9/17/2001	132	1	78	ad	669	1	70	ad			#N/A		115	st13.tr10	RESERVE			
9/17/2001	480	1	82	ad	698	1	56	ad			#N/A		116	st13.tr11	RESERVE			
9/17/2001	169	1	79	ad	272	1	73	ad			#N/A		117	st13.tr12	RESERVE			
9/17/2001	505	1	81	ad	184	1	61	ad			#N/A		118	st13.tr13	RESERVE			
9/17/2001	680	1	78	ad	557	1	75	ad			#N/A		119	st13.tr14	RESERVE			
9/17/2001	332	1	83	ad	187	1	82	ad			#N/A		120	st13.tr15	RESERVE			
9/17/2001	297	1	85	ad	51	1	83	ad			#N/A		121	st14.tr1	RESERVE			
9/17/2001	298	1	82	ad	383	1	79	ad			#N/A		122	st14.tr2	RESERVE			
9/17/2001	384	1	80	ad	716	1	86	ad			#N/A		123	st14.tr3	RESERVE			
9/17/2001	536	1	88	ad	773	1	51	ad			#N/A		124	st14.tr4	RESERVE			
9/17/2001	293	1	80	ad	553	1	81	ad			#N/A		125	st14.tr5	RESERVE			
9/17/2001	409	1	92	ad	439	1	76	ad			#N/A		126	st14.tr6	RESERVE			
9/17/2001	647	1	81	ad	missing	1	83	ad			#N/A		127	st14.tr7	RESERVE			
9/17/2001	193	1	64	ad	579	1	66	ad			#N/A		128	st14.tr8	RESERVE			
9/17/2001	508	1	81	ad	112	1	79	ad			#N/A		129	st14.tr9	RESERVE			
9/17/2001	209	1	81	ad	442	1	53	ad			#N/A		130	st14.tr10	RESERVE			
9/17/2001	111	1	84	ad	740	1	86	ad			#N/A		131	st14.tr11	RESERVE			
9/17/2001	774	1	85	ad	244	1	77	ad			#N/A		132	st14.tr12	RESERVE			
9/17/2001	522	1	76	ad	614	1	88	ad			#N/A		133	st14.tr13	RESERVE			
9/17/2001	57	1	75	ad	673	1	86	ad			#N/A		134	st14.tr14	RESERVE			
9/17/2001	355	1	79	ad	744	1	75	ad	679	1	78	ad	135	st14.tr15	RESERVE	135	st14.tr15	RESERVE

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ADULT SUMMER CHINOOK DATA SECTION													EGG DISTRIBUTION SECTION					
ADULT FEMALE DATA					MALE #1 DATA				MALE #2 DATA				FIRST CROSS			SECOND CROSS		
SPAWN DATE	FLOY TAG	DISP. CODE:	FL(CM)	MARK TYPE	FLOY TAG	DISP. CODE:	FL(CM)	MARK TYPE	FLOY TAG	DISP. CODE:	FL(CM)	MARK TYPE	BUCKET NUMBER	1ST TRAY #	PROGENY LISTING	BUCKET NUMBER	1ST TRAY #	PROGENY LISTING
9/17/2001	11	1	87	ad	516	1	87	ad			#N/A		136	st15,tr1	RESERVE			
9/17/2001	718	1	80	ad	372	1	81	ad			#N/A		137	st15,tr2	RESERVE			
9/17/2001	782	1	86	ad	561	1	74	ad			#N/A		138	st15,tr3	RESERVE			
9/17/2001	783	1	82	ad	791	1	78	ad			#N/A		139	st15,tr4	RESERVE			
9/17/2001	55	1	79	ad	37	1	87	ad			#N/A		140	st15,tr5	RESERVE			
9/17/2001	71	1	77	ad	367	1	82	ad	202	1	84	ad	141	st15,tr6	RESERVE	141	st15,tr6	RESERVE
9/17/2001	406	1	81	ad	181	1	81	ad			#N/A		142	st15,tr7	RESERVE			
9/17/2001	599	1	84	ad	135	1	85	ad			#N/A		143	st15,tr8	RESERVE			
9/17/2001	68	1	82	ad	597	1	73	ad			#N/A		144	st15,tr9	RESERVE			
9/17/2001	52	1	73	ad	38	1	84	ad			#N/A		145	st15,tr10	RESERVE			
9/20/2001	284	1	79	unmk	448	1	80	ad			#N/A		1	st15,tr11	ISS			
9/20/2001	745	1	77	unmk	483	1	78	ad			#N/A		2	s15,tr12	ISS			
9/20/2001	383	1	79	unmk	525	1	83	ad			#N/A		3	st15,tr13	ISS			
9/20/2001	761	1	77	unmk	352	1	83	ad			#N/A		4	st15,tr14	ISS			
9/20/2001	779	1	82	unmk	365	1	72	ad			#N/A		5	st15,tr15	ISS			
9/20/2001	743	1	85	unmk	440	1	82	ad			#N/A		6	st16,tr1	ISS			
9/20/2001	784	1	81	unmk	213	1	81	ad			#N/A		7	st16,tr2	ISS			
9/20/2001	795	1	84	unmk	285	1	90	ad			#N/A		8	st16,tr3	ISS			
9/20/2001	231	1	82	unmk	368	1	82	ad			#N/A		9	st16,tr4	ISS			
9/20/2001	755	1	76	unmk	450	1	63	ad			#N/A		10	st16,tr5	ISS			
9/20/2001	767	1	85	ad	702	1	49	unmk			#N/A		11	st16,tr6	ISS			
9/20/2001	653	1	78	ad	189	1	86	unmk			#N/A		12	st16,tr7	ISS			
9/20/2001	781	1	81	ad	750	1	87	unmk			#N/A		13	st16,tr8	ISS			
9/20/2001	764	1	79	ad	788	1	77	unmk			#N/A		14	st16,tr9	ISS			
9/20/2001	139	1	81	ad	missing	1	74	unmk			#N/A		15	st16,tr10	ISS			
9/20/2001	667	1	85	ad	280	1	75	unmk			#N/A		16	st16,tr11	ISS			
9/20/2001	637	1	74	ad	571	1	77	unmk			#N/A		17	st16,tr12	ISS			
9/20/2001	20	1	82	ad	756	1	91	unmk			#N/A		18	st16,tr13	ISS			
9/20/2001	735	1	81	unmk	573	1	89	ad			#N/A		19	st16,tr14	ISS			
9/20/2001	768	1	82	unmk	547	1	91	ad			#N/A		20	st16,tr15	ISS			
9/20/2001	528	1	79	ad	424	1	82	ad			#N/A		21	st17,tr1	RESERVE			
9/20/2001	172	1	82	ad	729	1	71	ad			#N/A		22	st17,tr2	RESERVE			
9/20/2001	281	1	82	ad	201	1	78	ad			#N/A		23	st17,tr3	RESERVE			
9/20/2001	382	1	87	ad	613	1	79	ad			#N/A		24	st17,tr4	RESERVE			
9/20/2001	778	1	83	ad	660	1	62	unmk			#N/A		25	st17,tr5	ISS			
9/20/2001	487	1	82	ad	671	1	62	ad			#N/A		26	st17,tr6	RESERVE			
9/20/2001	419	1	86	ad	263	1	78	ad			#N/A		27	st17,tr7	RESERVE			
9/20/2001	451	1	83	ad	250	1	57	ad			#N/A		28	st17,tr8	RESERVE			
9/20/2001	542	1	82	ad	162	1	82	ad			#N/A		29	st17,tr9	RESERVE			
9/20/2001	413	1	79	ad	562	1	56	ad			#N/A		30	st17,tr10	RESERVE			
9/20/2001	780	1	80	ad	280	1	75	unmk			#N/A		31	st17,tr11	ISS			
9/20/2001	601	1	78	ad	304	1	83	ad	453	1	78	ad	32	st17,tr12	RESERVE			
9/20/2001	56	1	76	ad	343	1	83	ad			#N/A		33	st17,tr13	RESERVE			
9/20/2001	518	1	82	ad	148	1	66	ad			#N/A		34	st17,tr14	RESERVE			
9/20/2001	143	1	82	ad	301	1	84	ad			#N/A		35	st17,tr15	RESERVE			
9/20/2001	40	1	85	ad	59	1	87	ad			#N/A		36	st18,tr1	RESERVE			
9/20/2001	538	1	78	ad	686	1	45	ad			#N/A		37	st18,tr2	RESERVE			
9/20/2001	452	1	79	ad	156	1	78	ad			#N/A		38	st18,tr3	RESERVE			
9/20/2001	335	1	83	ad	586	1	57	ad			#N/A		39	st18,tr4	RESERVE			
9/20/2001	772	1	83	ad	53	1	78	ad			#N/A		40	st18,tr5	RESERVE			
9/20/2001	798	1	82	ad	3	1	84	ad			#N/A		41	st18,tr6	RESERVE			
9/20/2001	168	1	84	ad	197	1	78	ad			#N/A		42	st18,tr7	RESERVE			
9/20/2001	441	1	82	ad	17	1	78	ad			#N/A		43	st18,tr8	RESERVE			
9/20/2001	539	1	78	ad	513	1	68	ad			#N/A		44	st18,tr9	RESERVE			
9/20/2001	546	1	87	ad	511	1	81	ad			#N/A		45	st18,tr10	RESERVE			

Appendix E. continued

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ADULT SUMMER CHINOOK DATA SECTION													EGG DISTRIBUTION SECTION					
ADULT FEMALE DATA				MALE #1 DATA				MALE #2 DATA				FIRST CROSS			SECOND CROSS			
SPAWN DATE	FLOY TAG	DISP. CODE:	FL(CM)	MARK TYPE	FLOY TAG	DISP. CODE:	FL(CM)	MARK TYPE	FLOY TAG	DISP. CODE:	FL(CM)	MARK TYPE	BUCKET NUMBER	1ST TRAY #	PROGENY LISTING	BUCKET NUMBER	1ST TRAY #	PROGENY LISTING
9/20/2001	510	1	82	ad	497	1	77	ad			#N/A		46	st18,tr11	RESERVE			
9/20/2001	672	1	83	ad	753	1	86	unmk			#N/A		47	st18,tr12	ISS			
9/20/2001	410	1	73	ad	733	1	89	ad			#N/A		48	st18,tr13	RESERVE			
9/20/2001	80	1	78	ad	333	1	84	ad			#N/A		49	st18,tr14	RESERVE			
9/20/2001	100	1	91	ad	missing	1	89	ad			#N/A		50	st18,tr15	RESERVE			
9/20/2001	238	1	83	ad	130	1	82	ad			#N/A		51	st19,tr1	RESERVE			
9/20/2001	682	1	74	ad	701	1	62	ad			#N/A		52	st19,tr2	RESERVE			
9/20/2001	796	1	84	ad	199	1	83	ad			#N/A		53	st19,tr3	RESERVE			
9/20/2001	638	1	75	ad	604	1	83	ad			#N/A		54	st19,tr4	RESERVE			
9/20/2001	578	1	84	ad	636	1	83	ad			#N/A		55	st19,tr5	RESERVE			
9/20/2001	149	1	82	ad	738	1	84	unmk			#N/A		56	st19,tr6	ISS			
9/20/2001	567	1	84	ad	695	1	63	ad			#N/A		57	st19,tr7	RESERVE			
9/20/2001	342	1	80	ad	724	1	89	ad			#N/A		58	st19,tr8	RESERVE			
9/20/2001	391	1	84	ad	390	1	82	ad			#N/A		59	st19,tr9	RESERVE			
9/20/2001	766	1	80	ad	missing	1	85	ad			#N/A		60	st19,tr10	RESERVE			
9/20/2001	581	1	74	ad	208	1	71	ad			#N/A		61	st19,tr11	RESERVE			
9/20/2001	501	1	86	ad	46	1	83	ad			#N/A		62	st19,tr12	RESERVE			
9/20/2001	274	1	81	ad	30	1	79	ad			#N/A		63	st19,tr13	RESERVE			
9/24/2001	320	1	76	unmk	457	1	90	unmk	78	1	88	ad	1	st19,tr14	ISS	2	st19,tr14	ISS
9/24/2001	786	1	79	unmk	405	1	82	unmk	334	1	100	ad	3	st19,tr15	ISS	4	st19,tr15	ISS
9/24/2001	642	1	80	unmk	229	1	84	unmk	787	1	84	ad	5	st20,tr1	ISS	6	st20,tr1	ISS
9/24/2001	missing	1	85	ad	missing	1	85	unmk	715	1	79	ad	7	st20,tr2	ISS	8	st20,tr2	ISS
9/24/2001	801	1	85	ad	747	1	91	unmk	626	1	83	ad	9	st20,tr3	ISS	10	st20,tr3	ISS
9/24/2001	31	1	83	ad	771	1	88	unmk	681	1	81	ad	11	st20,tr4	ISS	12	st20,tr4	ISS
9/24/2001	649	1	81	ad	746	1	85	unmk	495	1	81	ad	13	st20,tr5	ISS	14	st20,tr5	ISS
9/24/2001	566	1	76	ad	692	1	56	unmk	270	1	84	ad	15	st20,tr6	ISS	16	st20,tr6	ISS
9/24/2001	234	1	82	ad	missing	1	83	ad			#N/A		17	st20,tr7	RESERVE			
9/24/2001	504	1	81	ad	395	1	87	ad			#N/A		18	st20,tr7	RESERVE			
9/24/2001	227	1	83	ad	173	1	84	ad			#N/A		19	st20,tr8	RESERVE			
9/24/2001	missing	1	83	ad	551	1	81	ad			#N/A		20	st20,tr8	RESERVE			
9/24/2001	294	1	86	ad	340	1	80	ad			#N/A		21	st20,tr9	RESERVE			
9/24/2001	299	1	83	ad	614	1	88	ad			#N/A		22	st20,tr9	RESERVE			
9/24/2001	663	1	81	ad	591	1	76	ad			#N/A		23	st20,tr10	RESERVE			
9/24/2001	161	1	81	ad	187	1	82	ad			#N/A		24	st20,tr10	RESERVE			
9/24/2001	210	1	84	ad	missing	1	83	ad			#N/A		25	st20,tr11	RESERVE			
9/24/2001	763	1	84	ad	418	1	79	ad			#N/A		26	st20,tr11	RESERVE			
9/24/2001	missing	1	83	ad	589	1	85	ad			#N/A		27	st20,tr12	RESERVE			
9/24/2001	missing	1	86	ad	327	1	79	ad			#N/A		28	st20,tr12	RESERVE			
9/24/2001	2	1	77	ad	630	1	86	ad			#N/A		29	st20,tr13	RESERVE			
9/24/2001	719	1	70	ad	737	1	90	unmk			#N/A		30	st1,tr1	ISS			
9/24/2001	6	1	78	ad	190	1	80	ad			#N/A		31	st20,tr13	RESERVE			
9/24/2001	33	1	78	ad	754	1	87	ad			#N/A		32	st1,tr2	RESERVE			
9/24/2001	321	1	81	ad	511	1	81	ad			#N/A		33	st1,tr2	RESERVE			
9/24/2001	577	1	83	ad	21	1	80	ad			#N/A		34	st1,tr3	RESERVE			
9/24/2001	missing	1	86	ad	372	1	81	ad			#N/A		35	st1,tr3	RESERVE			
9/24/2001	554	1	85	ad	805	1	84	ad			#N/A		36	st1,tr4	RESERVE			
9/24/2001	802	1	76	ad	missing	1	76	ad			#N/A		37	st1,tr4	RESERVE			
9/24/2001	175	1	82	ad	490	1	87	ad			#N/A		38	st1,tr5	RESERVE			
9/24/2001	194	1	79	ad	46	1	83	ad			#N/A		39	st1,tr5	RESERVE			
9/24/2001	527	1	90	ad	748	1	83	ad			#N/A		40	st1,tr6	RESERVE			
9/24/2001	257	1	83	ad	5	1	78	ad			#N/A		41	s1,tr6	RESERVE			
9/24/2001	794	1	83	ad	333	1	84	ad			#N/A		42	st1,tr7	RESERVE			
9/24/2001	639	1	80	ad	424	1	82	ad			#N/A		43	st1,tr7	RESERVE			
9/24/2001	91	1	81	ad	449	1	54	ad			#N/A		44	st1,tr8	RESERVE			

Appendix E. continued

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ADULT SUMMER CHINOOK DATA SECTION													EGG DISTRIBUTION SECTION					
ADULT FEMALE DATA				MALE #1 DATA				MALE #2 DATA				FIRST CROSS			SECOND CROSS			
SPAWN DATE	FLOY TAG	DISP. CODE:	FL(CM)	MARK TYPE	FLOY TAG	DISP. CODE:	FL(CM)	MARK TYPE	FLOY TAG	DISP. CODE:	FL(CM)	MARK TYPE	BUCKET NUMBER	1ST TRAY #	PROGENY LISTING	BUCKET NUMBER	1ST TRAY #	PROGENY LISTING
9/24/2001	34	1	78	ad	739	1	77	ad			#N/A		45	st1,tr8	RESERVE			
9/24/2001	762	1	82	ad	153	1	86	ad			#N/A		46	st1,tr9	RESERVE			
9/24/2001	792	1	89	ad	803	1	82	ad			#N/A		47	st1,tr9	RESERVE			
9/24/2001	missing	1	82	ad	473	1	88	ad			#N/A		48	st1,tr10	RESERVE			
9/24/2001	697	1	83	ad	90	1	84	ad			#N/A		49	st1,tr10	RESERVE			
9/24/2001	146	1	83	ad	314	1	88	ad			#N/A		50	st1,tr11	RESERVE			
9/24/2001	548	1	86	ad	45	1	78	ad			#N/A		51	st1,tr11	RESERVE			
9/24/2001	359	1	87	ad	467	1	82	ad			#N/A		52	st1,tr12	RESERVE			
9/24/2001	572	1	82	ad	436	1	78	ad			#N/A		53	st1,tr12	RESERVE			
9/24/2001	512	1	81	ad	650	1	71	ad			#N/A		54	st1,tr13	RESERVE			
9/24/2001	515	1	86	ad	730	1	92	ad			#N/A		55	st1,tr13	RESERVE			
9/24/2001	196	1	79	ad	304	1	83	ad			#N/A		56	st1,tr14	RESERVE			
9/24/2001	283	1	80	ad	789	1	85	ad			#N/A		57	st1,tr15	RESERVE			
9/28/2001	180	1	84	ad	missing	2	82	ad			#N/A		1	P1,P2	RESERVE			
9/28/2001	426	1	78	ad	309	2	84	ad			#N/A		2	P3,P4	RESERVE			
9/28/2001	800	1	85	unmk	552	2	98	unmk	789	1	85	ad	3	P5,P6	ISS	4	P5,P6	ISS
9/28/2001	18	1	85	ad	609	2	72	ad			#N/A		5	P7,P8	RESERVE			
9/28/2001	461	1	81	ad	missing	2	87	ad			#N/A		6	P9,P10	RESERVE			
9/28/2001	799	1	80	ad	617	2	62	ad			#N/A		7	P11,P12	RESERVE			
9/28/2001	545	1	80	ad	446	2	81	ad			#N/A		8	P49,P50	RESERVE			
9/28/2001	582	1	80	ad	509	2	87	ad			#N/A		9	P51,P52	RESERVE			
9/28/2001	95	1	80	ad	432	2	80	ad			#N/A		10	P53,P54	RESERVE			
9/28/2001	228	1	83	ad	657	2	75	ad			#N/A		11	P55,P56	RESERVE			
9/28/2001	666	1	77	ad	423	2	62	ad			#N/A		12	P57,P58	RESERVE			
9/28/2001	676	1	84	unmk	missing	2	87	unmk	497	1	77	ad	13	P59,P60	ISS	14	P59,P60	ISS
9/28/2001	623	1	83	ad	missing	2	79	ad			#N/A		15	P37,P38	RESERVE			
9/28/2001	429	1	79	ad	378	2	81	ad			#N/A		16	P39,P40	RESERVE			
9/28/2001	535	1	85	ad	59	2	87	ad			#N/A		17	P41,P42	RESERVE			
9/28/2001	646	1	82	ad	130	2	82	ad			#N/A		18	P43,P44	RESERVE			
9/28/2001	177	1	82	ad	456	2	84	ad			#N/A		19	P45,P46	RESERVE			
10/2/2001	385	1	75	unmk	363	2	84	ad	612	2	70	unmk	1	p97,p98	ISS	2	p97,p98	ISS
10/2/2001	502	1	79	ad	756	2	91	unmk	missing	2	78	ad	3	p99,p100	ISS	4	p99,p100	ISS
10/2/2001	790	1	78	ad	263	2	78	ad			#N/A		5	p101,p102	RESERVE			
10/2/2001	507	1	86	ad	374	2	77	ad			#N/A		6	p103,p104	RESERVE			
10/2/2001	549	1	80	ad	374	2	77	ad			#N/A		7	p105,p106	RESERVE			
10/2/2001	793	1	79	ad	636	2	83	ad			#N/A		8	p107,p108	RESERVE			
10/2/2001	445	1	78	ad	636	2	83	ad			#N/A		9	p109,p110	RESERVE			
10/2/2001	missing	1	72	ad	190	2	80	ad			#N/A		10	p111,p112	RESERVE			
10/2/2001	176	1	79	ad	308	2	81	ad			#N/A		11	p113,p114	RESERVE			
10/2/2001	282	1	83	ad	30	2	79	ad			#N/A		12	p115,p116	RESERVE			
10/2/2001	454	1	83	ad	247	2	86	ad			#N/A		13	p117,p118	RESERVE			

Submitted by:

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