

THE RESOURCES AGENCY OF CALIFORNIA
Department of Fish and Game

ANNUAL REPORT
NIMBUS SALMON AND STEELHEAD HATCHERY
FISCAL YEAR OF 1962-63 1/

7
Reg 1
REF 90232

JAMES A. HINZE
Region 2, Inland Fisheries

SUMMARY

The first king salmon, Oncorhynchus tshawytscha, of the 1962 fall run arrived at Nimbus Hatchery on September 1, 1962, and the last on March 2, 1963. The peak of the run occurred from November 16 to November 22. The total run consisted of 16,374 salmon.

In all, 2,870 female kings were spawned producing 17,033,700 eggs.

The water temperature control structure installed on Folsom Dam was utilized for the first time when the shutters were raised on October 8, 1962. Heavy storms prevented an evaluation of the temperature control operation.

Of 59,070 marked Nimbus salmon of the 1959 brood year, 56 males and 36 females returned during the 1962-63 season. With the addition of the 7 males recovered in the 1961-62 season, a total of 99 fish of this group returned to the hatchery.

Of 51,590 marked 1959 brood year kings, from eggs obtained from the Upper Sacramento River, a total of 166 fish, 96 males and 70 females, were recovered at the hatchery during the 1962-63 season.

Of 45,902 marked Nimbus kings of the 1960 brood year, 92 males and 2 females returned to the hatchery during 1962-63.

From July, 1962, through September, 1962, the remaining king salmon fingerlings of the 1961 brood year were planted.

From January through June, 1963, 13,081,056 king salmon fingerlings were released, leaving 116,000 on hand as of June 30, 1963.

From December 13, 1962, to April 4, 1963, 1,226 male and 915 female steelhead, Salmo gairdnerii gairdnerii, entered the holding ponds. A total of 770 females was spawned producing 2,818,000 eggs.

Heavy rains from January 30 through February 1, 1963, necessitated releases of up to 110,000 cfs from Nimbus Dam. The fish weir and piers were extensively damaged.

1/ Submitted March, 1964.

Of the 100,992 marked steelhead of the 1960 brood year, 273 males and 283 females returned to the hatchery during the 1963 season. This makes a total return of 561 fish of this group.

Starting in January, 1963, and continuing through March, 1963, 46,881 Nimbus steelhead and 59,338 Eel River steelhead of the 1962 brood year were planted.

From April through June, 1,127,886 steelhead of the 1963 brood year were planted, leaving 860,000 fingerlings on hand at the end of this report period.

INTRODUCTION

This is the eighth Annual Report of the Nimbus Salmon and Steelhead Hatchery, Sacramento County, operated by the California Department of Fish and Game under contract with the United States Bureau of Reclamation. The report summarizes the number of fish trapped and spawned, production of eggs and fish, and conditions of water quality and temperature from July 1, 1962, through June 30, 1963.

KING SALMON MAINTENANCE PROGRAM

History of the 1962 Salmon Run

The weir racks were placed in position on August 22, 1962, and the first king salmon entered the holding pond on September 1.

A total of 16,374 king salmon migrated to the hatchery. Of these, 12,668 entered the holding ponds and 3,706 escaped upstream through the weir and were later removed from the racks as they died and drifted downstream.

The portion of the run entering the holding pond was composed of 5,088 large males, 4,138 females, and 3,442 grilse; thus, 67 percent were male, including grilse, and 33 percent were females. The run extended from September, 1962, to March, 1963, with 164 salmon arriving in September, 2,601 in October, 7,906 in November, 1,502 in December, 443 in January, 50 in February, and 2 in March. The last salmon entered the holding pond March 2, 1963.

Included in the 3,706 dead salmon recovered from the racks were 1,651 males, 52 unspawned females, 132 spent females, and 1,871 grilse.

The total run of 16,374 king salmon (including fish recovered on the racks) consisted of approximately 73 percent males and 27 percent females.

Of the 4,138 females that entered the holding ponds 2,870 or 69.3 percent were spawned, 1,165 or 28.1 percent died in the ponds without spawning, and 103 or 2.5 percent were too green when killed to be spawned successfully.

The 2,870 females which were spawned successfully produced 17,033,700 eggs for an average of 5,935 eggs per female.

Water Temperature Control

During the winter of 1961-62 a shutter device was constructed on the upstream face of Folsom Dam that allows water to be released into the penstocks either from the upper or the lower lake elevations. By lowering the shutters in winter and drawing water from the upper elevations, cold water is stored, undisturbed, in the lower elevations during the spring and summer months. When colder water is needed in the fall for the salmon, the shutters are raised releasing the cold water through the penstocks to the river.

In January, 1962, the shutters were lowered into position for the storing of cold water. On October 8, 1962, the shutters were raised releasing the cold water. The water temperatures at the hatchery on this date ranged from 63 to 65 degrees Fahrenheit. By October 10 the temperature range had dropped to 60 to 63 degrees, and by October 13 was 57 to 58 degrees. From October 10 through October 13, heavy rains occurred that cooled the water in Folsom Lake at all elevations. Therefore, a complete evaluation of the effectiveness of the

temperature control structure could not be accomplished. However, it appears that better temperatures will be obtained than those experienced in past years.

Due to the improved water temperatures, 13,700,497 fish, or over 80 percent of the 17,033,700 eggs taken, reached swim-up. This is almost 20 percent better than results obtained in the past. At the end of this fiscal year 13,081,056 fingerlings had been planted leaving 116,000 on hand. This shows a fish production that amounts to over 76 percent of the eggs taken. In past years production has ranged from 55 to 60 percent.

1959 Brood Year Marked King Salmon

In August, 1960, 50,070 Nimbus late-running kings, averaging 3.3 fish per ounce, were marked by removing their right ventral fins. At the same time 51,590 late-running kings from eggs obtained from the Upper Sacramento River were marked by removing their left ventral fins. These fingerlings averaged 5.5 fish per ounce. During the same month both groups were planted in the American River at the hatchery. During the 1961 run, 7 males of the Nimbus fish returned. None of the Upper Sacramento River strain returned. Of the number of Nimbus fish that returned during the 1962 season, there were 56 males, averaging 72 centimeters in length, and 36 females, averaging 74 centimeters. Of the number of Sacramento River salmon that returned there were 96 males, averaging 74 centimeters, and 70 females, averaging 77 centimeters. This is a total return of 99 Nimbus fish and 166 Sacramento River fish.

1960 Brood Year Marked King Salmon

In January, 1962, 45,902 Nimbus king salmon, averaging 6.3 fish per pound, of the 1960 brood year were marked by the removal of the left and right ventral fins. These fish were released in the American River below "H" Street Bridge. During the 1962 run 92 males, averaging 52 centimeters in length, and 2 females, one 40 centimeters in length and one 60 centimeters, returned.

Planting 1961 Brood Year King Salmon

Prior to July 1, 1962, 18,422,559 king salmon fingerlings were released. From July, 1962, through September, 1962, the remaining 474,534 fish of the 1961 brood year were planted.

Planting 1962 Brood Year King Salmon

From January through June, 1963, 13,081,056 king salmon fingerlings were planted in the American River. On June 30, 1963, there were 116,000 fingerlings on hand.

STEELHEAD MAINTENANCE PROGRAM

History of the 1962-63 Steelhead Run

Steelhead began to arrive at the hatchery with the salmon in October, 1962. Until December 13 they were returned to the river. After December 13 all steelhead were held for spawning. During the remainder of December, 219 males and 131 females entered the pond; during January, 184 males and 118 females; during February, 691 males and 494 females; during March, 119 males and 163 females; and during April, 13 males and 9 females. This is a season total of 1,226 males and 915 females. A total of 770 females was spawned producing 2,818,000 eggs, an average of 3,660 eggs per female.

Storm Damage

Heavy rains occurred from January 30, 1963, through February 1, 1963, necessitating releases of up to 110,000 c.f.s. from Nimbus Dam. On February 1, when flows exceeded 10,000 c.f.s. removal of the fish weir had to be terminated after only 10 of the 20 picket sections of the rack had been removed.

The water release was decreased to 10,000 c.f.s. on February 5, and the extent of the damage could be determined. Of the ten picket sections left in the river, eight had been carried away and the two remaining were badly damaged. Nine of the walkway sections were carried away, three were in place and repairable. Also two piers were missing. The lower 14 steps of the ladder were filled with rubble. This was removed by a contractor on February 9 and 10, putting the ladder back in operation.

Bids for repair of the fish weir were opened June 18, 1963. No work was accomplished during the time of this report.

A great amount of silt was carried by the high flows. As this silt was carried through the rearing ponds, it affected the yearling steelhead causing a heavy mortality. Of the 283,000 yearling steelhead on hand before the storm, it is estimated that 243,000 were lost.

After February 1, without the fish weir, 1,502 steelhead of the total run of 2,141 fish entered the holding pond.

1960 Brood Year Marked Steelhead

In January, 1961, 100,992 Nimbus steelhead, averaging 12 fish per pound, were marked by removing their adipose and left ventral fins. They were then planted in the American River at the hatchery.

During the 1962 run 3 males and 2 females returned and during the 1963 run 273 males and 283 females returned. The males averaged 66 centimeters in length and the females 63 centimeters. The total return of this group is now 276 males and 285 females.

Planting 1962 Brood Year Steelhead

Before July 1, 1962, 5,372 Nimbus fingerlings were released. From January, 1963, through March, 1963, 46,881 Nimbus steelhead, averaging 7 fish per pound, and 58,338 Eel River steelhead, averaging 17.6 fish per pound, were planted. Of the Nimbus steelhead 23,029 were marked by removing the right ventral fins and planted in the Sacramento River near Clarksburg. Also, 16,390 of the Nimbus steelhead were marked by removing the left ventral fins and these fish were planted in the American River at the hatchery.

Planting 1963 Brood Year Steelhead

From April through June, 1963, 1,127,886 steelhead fingerlings, averaging 86 fish per ounce, were planted in the American River. On June 30, 1963, there were 860,000 fingerlings on hand.

CONSTRUCTION PROJECTS

In July, 1962, a contract for paving the parking area, walkways, and fence construction was awarded to the Brighton Sand and Gravel Company. This work was completed in October, 1962.

PUBLIC RELATIONS

A tape repeater public information system was installed in July, 1962.

An estimated 101,200 people visited the hatchery, 89,000 during the salmon season in October, November, and December.

APPENDIX

APPENDIX

Tables A-1 through A-12 give the daily air and water temperatures, weather conditions, river flow, and number of each species entering the hatchery during the report period.

Figure A-1 shows the numbers of fall-run king salmon entering the hatchery during each week of the season.

TABLE A-1
Nimbus Salmon and Steelhead Hatchery
Weather and Water Data Report
July, 1962

| Date | Temperature | | | | Weather | American River flow |
|------|-------------|---------|---------|---------|----------------------|---------------------|
| | Air | | Water | | | at hatchery |
| | Maximum | Minimum | Maximum | Minimum | | (c.f.s.) |
| 1 | 89 | 56 | 60.5 | 58 | Clear | 2,750 |
| 2 | 96 | 60 | 61 | 59 | Clear | 2,987 |
| 3 | 97 | 60 | 60 | 58 | Clear | 2,983 |
| 4 | 100 | 62 | 60.5 | 58 | Clear | 2,965 |
| 5 | 96 | 62 | 59.5 | 58 | Clear | 2,953 |
| 6 | 95 | 60 | 61 | 58.5 | Clear | 2,970 |
| 7 | 94 | 60 | 60 | 58.5 | Clear | 2,983 |
| 8 | 94 | 58 | 61 | 58 | Clear | 2,979 |
| 9 | 94 | 60 | 60 | 58.5 | Clear | 3,025 |
| 10 | 96 | 58 | 61.5 | 59 | Clear | 3,057 |
| 11 | 94 | 62 | 61 | 58 | Clear, showers, P.M. | 3,451 |
| 12 | 86 | 52 | 60 | 58 | Clear | 3,459 |
| 13 | 92 | 56 | 61.5 | 59 | Clear | 3,493 |
| 14 | 96 | 62 | 62 | 60 | Clear | 3,518 |
| 15 | 99 | 62 | 62 | 59.5 | Clear | 3,511 |
| 16 | 98 | 62 | 62 | 60 | Clear | 3,518 |
| 17 | 86 | 62 | 62 | 60 | Clear | 3,528 |
| 18 | 90 | 58 | 61.5 | 60 | Clear | 3,530 |
| 19 | 96 | 56 | 61.5 | 60.5 | Clear | 3,530 |
| 20 | 100 | 60 | 62.5 | 61 | Clear | 3,515 |
| 21 | 102 | 62 | 62.5 | 61 | Clear | 3,530 |
| 22 | 102 | 63 | 63 | 61.5 | Clear, lt. overcast | 3,507 |
| 23 | 101 | 57 | 62.5 | 61.5 | Clear, lt. overcast | 3,536 |
| 24 | 96 | 63 | 63 | 61 | Clear | 3,534 |
| 25 | 94 | 56 | 63 | 61 | Clear | 3,498 |
| 26 | 100 | 58 | 63.5 | 61.5 | Clear | 3,513 |
| 27 | 99 | 62 | 64 | 62.5 | Clear | 3,529 |
| 28 | 98 | 62 | 63.5 | 62 | Clear | 3,528 |
| 29 | 93 | 58 | 63.5 | 62 | Clear | 3,526 |
| 30 | 99 | 58 | 63.5 | 62 | Clear | 3,503 |
| 31 | 95 | 58 | 64 | 62 | Clear | 3,516 |

Water temperature recorded on thermograph at head of nursery ponds. Air temperatures from maximum-minimum thermometer on northeast corner of processing building. River flow data furnished by Bureau of Reclamation. All temperatures are in degrees Fahrenheit.

TABLE A-2
Nimbus Salmon and Steelhead Hatchery
Weather and Water Data Report
August, 1962

| Date | Temperature | | | | Weather | American River flow at hatchery (c.f.s.) |
|------|-------------|---------|---------|---------|---------------|--|
| | Air | | Water | | | |
| | Maximum | Minimum | Maximum | Minimum | | |
| 1 | 96 | 58 | 64 | 62 | Clear | 3,506 |
| 2 | 86 | 58 | 64 | 62.5 | Clear | 3,515 |
| 3 | 85 | 58 | 64 | 62.5 | Clear | 3,497 |
| 4 | 80 | 59 | 63.5 | 62.5 | Clear | 3,505 |
| 5 | 82 | 57 | 63.5 | 62 | Clear | 3,593 |
| 6 | 82 | 58 | 63 | 62.5 | Clear | 3,507 |
| 7 | 83 | 58 | 63.5 | 62 | Partly cloudy | 3,565 |
| 8 | 89 | 58 | 63.5 | 63 | Partly cloudy | 3,557 |
| 9 | 82 | 60 | 63.5 | 62.5 | Rain | 3,485 |
| 10 | 82 | 58 | 64 | 63 | Clear | 3,509 |
| 11 | 95 | 60 | 65 | 64 | Clear | 3,475 |
| 12 | 95 | 59 | 66.5 | 64.5 | Clear | 3,503 |
| 13 | 98 | 60 | 66 | 65.5 | Clear | 3,493 |
| 14 | 100 | 61 | 65.5 | 65 | Clear | 3,491 |
| 15 | 100 | 60 | 66.5 | 65 | Clear | 3,539 |
| 16 | 102 | 66 | 66.5 | 65 | Clear | 3,497 |
| 17 | 100 | 65 | 65.5 | 66 | Clear | 3,520 |
| 18 | 90 | 60 | 65 | 64 | Clear | 3,551 |
| 19 | 92 | 60 | 66 | 64.5 | Clear | 3,523 |
| 20 | 100 | 62 | 66.5 | 66 | Clear | 3,527 |
| 21 | 99 | 66 | 66.5 | 65.5 | Clear | 3,504 |
| 22 | 97 | 58 | 66 | 64.5 | Clear | 3,523 |
| 23 | 93 | 58 | 66 | 64 | Clear | 3,487 |
| 24 | 100 | 62 | 66.5 | 64.5 | Clear | 3,270 |
| 25 | 99 | 62 | 66.5 | 64.5 | Clear | 3,294 |
| 26 | 98 | 62 | 66.5 | 64 | Clear | 3,290 |
| 27 | 96 | 60 | 66 | 65 | Clear | 3,293 |
| 28 | 96 | 62 | 66 | 65 | Clear | 3,297 |
| 29 | 86 | 58 | 65.5 | 64 | Clear | 3,296 |
| 30 | 89 | 56 | 65.5 | 64 | Clear | 3,312 |
| 31 | 92 | 58 | 66.5 | 64 | Clear | 3,275 |

Weir installed August 22, 1962

TABLE A-3
Nimbus Salmon and Steelhead Hatchery
Weather and Water Data Report
September, 1962

| Date | Temperature | | | | Weather | American River flow at hatchery (c.f.s.) | Salmon |
|------|-------------|---------|---------|---------|-----------------------|--|--------|
| | Air | | Water | | | | |
| | Maximum | Minimum | Maximum | Minimum | | | |
| 1 | 94 | 60 | 66.5 | 65 | Clear | 2,693 | 0 |
| 2 | 86 | 58 | 66.5 | 64.5 | Clear | 2,694 | 0 |
| 3 | 86 | 58 | 66 | 64 | Clear | 2,693 | 0 |
| 4 | 85 | 54 | 66 | 64 | Clear | 2,684 | 0 |
| 5 | 90 | 56 | 66.5 | 65 | Clear | 2,688 | 0 |
| 6 | 93 | 56 | 66.5 | 66 | Clear | 2,688 | 0 |
| 7 | 83 | 56 | 66 | 65.5 | Clear | 2,690 | 0 |
| 8 | 93 | 56 | 66.5 | 66 | Clear | 2,701 | 0 |
| 9 | 88 | 57 | 66.5 | 65.5 | Clear | 2,666 | 0 |
| 10 | 80 | 53 | 66.5 | 65 | Clear | 2,642 | 0 |
| 11 | 86 | 58 | 66.5 | 66 | Clear | 2,609 | 0 |
| 12 | 80 | 58 | 66.5 | 66 | Clear | 2,624 | 0 |
| 13 | 84 | 53 | 66.5 | 66 | Clear | 2,568 | 0 |
| 14 | 84 | 58 | 66.5 | 66 | Clear | 2,641 | 0 |
| 15 | 88 | 56 | 67 | 66.5 | Clear | 2,617 | 0 |
| 16 | 92 | 58 | 67 | 66 | Clear | 2,642 | 0 |
| 17 | 92 | 60 | 67 | 66 | Clear | 2,607 | 0 |
| 18 | 80 | 55 | 66 | 65 | Clear | 2,643 | 0 |
| 19 | 82 | 58 | 66 | 65 | Clear | 2,586 | 0 |
| 20 | 81 | 54 | 66 | 66 | Clear | 2,600 | 0 |
| 21 | 86 | 54 | 66.5 | 66 | Clear | 2,588 | 0 |
| 22 | 90 | 58 | 66.5 | 66 | Clear | 2,496 | 0 |
| 23 | 91 | 56 | 66.5 | 66 | Clear | 2,476 | 0 |
| 24 | 94 | 54 | 67 | 66 | Clear | 2,493 | 0 |
| 25 | 86 | 56 | 67 | 65 | Clear | 2,479 | 0 |
| 26 | 81 | 58 | 66.5 | 64.5 | Clear | 2,502 | 164* |
| 27 | 80 | 54 | 66 | 64 | Partly cloudy-showers | 2,510 | 0 |
| 28 | 74 | 56 | 65 | 64 | Cloudy | 2,481 | 0 |
| 29 | 77 | 58 | 66 | 64 | Clear | 2,486 | 0 |
| 30 | 85 | 54 | 66 | 64 | Clear | 2,410 | 0 |

*The first adult salmon of the season entered the holding pond September 1 and were sorted for the first time September 26.

TABLE A-4
Nimbus Salmon and Steelhead Hatchery
Weather and Water Data Report
October, 1962

| Date | Temperature | | | | Weather | American River flow | Salmon |
|------|-------------|---------|---------|---------|----------------------|---------------------|--------|
| | Air | | Water | | | at hatchery | |
| | Maximum | Minimum | Maximum | Minimum | | (c.f.s.) | |
| 1 | 90 | 56 | 66.5 | 65 | Clear | 1,232 | 0 |
| 2 | 79 | 59 | 66.5 | 65 | Clear | 1,257 | 62 |
| 3 | 75 | 54 | 66 | 64.5 | Clear | 1,247 | 0 |
| 4 | 73 | 56 | 66.5 | 64 | Clear | 1,241 | 0 |
| 5 | 74 | 49 | 66 | 64.5 | Clear | 1,241 | 0 |
| 6 | 74 | 50 | 65.5 | 63.5 | Clear | 1,235 | 0 |
| 7 | 75 | 47 | 65 | 63 | Clear | 1,256 | 0 |
| 8 | 74 | 43 | 65 | 63 | Partly cloudy | 1,252 | 1 |
| 9 | 74 | 44 | 65 | 62.5 | Clear | 1,229 | 1 |
| 10 | 65 | 58 | 63 | 59.5 | Rain | 1,234 | 0 |
| 11 | 64 | 63 | 60 | 57.5 | Rain | 1,239 | 117 |
| 12 | 63 | 60 | 59.5 | 57.5 | Rain | 1,305 | 0 |
| 13 | 61 | 56 | 58.5 | 57 | Rain | 2,433 | 0 |
| 14 | 61 | 47 | 58 | 56.5 | Partly cloudy | 5,040 | 0 |
| 15 | 71 | 43 | 55.5 | 50 | Clear | 5,097 | 612 |
| 16 | 72 | 48 | 58 | 55.5 | Clear | 5,015 | 0 |
| 17 | 74 | 49 | 58 | 54.5 | Clear | 4,935 | 0 |
| 18 | 72 | 46 | 57 | 54.5 | Clear | 3,985 | 0 |
| 19 | 74 | 47 | 56.5 | 55.5 | Clear | 3,973 | 0 |
| 20 | 73 | 48 | 56.5 | 55.5 | Clear | 3,975 | 0 |
| 21 | 74 | 48 | 56.5 | 54.5 | Clear | 3,998 | 0 |
| 22 | 76 | 54 | 56.5 | 54.5 | Clear | 4,032 | 125 |
| 23 | 70 | 54 | 56.5 | 55 | Clear | 4,037 | 0 |
| 24 | 58 | 54 | 55.5 | 55 | Fog A.M., clear P.M. | 4,038 | 275 |
| 25 | 58 | 55 | 55 | 54.5 | Fog | 4,012 | 0 |
| 26 | 56 | 54 | 55.5 | 55 | Fog | 4,018 | 351 |
| 27 | 57 | 54 | 56 | 54.5 | Fog A.M., clear P.M. | 4,018 | 0 |
| 28 | 58 | 46 | 55.5 | 54.5 | Fog A.M., clear P.M. | 4,004 | 309 |
| 29 | 68 | 47 | 56.5 | 55 | Fog A.M., clear P.M. | 4,021 | 269 |
| 30 | 60 | 48 | 57 | 55.5 | Fog A.M., clear P.M. | 4,002 | 208 |
| 31 | 68 | 49 | 57 | 55 | Clear | 4,018 | 271 |

TABLE A-5
Nimbus Salmon and Steelhead Hatchery
Weather and Water Data Report
November, 1962

| Date | Temperature | | | | Weather | American River flow | Salmon |
|------|-------------|---------|---------|---------|----------------------|---------------------|--------|
| | Air | | Water | | | at hatchery | |
| | Maximum | Minimum | Maximum | Minimum | | (c.f.s.) | |
| 1 | 68 | 49 | 57 | 55 | Clear | 3,995 | 279 |
| 2 | 67 | 52 | 57.5 | 55.5 | Cloudy | 3,562 | 369 |
| 3 | 67 | 49 | 57 | 55.5 | Fog A.M., clear P.M. | 3,311 | 387 |
| 4 | 64 | 49 | 57 | 55.5 | Fog A.M., clear P.M. | 3,318 | 282 |
| 5 | 68 | 54 | 57 | 56 | Partly cloudy | 3,331 | 382 |
| 6 | 69 | 46 | 57 | 56 | Clear | 3,301 | 411 |
| 7 | 78 | 47 | 58 | 56 | Clear | 2,977 | 452 |
| 8 | 80 | 45 | 57 | 55.5 | Partly cloudy | 2,982 | 433 |
| 9 | 68 | 51 | 57 | 56 | Light showers | 3,017 | 150 |
| 10 | 67 | 52 | 59 | 56 | Partly cloudy | 3,003 | 345 |
| 11 | 69 | 49 | 57.5 | 56 | Clear | 3,003 | 278 |
| 12 | 68 | 48 | 57.5 | 56 | Partly cloudy | 3,006 | 249 |
| 13 | 62 | 50 | 56.5 | 55 | Fog | 3,017 | 231 |
| 14 | 60 | 52 | 56.5 | 55.5 | Partly cloudy | 2,996 | 269 |
| 15 | 62 | 42 | 56.5 | 55 | Partly cloudy | 2,997 | 158 |
| 16 | 58 | 42 | 57 | 55.5 | Clear | 3,005 | 175 |
| 17 | 55 | 38 | 57 | 55.5 | Clear | 2,997 | 246 |
| 18 | 63 | 36 | 56.5 | 55 | Clear | 2,956 | 383 |
| 19 | 59 | 40 | 57 | 55 | Clear | 2,983 | 286 |
| 20 | 60 | 38 | 57 | 55.5 | Clear | 2,985 | 219 |
| 21 | 60 | 40 | 57 | 55.5 | Clear | 2,987 | 191 |
| 22 | 61 | 42 | 57.5 | 55.5 | Partly cloudy | 2,983 | 221 |
| 23 | 61 | 46 | 56.5 | 55.5 | Clear | 2,969 | 162 |
| 24 | 60 | 46 | 57 | 55.5 | Clear | 2,973 | 339 |
| 25 | 60 | 40 | 57 | 55 | Partly cloudy | 2,969 | 173 |
| 26 | 61 | 50 | 56 | 55.5 | Cloudy | 2,964 | 202 |
| 27 | 59 | 41 | 57 | 55.5 | Cloudy | 2,969 | 152 |
| 28 | 55 | 33 | 56.5 | 55.5 | Cloudy | 2,995 | 184 |
| 29 | 54 | 34 | 57 | 55 | Clear | 2,972 | 192 |
| 30 | 55 | 40 | 56.5 | 55 | Clear | 2,973 | 106 |

TABLE A-6
Nimbus Salmon and Steelhead Hatchery
Weather and Water Data Report
December, 1962

| Date | Temperature | | | | Weather | American River flow | | |
|------|-------------|---------|---------|---------|-----------------------|-------------------------|--------|-----------|
| | Air | | Water | | | at hatchery (c.f.s.) | Salmon | Steelhead |
| | Maximum | Minimum | Maximum | Minimum | | | | |
| 1 | 58 | 46 | 56.5 | 55.5 | Partly cloudy | 2,973 | 78 | 0 |
| 2 | 55 | 44 | 56.5 | 55.5 | Light rain | 2,995 | 84 | 0 |
| 3 | 60 | 50 | 56 | 55.5 | Light rain | 2,596 | 96 | 0 |
| 4 | 54 | 44 | 55.5 | 55 | Cloudy | 2,518 | 56 | 0 |
| 5 | 54 | 40 | 55 | 54 | Cloudy | 2,519 | 145 | 0 |
| 6 | 48 | 40 | 54 | 54 | Fog | 2,518 | 61 | 0 |
| 7 | 54 | 36 | 54 | 54 | Fog A.M., clear P.M. | 2,515 | 51 | 0 |
| 8 | 54 | 39 | 55 | 54.5 | Fog A.M., clear P.M. | 2,513 | 0 | 0 |
| 9 | 52 | 37 | 53 | 52.5 | Fog A.M., clear P.M. | 2,519 | 113 | 0 |
| 10 | 51 | 36 | 53 | 53 | Fog A.M., clear P.M. | 2,510 | 0 | 0 |
| 11 | 51 | 36 | 53 | 52.5 | Fog A.M., clear P.M. | 2,514 | 158 | 0 |
| 12 | 50 | 35 | 52 | 52 | Fog | 2,501 | 0 | 0 |
| 13 | 60 | 44 | 53 | 52 | Fog A.M., cloudy P.M. | 2,512 | 135 | 26 |
| 14 | 62 | 47 | 54 | 53 | Cloudy | 2,497 | 0 | 0 |
| 15 | 61 | 50 | 53.5 | 53 | Rain | 2,497 | 49 | 42 |
| 16 | 60 | 52 | 53 | 52.5 | Rain | 2,474 | 0 | 0 |
| 17 | 55 | 50 | 52.5 | 52 | Rain | 2,582 | 68 | 52 |
| 18 | 58 | 50 | 53 | 52 | Cloudy | 2,631 | 0 | 0 |
| 19 | 57 | 40 | 53 | 52 | Fog A.M., cloudy P.M. | 2,614 | 54 | 67 |
| 20 | 55 | 37 | 52 | 51 | Fog A.M., clear P.M. | 2,583 | 0 | 0 |
| 21 | 51 | 38 | 51 | 51 | Fog | 2,593 | 46 | 35 |
| 22 | 42 | 40 | 51 | 50.5 | Fog | 2,637 | 0 | 0 |
| 23 | 45 | 42 | 50 | 50 | Cloudy | 2,611 | 40 | 44 |
| 24 | 48 | 34 | 50 | 50 | Clear | 2,611 | 0 | 0 |
| 25 | 47 | 28 | 50 | 49.5 | Clear | 2,613 | 0 | 0 |
| 26 | 47 | 25 | 50 | 49 | Clear | 2,609 | 129 | 84 |
| 27 | 46 | 28 | 50 | 49 | Clear | 2,615 | 0 | 0 |
| 28 | 46 | 27 | 50 | 49.5 | Fog A.M., clear P.M. | 2,632 | 78 | 43 |
| 29 | 47 | 26 | 49.5 | 49 | Partly cloudy | 2,603 | 0 | 0 |
| 30 | 47 | 26 | 49.5 | 49 | Partly cloudy | 2,610 | 61 | 39 |
| 31 | 47 | 26 | 49.5 | 49 | Fog A.M., clear P.M. | 2,623 | 0 | 0 |

The first steelhead held for spawning was December 13, 1962.

TABLE A-7

Nimbus Salmon and Steelhead Hatchery
Weather and Water Data Report
January, 1963

| Date | Temperature | | | | Weather | American River flow at hatchery (c.f.s.) | Salmon | Steelhead |
|------|-------------|---------|---------|---------|---------------------|---|--------|-----------|
| | Air | | Water | | | | | |
| | Maximum | Minimum | Maximum | Minimum | | | | |
| 1 | 49 | 30 | 49 | 48.5 | Fog A.M. clear P.M. | 2,514 | 0 | 0 |
| 2 | 44 | 24 | 48.5 | 48.5 | Fog | 2,503 | 54 | 59 |
| 3 | 42 | 34 | 48.5 | 48 | Cloudy | 2,510 | 0 | 0 |
| 4 | 50 | 34 | 49 | 48.5 | Clear | 2,509 | 30 | 15 |
| 5 | 54 | 30 | 48.5 | 48 | Clear | 2,516 | 0 | 0 |
| 6 | 53 | 38 | 48.5 | 48 | Clear | 2,512 | 0 | 0 |
| 7 | 55 | 31 | 48.5 | 48 | Clear | 2,491 | 52 | 27 |
| 8 | 53 | 29 | 48.5 | 48 | Clear | 2,506 | 0 | 0 |
| 9 | 53 | 32 | 48 | 48 | Clear | 2,470 | 17 | 14 |
| 10 | 52 | 41 | 48.5 | 48 | Cloudy | 2,511 | 0 | 0 |
| 11 | 42 | 29 | 48 | 46.5 | Clear | 2,506 | 40 | 22 |
| 12 | 45 | 22 | 46.5 | 45.5 | Clear | 2,499 | 0 | 0 |
| 13 | 44 | 22 | 46.5 | 45.5 | Clear | 2,505 | 0 | 0 |
| 14 | 47 | 22 | 46.5 | 46.5 | Clear | 2,452 | 40 | 18 |
| 15 | 49 | 25 | 47.5 | 46 | Clear | 2,195 | 0 | 0 |
| 16 | 50 | 27 | 47 | 46.5 | Clear | 1,991 | 0 | 0 |
| 17 | 50 | 26 | 47 | 46 | Clear | 1,785 | 34 | 13 |
| 18 | 47 | 29 | 47 | 46 | Clear | 1,591 | 0 | 0 |
| 19 | 50 | 30 | 46.5 | 45.5 | Clear | 1,390 | 0 | 0 |
| 20 | 50 | 28 | 46.5 | 45.5 | Clear | 1,386 | 0 | 0 |
| 21 | 52 | 26 | 46 | 45.5 | Clear | 1,350 | 49 | 29 |
| 22 | 52 | 28 | 46 | 45.5 | Clear | 1,351 | 0 | 0 |
| 23 | 52 | 28 | 46 | 45.5 | Clear | 1,389 | 0 | 0 |
| 24 | 49 | 34 | 46 | 45.5 | Fog A.M. clear P.M. | 1,399 | 49 | 23 |
| 25 | 49 | 31 | 46 | 46 | Fog | 1,388 | 0 | 0 |
| 26 | 43 | 36 | 46 | 45.5 | Fog | 1,396 | 0 | 0 |
| 27 | 42 | 36 | 45.5 | 45 | Fog | 1,402 | 0 | 0 |
| 28 | 46 | 35 | 45 | 45 | Fog, light showers | 1,400 | 50 | 68 |
| 29 | 46 | 39 | 45 | 45 | Fog, rain | 1,412 | 0 | 0 |
| 30 | 55 | 45 | 45.5 | 45 | Rain | 1,403 | 0 | 0 |
| 31 | 62 | 57 | 48 | 45.5 | Rain | 2,818 | 28 | 63 |

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TABLE A-8

Nimbus Salmon and Steelhead Hatchery
Weather and Water Data Report
February, 1963

| Date | Temperature | | | | Weather | American River | Salmon | Steelhead |
|------|-------------|---------|---------|---------|----------------------------|-------------------------|--------|-----------|
| | Air | | Water | | | flow | | |
| | Maximum | Minimum | Maximum | Minimum | | at hatchery (c.f.s.) | | |
| 1 | 66 | 57 | 49 | 47 | Rain | 51,573 | 0 | 0 |
| 2 | 68 | 50 | 47.5 | 47 | Cloudy | 78,613 | 0 | 0 |
| 3 | 70 | 52 | 47.5 | 46.5 | Cloudy | 39,032 | 0 | 0 |
| 4 | 68 | 52 | 48 | 47.5 | Cloudy-light showers | 39,684 | 32 | 532 |
| 5 | 66 | 45 | 48.5 | 47 | Partly cloudy | 33,239 | 0 | 0 |
| 6 | 70 | 48 | 49 | 47 | Partly cloudy | 11,114 | 0 | 0 |
| 7 | 68 | 52 | 48.5 | 47.5 | Partly cloudy | 7,509 | 11 | 102 |
| 8 | 65 | 51 | 49.5 | 48 | Light showers | 7,502 | 0 | 0 |
| 9 | 58 | 49 | 48.5 | 48 | Rain | 7,500 | 0 | 0 |
| 10 | 63 | 49 | 48.5 | 48 | Partly cloudy | 7,414 | 0 | 0 |
| 11 | 64 | 45 | 49 | 48.5 | Partly cloudy | 5,924 | 2 | 129 |
| 12 | 57 | 46 | 49 | 48.5 | Rain | 4,795 | 0 | 0 |
| 13 | 60 | 50 | 49 | 48.5 | Rain | 4,286 | 0 | 0 |
| 14 | 59 | 44 | 50.5 | 48 | Partly cloudy | 3,879 | 2 | 137 |
| 15 | 60 | 42 | 50 | 49 | Fog A.M., Partly cloudy PM | 3,188 | 0 | 0 |
| 16 | 59 | 43 | 50 | 49.5 | Fog A.M., clear P.M. | 2,244 | 0 | 0 |
| 17 | 62 | 50 | 50 | 49 | Partly cloudy | 1,990 | 0 | 0 |
| 18 | 64 | 45 | 51 | 50 | Partly cloudy | 1,679 | 1 | 74 |
| 19 | 62 | 42 | 51.5 | 51 | Cloudy | 1,985 | 0 | 0 |
| 20 | 65 | 48 | 51 | 49 | Fog A.M., clear P.M. | 2,002 | 0 | 80 |
| 21 | 63 | 44 | 51 | 49 | Clear | 2,000 | 2 | 0 |
| 22 | 64 | 42 | 52.5 | 50 | Clear | 1,987 | 0 | 0 |
| 23 | 64 | 40 | 50.5 | 50 | Clear | 1,999 | 0 | 0 |
| 24 | 67 | 42 | 51.5 | 50 | Partly cloudy | 1,983 | 0 | 0 |
| 25 | 68 | 43 | 51.5 | 50.5 | Partly cloudy | 1,990 | 0 | 72 |
| 26 | 66 | 45 | 53 | 50 | Partly cloudy | 2,001 | 0 | 0 |
| 27 | 67 | 43 | 52.5 | 50.5 | Clear | 1,995 | 0 | 0 |
| 28 | 66 | 40 | 51.5 | 50.5 | Clear | 2,008 | 0 | 64 |

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TABLE A-9

Nimbus Salmon and Steelhead Hatchery
Weather and Water Data Report
March, 1963

| Date | Temperature | | | | Weather | American River | Salmon | Steelhead |
|------|-------------|---------|---------|---------|---------------|-------------------------|--------|-----------|
| | Air | | Water | | | flow | | |
| | Maximum | Minimum | Maximum | Minimum | | at hatchery (c.f.s.) | | |
| 1 | 71 | 40 | 52 | 50.5 | Clear | 1,993 | 2 | 0 |
| 2 | 60 | 40 | 52.5 | 50.5 | Clear | 1,987 | 0 | 0 |
| 3 | 60 | 36 | 52.5 | 51 | Clear | 1,990 | 0 | 0 |
| 4 | 62 | 37 | 52 | 50 | Clear | 1,987 | 0 | 47 |
| 5 | 64 | 39 | 52 | 50.5 | Partly cloudy | 1,897 | 0 | 0 |
| 6 | 62 | 36 | 51.5 | 50 | Partly cloudy | 1,717 | 0 | 0 |
| 7 | 64 | 42 | 52 | 50 | Partly cloudy | 1,586 | 0 | 27 |
| 8 | 66 | 40 | 52 | 50.5 | Rain | 1,584 | 0 | 0 |
| 9 | 62 | 44 | 52 | 50.5 | Clear | 1,592 | 0 | 0 |
| 10 | 64 | 42 | 52 | 50.5 | Partly cloudy | 1,611 | 0 | 0 |
| 11 | 67 | 38 | 53 | 51.5 | Clear | 1,601 | 0 | 33 |
| 12 | 61 | 38 | 54.5 | 51 | Clear | 1,605 | 0 | 0 |
| 13 | 62 | 34 | 53 | 51 | Clear | 1,605 | 0 | 0 |
| 14 | 53 | 42 | 51.5 | 50.5 | Rain | 1,607 | 0 | 13 |
| 15 | 55 | 32 | 51.5 | 50.5 | Partly cloudy | 1,606 | 0 | 0 |
| 16 | 55 | 40 | 50 | 49.5 | Rain | 1,610 | 0 | 0 |
| 17 | 56 | 39 | 50 | 49 | Partly cloudy | 1,608 | 0 | 0 |
| 18 | 58 | 32 | 50.5 | 49.5 | Clear | 1,612 | 0 | 20 |
| 19 | 63 | 35 | 52 | 49.5 | Clear | 1,605 | 0 | 0 |
| 20 | 68 | 38 | 52.5 | 51 | Clear | 1,619 | 0 | 0 |
| 21 | 67 | 42 | 52 | 51 | Clear | 1,900 | 0 | 6 |
| 22 | 65 | 44 | 53 | 51 | Rain | 2,491 | 0 | 0 |
| 23 | 57 | 46 | 51.5 | 50.5 | Rain | 3,463 | 0 | 0 |
| 24 | 62 | 38 | 51 | 50 | Clear | 4,650 | 0 | 0 |
| 25 | 68 | 40 | 51.5 | 50.5 | Partly cloudy | 4,994 | 0 | 9 |
| 26 | 68 | 43 | 51.5 | 50.5 | Cloudy | 5,000 | 0 | 0 |
| 27 | 48 | 45 | 51.5 | 50.5 | Rain | 5,000 | 0 | 0 |
| 28 | 59 | 45 | 50.5 | 50 | Rain | 9,079 | 0 | 11 |
| 29 | 64 | 46 | 50.5 | 49.5 | Rain | 14,432 | 0 | 0 |
| 30 | 68 | 46 | 51 | 49.5 | Rain | 9,537 | 0 | 0 |
| 31 | 60 | 50 | 50.5 | 50 | Rain | 7,533 | 0 | 0 |

TABLE A-10

Nimbus Salmon and Steelhead Hatchery
Weather and Water Data Report
April, 1963

| Date | Temperature | | | | Weather | American River | Steelhead |
|------|-------------|---------|---------|---------|---------------|-------------------------|-----------|
| | Air | | Water | | | flow | |
| | Maximum | Minimum | Maximum | Minimum | | at hatchery (c.f.s.) | |
| 1 | 56 | 36 | 52 | 50 | Partly cloudy | 5,588 | 13 |
| 2 | 56 | 34 | 52 | 50.5 | Cloudy | 2,402 | 0 |
| 3 | 67 | 38 | 52.5 | 51 | Partly cloudy | 2,011 | 0 |
| 4 | 70 | 41 | 53 | 52 | Partly cloudy | 1,966 | 2 |
| 5 | 58 | 53 | 53 | 52 | Rain | 1,960 | 0 |
| 6 | 59 | 54 | 53 | 51.5 | Rain | 4,718 | 0 |
| 7 | 66 | 52 | 51 | 50 | Rain | 14,537 | 0 |
| 8 | 64 | 43 | 51 | 51 | Rain | 16,781 | 0 |
| 9 | 62 | 43 | 51 | 50 | Rain | 19,643 | 0 |
| 10 | 56 | 45 | 50 | 50 | Rain | 19,631 | 0 |
| 11 | 66 | 40 | 51.5 | 49.5 | Cloudy | 19,660 | 0 |
| 12 | 70 | 50 | 52 | 50 | Cloudy | 19,596 | 0 |
| 13 | 74 | 50 | 52 | 50 | Rain | 14,601 | 0 |
| 14 | 66 | 54 | 51.5 | 50.5 | Rain | 7,626 | 0 |
| 15 | 56 | 44 | 52 | 51 | Rain | 4,947 | 0 |
| 16 | 62 | 38 | 53 | 50.5 | Cloudy | 4,995 | 0 |
| 17 | 63 | 38 | 52.5 | 51 | Cloudy | 4,982 | 0 |
| 18 | 61 | 40 | 52 | 51 | Rain | 4,969 | 0 |
| 19 | 61 | 48 | 51 | 50.5 | Rain | 5,419 | 0 |
| 20 | 51 | 38 | 50.5 | 50 | Rain | 8,000 | 0 |
| 21 | 59 | 37 | 50.5 | 50 | Rain | 8,017 | 0 |
| 22 | 62 | 42 | 52.5 | 51 | Partly cloudy | 7,754 | 0 |
| 23 | 65 | 40 | 52 | 51 | Clear | 6,888 | 0 |
| 24 | 62 | 48 | 52 | 51 | Partly cloudy | 5,902 | 0 |
| 25 | 59 | 50 | 51 | 50 | Rain | 4,966 | 0 |
| 26 | 61 | 46 | 51 | 50 | Rain | 4,995 | 0 |
| 27 | 63 | 46 | 52 | 50 | Partly cloudy | 4,997 | 0 |
| 28 | 71 | 42 | 52 | 51 | Clear | 5,014 | 0 |
| 29 | 78 | 64 | 53.5 | 52 | Clear | 4,984 | 0 |
| 30 | 76 | 50 | 53 | 52 | Clear | 4,974 | 0 |

TABLE A-11
Nimbus Salmon and Steelhead Hatchery
Weather and Water Data Report
May, 1963

| Date | Temperature | | | | Weather | American River flow at hatchery (c.f.s.) |
|------|-------------|---------|---------|---------|---------------|---|
| | Air | | Water | | | |
| | Maximum | Minimum | Maximum | Minimum | | |
| 1 | 74 | 50 | 53 | 52 | Partly cloudy | 4,997 |
| 2 | 74 | 50 | 52.5 | 51.5 | Clear | No report |
| 3 | 76 | 51 | 53.5 | 52 | Partly cloudy | 5,002 |
| 4 | 73 | 52 | 53 | 52 | Partly cloudy | 5,013 |
| 5 | 78 | 51 | 53 | 52.5 | Clear | 4,985 |
| 6 | 80 | 52 | 53 | 52 | Partly cloudy | 4,982 |
| 7 | 75 | 60 | 53 | 52 | Cloudy | 4,983 |
| 8 | 61 | 52 | 52 | 50.5 | Rain | 6,537 |
| 9 | 70 | 44 | 52 | 50.5 | Partly cloudy | 7,732 |
| 10 | 69 | 48 | 52 | 50.5 | Rain | 9,988 |
| 11 | 68 | 48 | 51.5 | 50 | Partly cloudy | 9,937 |
| 12 | 70 | 42 | 52 | 50 | Partly cloudy | 9,379 |
| 13 | 66 | 54 | 52 | 51 | Partly cloudy | 7,823 |
| 14 | 78 | 50 | 52.5 | 51 | Clear | 6,571 |
| 15 | 80 | 51 | 54 | 52 | Clear | 5,886 |
| 16 | 84 | 71 | 53 | 52 | Clear | 4,966 |
| 17 | 90 | 67 | 54 | 52.5 | Clear | 4,933 |
| 18 | 94 | 68 | 53 | 52.5 | Clear | 4,938 |
| 19 | 90 | 67 | 53 | 52 | Partly cloudy | 4,920 |
| 20 | 79 | 54 | 53 | 52 | Partly cloudy | 6,625 |
| 21 | 70 | 56 | 52.5 | 51.5 | Cloudy | 8,239 |
| 22 | 72 | 58 | 52 | 51.5 | Partly cloudy | 8,239 |
| 23 | 80 | 50 | 53 | 51.5 | Partly cloudy | 8,183 |
| 24 | 80 | 54 | 53 | 52 | Partly cloudy | 8,258 |
| 25 | 81 | 54 | 53 | 52 | Clear | 8,342 |
| 26 | 80 | 54 | 53 | 51.5 | Clear | 8,284 |
| 27 | 89 | 60 | 53.5 | 52 | Partly cloudy | 8,277 |
| 28 | 80 | 54 | 52.5 | 52 | Light rain | 8,251 |
| 29 | 86 | 52 | 53.5 | 51.5 | Partly cloudy | 8,081 |
| 30 | 86 | 56 | 54 | 52 | Partly cloudy | 8,001 |
| 31 | 85 | 58 | 54 | 52.5 | Clear | 8,044 |

TABLE A-12

Nimbus Salmon and Steelhead Hatchery
Weather and Water Data Report
June, 1963

| Date | Temperature | | | | Weather | American River flow at hatchery (c.f.s.) |
|------|-------------|---------|---------|---------|---------------|---|
| | Air | | Water | | | |
| | Maximum | Minimum | Maximum | Minimum | | |
| 1 | 93 | 57 | 54.5 | 53 | Clear | 8,103 |
| 2 | 87 | 58 | 55 | 53 | Partly cloudy | 8,048 |
| 3 | 78 | 58 | 55 | 53 | Clear | 7,362 |
| 4 | 88 | 52 | 55 | 53 | Clear | 5,370 |
| 5 | 86 | 58 | 56.5 | 54 | Partly cloudy | 3,404 |
| 6 | 87 | 56 | 57 | 54.5 | Partly cloudy | 2,968 |
| 7 | 90 | 56 | 56.5 | 54 | Clear | 2,963 |
| 8 | 90 | 56 | 56.5 | 54.5 | Clear | 2,983 |
| 9 | 89 | 57 | 55.5 | 54 | Partly cloudy | 2,981 |
| 10 | 88 | 54 | 58 | 55 | Partly cloudy | 2,993 |
| 11 | 87 | 52 | 56.5 | 54 | Partly cloudy | 2,979 |
| 12 | 88 | 58 | 56.5 | 55 | Partly cloudy | 2,988 |
| 13 | 86 | 54 | 56 | 54.5 | Partly cloudy | 3,000 |
| 14 | 89 | 56 | 57 | 55 | Partly cloudy | 3,610 |
| 15 | 98 | 60 | 57 | 55 | Clear | 4,993 |
| 16 | 100 | 63 | 55 | 54.5 | Clear | 5,990 |
| 17 | 103 | 68 | 56 | 55 | Partly cloudy | 5,400 |
| 18 | 98 | 66 | 56 | 54.5 | Clear | 4,997 |
| 19 | 98 | 58 | 56 | 55 | Clear | 4,553 |
| 20 | 80 | 57 | 56 | 55 | Clear | 3,960 |
| 21 | 80 | 57 | 57 | 54.5 | Clear | 3,974 |
| 22 | 78 | 52 | 57 | 55 | Clear | 3,984 |
| 23 | 80 | 51 | 56 | 54 | Partly cloudy | 3,999 |
| 24 | 90 | 52 | 57 | 56 | Clear | 3,450 |
| 25 | 95 | 58 | 58 | 56 | Clear | 3,003 |
| 26 | 92 | 60 | 58 | 56 | Clear | 3,002 |
| 27 | 75 | 52 | 58 | 55.5 | Partly cloudy | 2,997 |
| 28 | 80 | 56 | 58 | 55.5 | Partly cloudy | 2,991 |
| 29 | 86 | 60 | 59 | 55 | Clear | 2,979 |
| 30 | 89 | 52 | 59 | 56 | Clear | 2,961 |

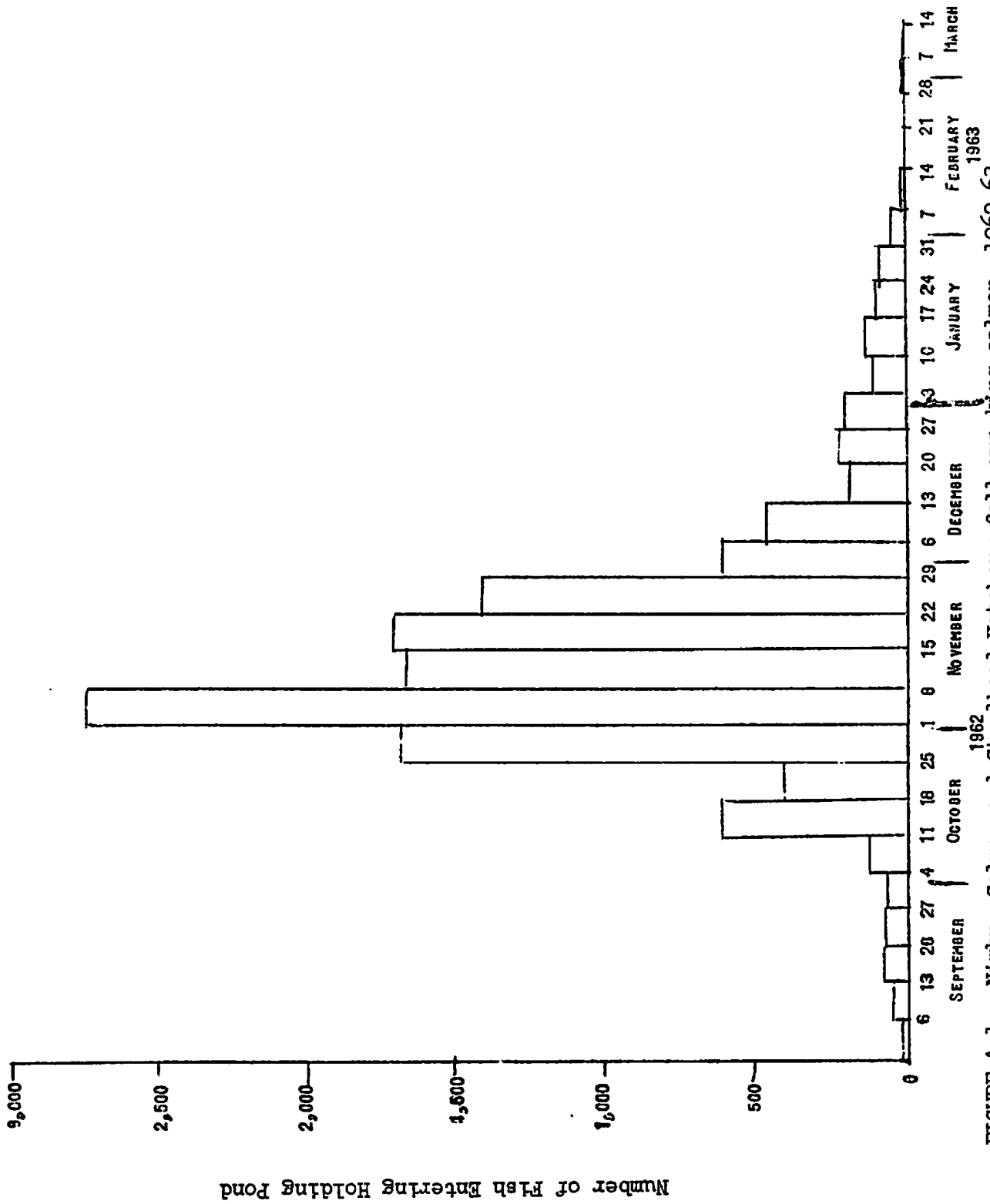


FIGURE A-1. Nimbus Salmon and Steelhead Hatchery fall-run king salmon, 1962-63.