ADF&G TECHNICAL DATA REPORT NO. 47
(Limited Distribution)

STATE OF ALASKA
Jay S. Hammond, Governor

# BRISTOL BAY SOCKEYE SALMON (*Oncorhynchus nerka*) 1977

## A Compilation of Catch and Escapement Data

Compiled and Edited by:
Charles P. Meacham and Michael L. Nelson

1980

ALASKA DEPARTMENT OF FISH AND GAME
Subport Building, Juneau, Alaska 99801

Ronald O. Skoog
Commissioner

## ADF&G TECHNICAL DATA REPORTS

This series of reports is designed to facilitate prompt reporting of data from studies conducted by the Alaska Department of Fish and Game, especially studies which may be of direct and immediate interest to scientists of other agencies.

The primary purpose of these reports is presentation of data. Description of programs and data collection methods is included only to the extent required for interpretation of the data. Analysis is generally limited to that necessary for clarification of data collection methods and interpretation of the basic data. No attempt is made in these reports to present analysis of the data relative to its ultimate or intended use.

Data presented in these reports is intended to be final, however, some revisions may occasionally be necessary. Minor revision will be made via errata sheets. Major revisions will be made in the form of revised reports.

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TABLE OF CONTENTS


| | Page |
|---|---|
| LIST OF TABLES | i |
| LIST OF FIGURES | v |
| INTRODUCTION | 1 |
| METHODS AND MATERIALS | 1 |
| RESULTS | 1 |
| Bristol Bay Fishery | 1 |
| Naknek-Kvichak District | 10 |
| Egegik District | 24 |
| Ugashik District | 32 |
| Nushagak District | 40 |
| Togiak District | 65 |

LIST OF TABLES


| Table | | Page |
|---|---|---|
| 1. | Bristol Bay sockeye salmon inshore return, by river system, 1977 | 5 |
| 2. | Bristol Bay sockeye salmon inshore return, ocean age group by river system, 1977 | 6 |
| 3. | Bristol Bay sockeye salmon inshore return, age group by river system, number 1977 | 7 |
| 4. | Bristol Bay sockeye salmon inshore return, age group by river system, percent 1977 | 8 |
| 5. | Bristol Bay emergency order fishing periods by district, 1977 | 9 |
| 6. | Naknek-Kvichak District inshore return of sockeye salmon, sex composition and age group, 1977 | 12 |
| 7. | Naknek-Kvichak District commercial catch of sockeye salmon, sex composition by sample period, 1977 | 13 |
| 8. | Naknek-Kvichak District commercial catch of sockeye salmon, sex and age group by sample period, 1977 | 14 |
| 9. | Kvichak River apportioned catch and escapement of sockeye salmon, sex composition and age group, 1977 | 15 |
| 10. | Kvichak River daily sockeye salmon escapement counts, 1977 | 16 |
| 11. | Kvichak River escapement of sockeye salmon, sex composition by sample period, 1977 | 17 |
| 12. | Kvichak River escapement of sockeye salmon, sex and age group by sample period, 1977 | 18 |
| 13. | Branch River apportioned catch and escapement of sockeye salmon, sex composition and age group, 1977 | 19 |
| 14. | Naknek River apportioned catch and escapement of sockeye salmon, sex composition and age group, 1977 | 20 |
| 15. | Naknek River daily sockeye salmon escapement counts, 1977 | 21 |
| 16. | Naknek River escapement of sockeye salmon, sex composition by sample period, 1977 | 22 |
| 17. | Naknek River escapement of sockeye salmon, sex and age group by sample period, 1977 | 23 |
| 18. | Egegik River catch and escapement of sockeye salmon, sex composition and age group, 1977 | 26 |

LIST OF TABLES (Continued)


| Table | | Page |
|---|---|---|
| 19. | Egegik District commercial catch of sockeye salmon, sex composition by sample period, 1977 | 27 |
| 20. | Egegik District commercial catch of sockeye salmon, sex and age group by sample period, 1977 | 28 |
| 21. | Egegik River daily sockeye salmon escapement counts, 1977 | 29 |
| 22. | Egegik River escapement of sockeye salmon, sex composition by sample period, 1977 | 30 |
| 23. | Egegik River escapement of sockeye salmon, sex and age group by sample period, 1977 | 31 |
| 24. | Ugashik River catch and escapement of sockeye salmon, sex composition and age group, 1977 | 34 |
| 25. | Ugashik District commercial catch of sockeye salmon, sex composition by sample period, 1977 | 35 |
| 26. | Ugashik District commercial catch of sockeye salmon, sex and age group by sample period, 1977 | 36 |
| 27. | Ugashik River daily sockeye salmon escapement counts, 1977 | 37 |
| 28. | Ugashik River escapement of sockeye salmon, sex composition by sample period, 1977 | 38 |
| 29. | Ugashik River escapement of sockeye salmon, sex and age group by sample period, 1977 | 39 |
| 30. | Nushagak-Igushik District inshore return of sockeye salmon, sex composition and age group, 1977 | 43 |
| 31. | Nushagak section commercial catch of sockeye salmon, sex composition by sample period, 1977 | 44 |
| 32. | Nushagak section commercial catch of sockeye salmon, sex and age group by sample period, 1977 | 45 |
| 33. | Igushik section commercial catch of sockeye salmon, sex composition by sample period, 1977 | 46 |
| 34. | Igushik section commercial catch of sockeye salmon, sex and age group by sample period, 1977 | 47 |
| 35. | Wood River apportioned catch and escapement of sockeye salmon, sex composition and age group, 1977 | 48 |

LIST OF TABLES (Continued)


| Tables | | Page |
|---|---|---|
| 36. | Wood River daily sockeye salmon escapement counts, 1977 | 49 |
| 37. | Wood River escapement of sockeye salmon, sex composition by sample period, 1977 | 50 |
| 38. | Wood River escapement of sockeye salmon, sex and age group by sample period, 1977 | 51 |
| 39. | Igushik River apportioned catch and escapement of sockeye salmon, sex composition and age group, 1977 | 52 |
| 40. | Igushik River daily sockeye salmon escapement counts, 1977 | 53 |
| 41. | Igushik River escapement of sockeye salmon, sex composition by sample period, 1977 | 54 |
| 42. | Igushik River escapement of sockeye salmon, sex and age group by sample period, 1977 | 55 |
| 43. | Nuyakuk River apportioned catch and escapement of sockeye salmon, sex composition and age group, 1977 | 56 |
| 44. | Nuyakuk River daily sockeye salmon escapement counts, 1977 | 57 |
| 45. | Nuyakuk River escapement of sockeye salmon, sex composition by sample period, 1977 | 58 |
| 46. | Nuyakuk River escapement of sockeye salmon, sex and age group by sample period, 1977 | 59 |
| 47. | Snake River apportioned catch and escapement of sockeye salmon, sex composition and age group, 1977 | 60 |
| 48. | Snake River daily sockeye salmon escapement counts, 1977 | 61 |
| 49. | Snake River escapement of sockeye salmon, sex composition by sample period, 1977 | 62 |
| 50. | Snake River escapement of sockeye salmon, sex and age group by sample period, 1977 | 63 |
| 51. | Nushagak-Mulchatna River apportioned catch and escapement of sockeye salmon, sex composition and age group, 1977 | 64 |
| 52. | Togiak River catch and escapement of sockeye salmon, sex composition and age group, 1977 | 67 |
| 53. | Togiak District commercial catch of sockeye salmon, sex composition by sample period, 1977 | 68 |

LIST OF TABLES (Continued)


| Table | | Page |
|---|---|---|
| 54. | Togiak District commercial catch of sockeye salmon, sex and age group by sample period, 1977 . . . . . | 69 |
| 55. | Togiak River daily sockeye salmon escapement counts, 1977 . . . . | 70 |
| 56. | Togiak River escapement of sockeye salmon, sex composition by sample period, 1977 . . . . . | 71 |
| 57. | Togiak River escapement of sockeye salmon, sex and age group by sample period, 1977 . . . . . | 72 |

LIST OF FIGURES


| Figure | | Page |
|---|---|---|
| 1. | Bristol Bay area map . . . . . | 2 |
| 2. | Naknek-Kvichak District commercial fishing boundaries, 1977 . . . | 11 |
| 3. | Egegik District commercial fishing boundaries, 1977 . . . . . | 25 |
| 4. | Ugashik District commercial fishing boundaries, 1977 . . . . . | 33 |
| 5. | Nushagak-Igushik District commercial fishing boundaries, 1977 . . | 42 |
| 6. | Togiak District commercial fishing boundaries, 1977 . . . . . | 66 |

## INTRODUCTION

This publication is the fifteenth in a series of annual catch and escapement statistics for the Bristol Bay sockeye salmon fishery.

Personnel of the Alaska Department of Fish and Game (ADF&G), Division of Commercial Fisheries collected all data and aged all scales for both the catch and escapement. Final harvest data was compiled from fish tickets by the Statistics Section. Age-weight-length (AWL) data, collected by field crews, was keypunched by the Division of Data Processing, Alaska Department of Administration. Computer tabulation of catch, escapement, and AWL data was accomplished by Nancy Graves, programmer, Anchorage.

## METHODS AND MATERIALS

Much of the data used in this report were collected by field crews and catch samplers stationed at counting stations and selected canneries throughout Bristol Bay. Figure 1 shows the approximate location of these projects.

Salmon enumeration sample crews collected samples daily using beach seines. Cannery samplers obtained their samples as fish were unloaded from tenders. Catch sample sizes were based on statistical analysis of past sampling efforts which indicated that a 600-fish sample per fishing period provided data sufficiently precise for estimation of age and sex composition. Cannery catch samplers attempted to spread their samples as much as possible among delivering tenders.

Escapement enumeration of sockeye salmon was conducted on 11 river systems in Bristol Bay in 1977. These were: Kvichak, Branch, Naknek, Egegik, Ugashik, Wood, Igushik, Nuyakuk, Snake, Nushagak-Mulchatna, and Togiak. Escapement counts were made from towers located on the banks of each of the rivers except at Snake River where a weir has been constructed just below the lake outlet. Tower counts were conducted for 10 min on each bank, each hour. The counts were expanded to estimate hourly escapements and the expanded counts were summed to determine the daily escapement total. Sockeye salmon enumeration of escapement in Branch and Nushagak-Mulchatna River systems was estimated by aerial survey.

Sockeye caught in the Naknek-Kvichak and Nushagak Districts, which have mixed stocks from a number of different rivers, were allocated by comparing the age and sex composition of the catch samples with that of the escapement samples from the contributing river system.

## RESULTS

### Bristol Bay Fishery

The inshore return of sockeye salmon to Bristol Bay in 1977 totaled 9.6 million fish, 1.2 million above the pre-season inshore forecast of 8.4 million. The commercial sockeye harvest of 4.9 million also exceeded the forecasted catch

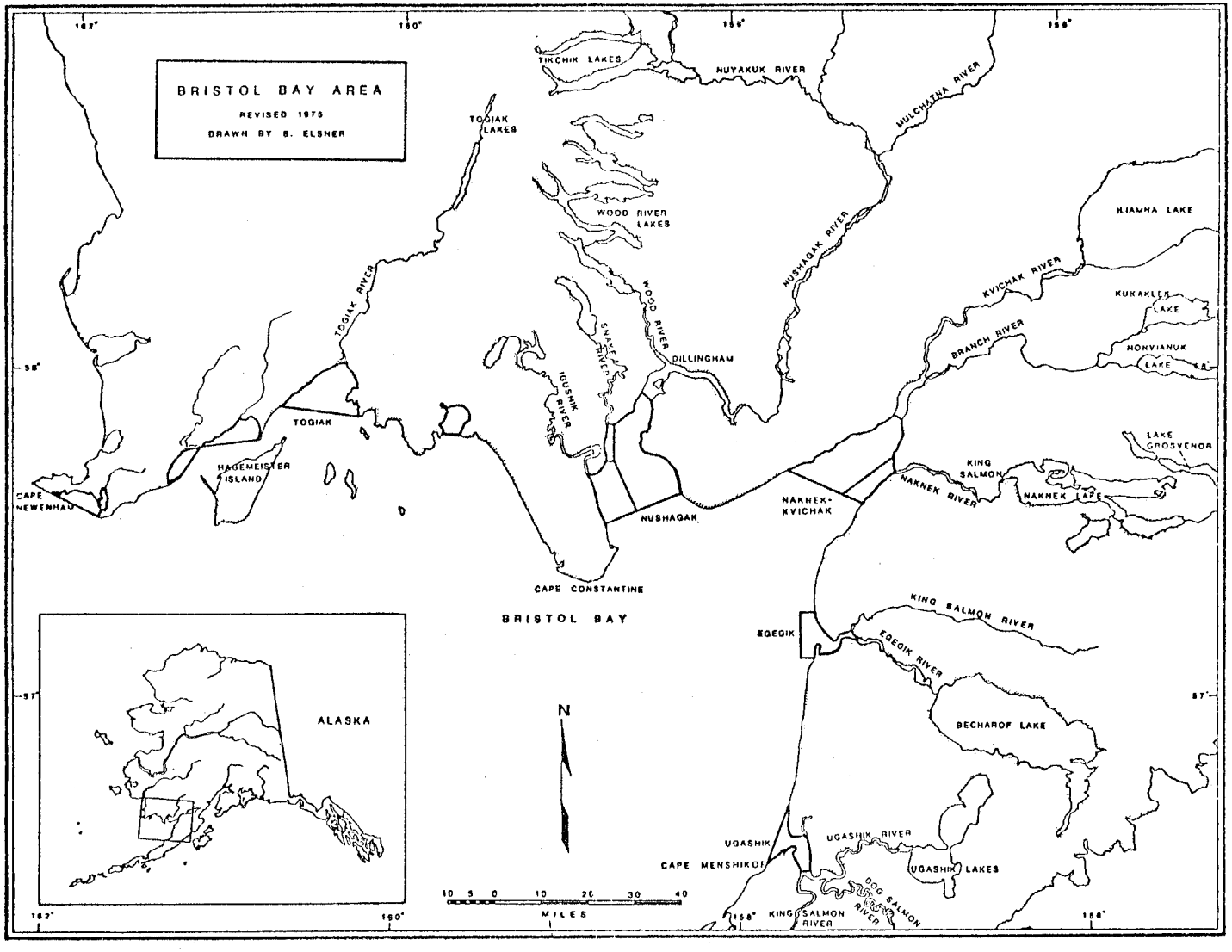


Figure 1. Bristol Bay area map.

by 1.7 million fish, approaching the recent non-peak year average harvest of 5.1 million. Sockeye escapement goals were achieved or fell within the management range for the fourth consecutive year in all major systems except Ugashik River.

As in 1976, the utilization of short fishing periods in 1977 proved valuable in gauging the development of run strength to individual districts. As the season progressed, the Department's offshore test fishing program at Port Moller indicated a total inshore run that would exceed the forecast and would be slightly ahead of normal run timing.

Early season fishing in districts with allowable harvests (Egegik and Naknek section of the Naknek-Kvichak District) indicated strong sockeye runs to these systems. As escapements continued to build, intermittent fishing was allowed in those districts where run strength and escapement trends indicated that escapement needs would be met. Generally, run strength by river system was sufficient to obtain escapement requirements, except in the Kvichak and Ugashik River system which remained closed to fishing for the entire season.

Commercial fishing effort was similar to recent high years with 2,279 units of gear and over 1,700 vessels registered to fish Bristol Bay. District registration in 1977 was similar to previous years with Naknek-Kvichak and Nushagak Districts accounting for over 74% of the total effort. Of the total licensed gear, it was estimated that only 1,708 units, or 75% of those registering actually participated in the fishery.

Salmon price negotiations between the industry and fishermen groups in Bristol Bay were concluded early in the season and little fishing time was lost. Fishermen in both the Naknek-Kvichak and Egegik Districts lost some fishing time on 25 June due to unresolved fish prices, however, other major districts were not affected.

The Japanese high seas mothership fishery harvest of Bristol Bay sockeye salmon was again reduced by the informal bilateral agreement which restricts fishing by area and time, and the movements and fishing pattern of the mothership fleet. In addition, the mothership fishery was further reduced from 10 to 6 fleets and did not begin fishing in Bristol Bay sockeye areas until 29 May, 10 days later than normal. The total Japanese high seas harvest by the mothership fleet from the 1977 Bristol Bay sockeye run included 228,000 fish taken as immatures in 1976 and 540,000 fish harvested as matures in 1977, or 768,000 fish and 7% of the total Bay run. This level of interception is well below the 20-year average of 10% and 1.9 million fish. In addition, the relatively low sockeye catches by the Japanese land-based gillnet fleet was also due in part to a series of reductions in this fishery brought about by bilateral agreements between the U.S. and Japan, through INPFC negotiations.

The South Unimak/Shumagin Island cape intercept fisheries in June did not indicate an exceptionally strong sockeye run to Bristol Bay. These two fisheries were managed under a guideline policy originally adopted in 1973 by the Alaska Board of Fisheries to prevent over-harvest of sockeye runs to individual river systems in Bristol Bay. In 1977, guideline harvest levels (quotas), which were based on past historical harvest level patterns and the 1977 pre-season forecast of harvest to Bristol Bay after escapement goals were achieved, amounted

to 187,000 sockeye for South Unimak and 41,000 for the Shumagin Island fishery. The actual sockeye catch for both areas, 195,000 and 46,000 fish, respectively, closely matched the respective area quotas.

TABLE 1 BRISTOL BAY SOCKEYE SALMON INSHORE RETURN, BY RIVER SYSTEM, 1977

| SYSTEM | CATCH | ESCAPEMENT | TOTAL RETURN |
|---|---|---|---|
| KVICHAK RIVER | 739,464 | 1,341,144 | 2,080,608 |
| BRANCH RIVER | 50,134 | 100,000 \1 | 150,134 |
| NAKNEK RIVER | 1,377,616 | 1,085,856 | 2,463,472 |
| SUB-TOTAL NAKNEK-KVICHAK DISTRICT | 2,167,214 | 2,527,000 | 4,694,214 |
| EGEGIK RIVER | 1,780,567 | 692,514 | 2,473,081 |
| UGASHIK RIVER | 92,623 | 201,486 | 294,109 |
| WOOD RIVER | 263,608 | 561,828 | 825,436 |
| IGUSHIK RIVER | 52,931 | 95,970 | 148,901 |
| NUYAKUK RIVER | 132,590 | 232,554 | 365,144 |
| SNAKE RIVER | 3,943 | 9,304 | 13,247 |
| NUSHAGAK-MULCHATNA RIVER | 165,953 | 313,470 \1 | 479,423 |
| SUB-TOTAL NUSHAGAK-IGUSHIK DISTRICT | 619,025 | 1,213,126 | 1,832,151 |
| TOGIAK RIVER | 218,451 | 133,734 \2 | 352,185 \2 |
| TOTAL BAY | 4,877,880 | 4,767,860 | 9,645,740 |

\1 TOTAL ESCAPEMENT ESTIMATED BY AERIAL SURVEY.

\2 DOES NOT INCLUDE 68,900 SOCKEYE SALMON ESCAPEMENT ESTIMATED BY AERIAL SURVEY OF TOGIAK AND KULUKAK TRIBUTARY STREAMS.

TABLE 2 BRISTOL BAY SOCKEYE SALMON INSHORE RETURN, OCEAN AGE GROUP BY RIVER SYSTEM, 1977

| SYSTEM | OCEAN AGE GROUP 1 | 2 | 3 | 4 | TOTAL |
|---|---|---|---|---|---|
| KVICHAK | | | | | |
| NUMBER | 13,254 | 1,639,844 | 427,510 | -- | 2,080,608 |
| PERCENT | .64 | 78.81 | 20.55 | -- | 21.57 |
| BRANCH | | | | | |
| NUMBER | 4,908 | 96,582 | 48,644 | -- | 150,134 |
| PERCENT | 3.27 | 64.33 | 32.40 | -- | 1.56 |
| NAKNEK | | | | | |
| NUMBER | 1,788 | 574,062 | 1,887,026 | 596 | 2,463,472 |
| PERCENT | .07 | 23.30 | 76.60 | .03 | 25.54 |
| SUB-TOTAL NAKNEK-KVICHAK | | | | | |
| NUMBER | 19,950 | 2,310,488 | 2,363,180 | 596 | 4,694,214 |
| PERCENT | .43 | 49.22 | 50.34 | .01 | 48.67 |
| EGEGIK | | | | | |
| NUMBER | 895 | 1,529,935 | 942,251 | -- | 2,473,081 |
| PERCENT | .04 | 61.86 | 38.10 | -- | 25.64 |
| UGASHIK | | | | | |
| NUMBER | 263 | 126,609 | 167,237 | -- | 294,109 |
| PERCENT | .09 | 43.05 | 56.86 | -- | 3.05 |
| WOOD | | | | | |
| NUMBER | 6,964 | 218,246 | 600,226 | -- | 825,436 |
| PERCENT | .84 | 26.44 | 72.72 | -- | 8.56 |
| IGUSHIK | | | | | |
| NUMBER | -- | 23,739 | 125,149 | 13 | 148,901 |
| PERCENT | -- | 15.94 | 84.05 | .01 | 1.54 |
| NUYAKUK | | | | | |
| NUMBER | 360 | 46,053 | 317,902 | 829 | 365,144 |
| PERCENT | .10 | 12.61 | 87.06 | .23 | 3.78 |
| SNAKE | | | | | |
| NUMBER | -- | 7,866 | 4,225 | 1,156 | 13,247 |
| PERCENT | -- | 59.38 | 31.89 | 8.73 | .14 |
| NUSHAGAK-MULCHATNA | | | | | |
| NUMBER | -- | 66,876 | 406,532 | 6,015 | 479,423 |
| PERCENT | -- | 13.95 | 84.80 | 1.25 | 4.97 |
| SUB-TOTAL NUSHAGAK-IGUSHIK | | | | | |
| NUMBER | 7,324 | 362,780 | 1,454,034 | 8,013 | 1,832,151 |
| PERCENT | .40 | 19.80 | 79.36 | .44 | 18.99 |
| TOGIAK | | | | | |
| NUMBER | -- | 148,627 | 201,830 | 1,728 | 352,185 \1 |
| PERCENT | -- | 42.20 | 57.31 | .49 | 3.65 |
| TOTAL BAY | | | | | |
| NUMBER | 28,432 | 4,478,439 | 5,128,532 | 10,337 | 9,645,740 |
| PERCENT | .29 | 46.43 | 53.17 | .11 | 100.00 |

\1 DOES NOT INCLUDE 68,900 SOCKEYE SALMON ESCAPEMENT ESTIMATED BY AERIAL SURVEY OF TOGIAK AND KULUKAK TRIBUTARY STREAMS

TABLE 3 BRISTOL BAY SOCKEYE SALMON INSHORE RETURN, AGE GROUP BY RIVER SYSTEM, NUMBER 1977

| RIVER SYSTEM | AGE GROUP 31 | 32 | 41 | 42 | 43 | 51 | 52 | 53 | 62 | 63 | 64 | 73 | 74 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KVICHAK | -- | 9,630 | 841 | 552,082 | 3,624 | -- | 157,963 | 1,086,234 | -- | 262,169 | 1,528 | -- | 6,537 | 2,080,608 |
| BRANCH | 300 | 3,700 | 300 | 89,488 | 1,208 | -- | 15,243 | 6,794 | -- | 33,101 | -- | -- | -- | 150,134 |
| NAKNEK | -- | 1,788 | -- | 424,826 | -- | -- | 214,883 | 147,952 | 596 | 1,672,143 | 1,284 | -- | -- | 2,463,472 |
| SUB-TOTAL NAKNEK-KVICHAK | 300 | 15,118 | 1,141 | 1,066,396 | 4,832 | -- | 388,089 | 1,240,980 | 596 | 1,967,413 | 2,812 | -- | 6,537 | 4,694,214 |
| EGEGIK | -- | -- | -- | 69,202 | 895 | -- | 58,034 | 1,394,416 | -- | 862,096 | 66,317 | -- | 22,121 | 2,473,081 |
| UGASHIK | -- | -- | 632 | 15,794 | 263 | -- | 51,583 | 110,552 | -- | 114,443 | 263 | -- | 579 | 294,109 |
| WOOD | -- | 6,964 | 3,600 | 195,461 | -- | -- | 538,133 | 22,785 | -- | 58,493 | -- | -- | -- | 825,436 |
| IGUSHIK | 47 | -- | -- | 18,011 | -- | -- | 100,236 | 5,681 | -- | 24,913 | -- | 13 | -- | 148,901 |
| NUYAKUK | -- | 360 | 5,472 | 35,452 | -- | -- | 273,027 | 10,601 | 829 | 39,403 | -- | -- | -- | 365,144 |
| SNAKE | -- | -- | -- | 7,500 | -- | -- | 1,257 | 366 | 1,156 | 2,968 | -- | -- | -- | 13,247 |
| NUSHAGAK-MULCHATNA | 1,566 | -- | 42,655 | 40,449 | -- | 6,015 | 257,878 | 24,861 | -- | 105,999 | -- | -- | -- | 479,423 |
| SUB-TOTAL NUSHAGAK-IGUSHIK | 1,613 | 7,324 | 51,727 | 296,873 | -- | 6,015 | 1,170,531 | 64,294 | 1,985 | 231,776 | -- | 13 | -- | 1,832,151 |
| TOGIAK | 375 | -- | 8,417 | 128,620 | -- | 268 | 133,401 | 19,632 | 1,132 | 59,852 | -- | 328 | 160 | 352,185 \1 |
| TOTAL BAY | 2,288 | 22,442 | 61,917 | 1,576,885 | 5,990 | 6,283 | 1,801,638 | 2,829,874 | 3,713 | 3,235,580 | 69,392 | 341 | 29,397 | 9,645,740 |

\1 DOES NOT INCLUDE 68,900 SOCKEYE SALMON ESCAPEMENT ESTIMATED BY AERIAL SURVEY OF TOGIAK AND KULUKAK TRIBUTARY STREAMS.

TABLE 4 BRISTOL BAY SOCKEYE SALMON INSHORE RETURN, AGE GROUP BY RIVER SYSTEM, PERCENT 1977

| RIVER SYSTEM | AGE GROUP 31 | 32 | 41 | 42 | 43 | 51 | 52 | 53 | 62 | 63 | 64 | 73 | 74 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KVICHAK | -- | .46 | .04 | 26.54 | .17 | -- | 7.59 | 52.21 | -- | 12.60 | .07 | -- | .32 | 21.57 |
| BRANCH | .20 | 2.46 | .20 | 59.61 | .80 | -- | 10.15 | 4.53 | -- | 22.05 | -- | -- | -- | 1.56 |
| NAKNEK | -- | .07 | -- | 17.25 | -- | -- | 8.72 | 6.01 | .02 | 67.88 | .05 | -- | -- | 25.54 |
| SUB-TOTAL NAKNEK-KVICHAK | .01 | .32 | .02 | 22.72 | .10 | -- | 8.27 | 26.44 | .01 | 41.91 | .06 | -- | .14 | 48.67 |
| EGEGIK | -- | -- | -- | 2.80 | .04 | -- | 2.35 | 56.38 | -- | 34.86 | 2.68 | -- | .89 | 25.64 |
| UGASHIK | -- | -- | .21 | 5.37 | .09 | -- | 17.54 | 37.59 | -- | 38.91 | .09 | -- | .20 | 3.05 |
| WOOD | -- | .84 | .44 | 23.68 | -- | -- | 65.19 | 2.76 | -- | 7.09 | -- | -- | -- | 8.56 |
| IGUSHIK | .03 | -- | -- | 12.10 | -- | -- | 67.32 | 3.81 | -- | 16.73 | -- | .01 | -- | 1.54 |
| NUYAKUK | -- | .10 | 1.50 | 9.71 | -- | -- | 74.77 | 2.90 | .23 | 10.79 | -- | -- | -- | 3.78 |
| SNAKE | -- | -- | -- | 56.62 | -- | -- | 9.49 | 2.76 | 8.73 | 22.40 | -- | -- | -- | .14 |
| NUSHAGAK-MULCHATNA | .33 | -- | 8.90 | 8.44 | -- | 1.25 | 53.79 | 5.18 | -- | 22.11 | -- | -- | -- | 4.97 |
| SUB-TOTAL NUSHAGAK-IGUSHIK | .09 | .40 | 2.82 | 16.20 | -- | .33 | 63.89 | 3.51 | .11 | 12.65 | -- | -- | -- | 18.99 |
| TOGIAK | .11 | -- | 2.39 | 36.52 | -- | .08 | 37.88 | 5.57 | .32 | 16.99 | -- | .09 | .05 | 3.65 |
| TOTAL BAY | .02 | .23 | .64 | 16.35 | .06 | .07 | 18.68 | 29.34 | .04 | 33.54 | .72 | -- | .31 | 100.00 |

Table 5. Bristol Bay emergency order fishing periods by district, 1977. 1/

| Emergency Order Number | Date and Time | Hours Open |
|---|---|---|
| NAKNEK-KVICHAK DISTRICT | | |
| Naknek section only | | |
| 6 | June 25 5 am - June 25 5 pm | 12 |
| 7 | June 27 7 pm - June 29 7 am | 12 |
| 9 | June 29 9 pm - June 30 9 am | 12 |
| 12 | June 30 9 am - June 30 9 pm | 12 |
| 13 | July 1 10 am - July 1 10 pm | 12 |
| 15 | July 1 10 pm - July 2 10 am | 12 |
| 17 | July 3 12 N - July 3 12 MN | 12 |
| 20 | July 3 12 MN - July 17 9 am | 13 days, 9 hours 2/ |
| 23 | July 7 9 pm - July 11 9 am | 84 3/ |
| EGEGIK DISTRICT | | |
| 6 | June 25 5 am - June 25 5 pm | 12 |
| 8 | June 28 7 am - June 28 7 pm | 12 |
| 10 | June 30 8 am - June 30 8 pm | 12 |
| 16 | July 2 10 am - July 2 10 pm | 12 |
| 18 | July 3 10 am - July 3 10 pm | 12 |
| 19 | July 3 10 pm - July 4 12 MN | 26 |
| 21 & 26 | July 4 12 MN - July 17 9 am | 12 days, 9 hours 4/ |
| NUSHAGAK DISTRICT | | |
| 3 | June 16 9 am - June 18 9 am | 48 5/ |
| 4 | June 22 4 pm - June 23 4 am | 12 5/ |
| 14 | July 1 11 am - July 1 11 pm | 12 |
| 24 | July 10 7 am - July 10 7 pm | 12 |
| 25 | July 13 10 am - July 16 9 am | 71 |
| Igushik section only | | |
| 5 | June 24 6 pm - June 25 6 am | 12 |
| 7 | June 27 7 am - June 27 7 pm | 12 |
| 11 | June 30 9 am - June 30 9 pm | 12 |
| TOGIAK DISTRICT 6/ | | |
| Togiak River section only | | |
| 22 | July 6 9 am - July 8 9 am | 48 7/ |
| 27 | July 22 9 am - July 23 9 pm | 36 |

1/ Emergency order period: Naknek-Kvichak, Egegik, and Ugashik districts from 9:00 a.m. June 23 until 9:00 a.m. July 17; Nushagak district from 9:00 June 16 until 9:00 a.m. July 17.

2/ Eighty-four hours of this period subsequently closed by Emergency Order No. 23.

3/ Closed to fishing. Also through Commissioners Announcement the 48-hour waiting period for district re-registration was waived during this 84 hour closure. This permitted fishermen in the Naknek-Kvichak district to transfer immediately out of the district during the closure and to return again in time for the resumption of fishing on July 11.

4/ Emergency Order No. 21 extended fishing until further notice after midnight July 4 and Emergency Order No. 26 was later announced to end the period at 9:00 a.m. on July 17. After this time regular 5-day per week fishing periods resumed.

5/ Fishing permitted with king gear only.

6/ Togiak River section open 9:00 a.m. Monday until 9:00 a.m. Friday, while the Osviak, Matogak, Cape Pierce, and Kulukak sections are open 9:00 a.m. Monday until 9:00 a.m. Saturday unless altered by emergency order.

7/ Closed to fishing.

NAKNEK-KVICHAK DISTRICT

Pre-season fishing expectations for sockeye salmon in this district (Figure 2) called for a limited and cautious management approach. The inshore forecast of 4.6 million fish was expected to allow a 1.3 million commercial harvest after escapement requirements were met. Limited fishing time was anticipated in the Naknek section to harvest fish in excess of the 800 thousand escapement requirement, but the larger Kvichak River section was foreseen to require complete closure to insure attainment of the 2 million escapement goal in Kvichak River.

Several early season fishing periods were allowed in the Naknek section in late June to test run strength. A 12-hour period on 25 June in the Naknek section produced only a minimal catch (10,000 fish) due to an unresolved fishermen-industry price dispute. By 26 June, a rapid buildup of sockeye in Naknek River had begun which prompted further period openings in that section.

The Naknek section was opened to continuous fishing on 3 July when escapement goals were assured. However, the Kvichak section remained closed when intensified outside test fishing and in-river surveys showed conclusively that the Kvichak River sockeye run was weak. By 7 July, scale pattern and age composition analysis of fish being taken in the open Naknek section indicated that Kvichak River sockeye were being intercepted in the Naknek section at an unacceptable rate that would result in an escapement below the lower end of the optimum escapement range. Subsequently, the Naknek section was closed to fishing on 7 July for 3½ days. The closure allowed the Kvichak River sockeye escapement rate to increase, and, eventually, approximately 250,000 fish entered Kvichak River as a result of the closure. Continuous fishing resumed in the Naknek section on 11 July, and the total district catch eventually reached 2.2 million sockeye or 44% of the total Bay catch for 1977. The Kvichak section remained closed throughout the season.

The final escapement into Kvichak River was 1.3 million, well below the goal of 2.0 million, but above the lower end of the management range of 1.0 million. The Naknek River escapement of 1.1 million, which exceeded the goal of 800,000, was due primarily to efforts to protect Kvichak River stocks.

The total sockeye return to the Naknek-Kvichak District in 1977 of 4.7 million fish amounted to 49% of the total Bay run, but was well below the average return of 11.0 million to the district.

Age composition of the sockeye run to the Naknek-Kvichak District in 1977 was composed primarily of 6-year-old fish (42%) from the 1971 brood year with significant contributions also coming from 4 and 5-year-old fish (23% and 35%, respectively). The average weight of the commercially caught sockeye was 6.63 lb in this district.

Sockeye salmon are harvested as mixed stocks in the Naknek-Kvichak District. The fish in the catch were apportioned to the individual river systems by comparing the age and sex composition of the catch samples with that of the escapement samples from the three contributing river systems.

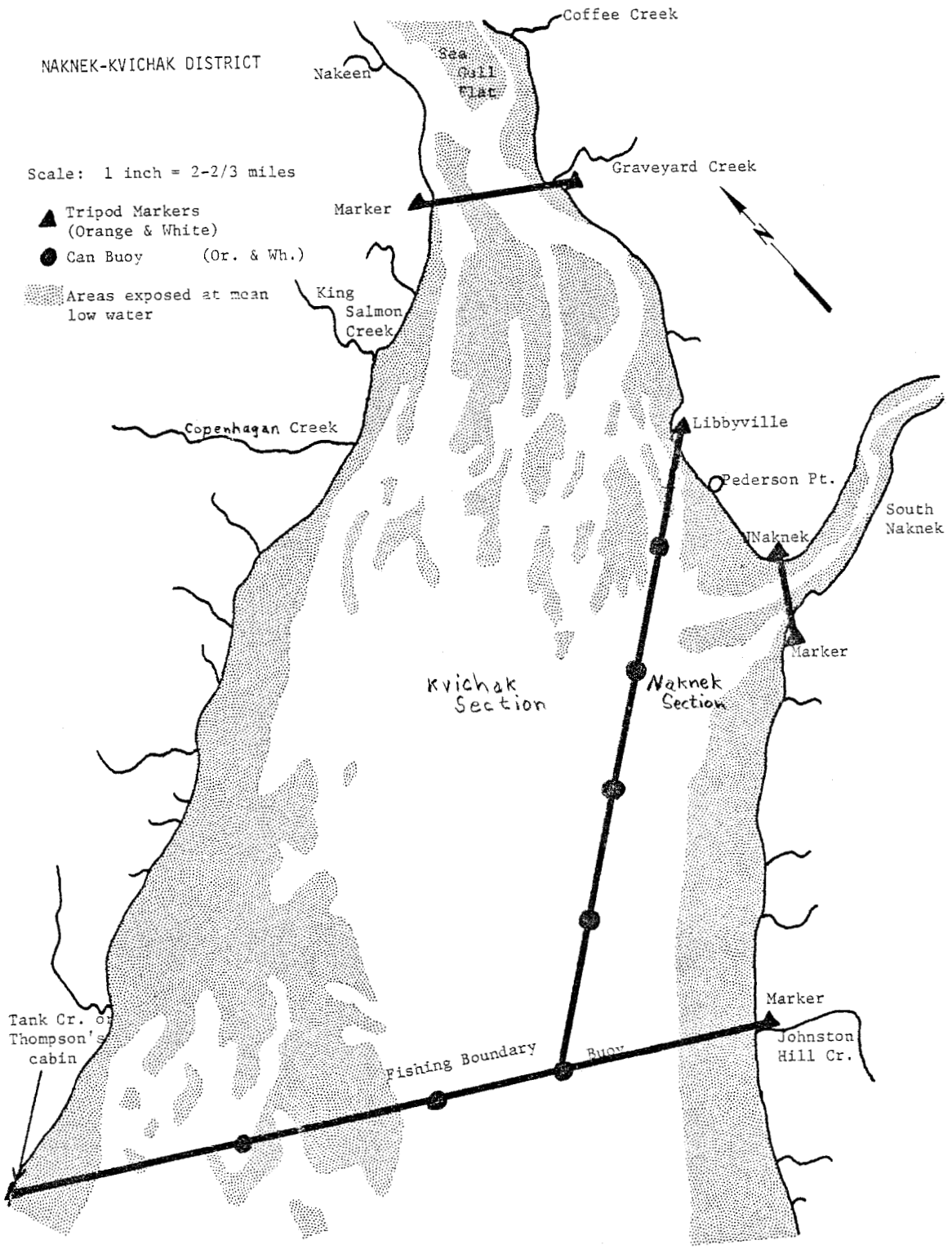


Figure 2. Naknek-Kvichak District commercial fishing boundaries, 1977.

TABLE 6 NAKNEK-KVICHAK DISTRICT INSHORE RETURN OF SOCKEYE SALMON, SEX COMPOSITION AND AGE GROUP, 1977

| | AGE GROUP | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 31 | 32 | 41 | 42 | 43 | 52 | 53 | 62 | 63 | 64 | 74 | TOTAL |
| MALES | | | | | | | | | | | | |
| ESCAPEMENT | 150 | 11,354 | 150 | 424,835 | 2,123 | 118,784 | 329,129 | -- | 283,631 | 596 | 541 | 1,171,293 |
| CATCH | -- | -- | -- | 114,193 | 414 | 55,911 | 194,900 | -- | 539,068 | 688 | 3,792 | 908,966 |
| TOTAL | 150 | 11,354 | 150 | 539,028 | 2,537 | 174,695 | 524,029 | -- | 822,699 | 1,284 | 4,333 | 2,080,259 |
| PERCENT | .01 | .54 | .01 | 25.91 | .12 | 8.40 | 25.19 | -- | 39.55 | .06 | .21 | 44.32 |
| FEMALES | | | | | | | | | | | | |
| ESCAPEMENT | 150 | 3,764 | 991 | 405,970 | 1,881 | 148,932 | 479,309 | 596 | 313,274 | 840 | -- | 1,355,707 |
| CATCH | -- | -- | -- | 121,398 | 414 | 64,462 | 237,642 | -- | 831,440 | 688 | 2,204 | 1,258,248 |
| TOTAL | 150 | 3,764 | 991 | 527,368 | 2,295 | 213,394 | 716,951 | 596 | 1,144,714 | 1,528 | 2,204 | 2,613,955 |
| PERCENT | .01 | .14 | .04 | 20.18 | .09 | 8.16 | 27.43 | .02 | 43.79 | .06 | .08 | 55.68 |
| SEXES COMBINED | | | | | | | | | | | | |
| ESCAPEMENT | 300 | 15,118 | 1,141 | 830,805 | 4,004 | 267,716 | 808,438 | 596 | 596,905 | 1,436 | 541 | 2,527,000 |
| CATCH | -- | -- | -- | 235,591 | 828 | 120,373 | 432,542 | -- | 1,370,508 | 1,376 | 5,996 | 2,167,214 |
| TOTAL | 300 | 15,118 | 1,141 | 1,066,396 | 4,832 | 388,089 | 1,240,980 | 596 | 1,967,413 | 2,812 | 6,537 | 4,694,214 |
| PERCENT | .01 | .32 | .02 | 22.72 | .10 | 8.27 | 26.44 | .01 | 41.91 | .06 | .14 | 100.00 |

TABLE 7 NAKNEK-KVICHAK DISTRICT COMMERCIAL CATCH OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1977

| PERIOD NUMBER | DATE | NO. OF FISH SAMPLED | COUNT | | PERCENT | | CATCH | NUMBER IN CATCH | |
|---|---|---|---|---|---|---|---|---|---|
| | | | MALES | FEMALES | MALES | FEMALES | | MALES | FEMALES |
| 1 | 06/13-06/28 | 360 | 163 | 197 | 45.28 | 54.72 | 149,054 | 67,488 | 81,566 |
| 2 | 06/29-06/30 | 515 | 244 | 271 | 47.38 | 52.62 | 354,306 | 167,865 | 186,441 |
| 3 | 07/01-08/08 | 536 | 217 | 319 | 40.49 | 59.51 | 1,663,854 | 673,613 | 990,241 |
| TOTAL | | 1,411 | 624 | 787 | 41.94 | 58.06 | 2,167,214 | 908,966 | 1,258,248 |

TABLE 8 NAKNEK-KVICHAK DISTRICT COMMERCIAL CATCH OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1977

| SAMPLE PERIOD | DATE | | AGE GROUP 42 | 43 | 52 | 53 | 63 | 64 | 74 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|
| MALES | | | | | | | | | | |
| 1 | 06/13- | COUNT | 7,039 | 414 | 2,484 | 17,389 | 40,162 | -- | -- | 67,488 |
| | 06/28 | PERCENT | 10.43 | .61 | 3.68 | 25.77 | 59.51 | -- | -- | 7.42 |
| 2 | 06/29- | COUNT | 41,966 | -- | 13,072 | 44,030 | 67,421 | 688 | 688 | 167,865 |
| | 06/30 | PERCENT | 25.00 | -- | 7.79 | 26.23 | 40.16 | .41 | .41 | 18.47 |
| 3 | 07/01- | COUNT | 65,188 | -- | 40,355 | 133,481 | 431,485 | -- | 3,104 | 673,613 |
| | 08/08 | PERCENT | 9.68 | -- | 5.99 | 19.82 | 64.06 | -- | .46 | 74.11 |
| COLUMN TOTALS | | COUNT | 114,193 | 414 | 55,911 | 194,900 | 539,068 | 688 | 3,792 | 908,966 |
| | | PERCENT | 12.56 | .04 | 6.15 | 21.44 | 59.31 | .08 | .42 | 100.00 |
| FEMALES | | | | | | | | | | |
| 1 | 06/13- | COUNT | 6,625 | 414 | 4,140 | 13,249 | 56,310 | -- | 828 | 81,566 |
| | 06/28 | PERCENT | 8.12 | .51 | 5.08 | 16.24 | 69.04 | -- | 1.02 | 6.48 |
| 2 | 06/29- | COUNT | 30,959 | -- | 13,759 | 53,662 | 85,997 | 688 | 1,376 | 186,441 |
| | 06/30 | PERCENT | 16.61 | -- | 7.38 | 28.78 | 46.13 | .37 | .74 | 14.82 |
| 3 | 07/01- | COUNT | 83,814 | -- | 46,563 | 170,731 | 689,133 | -- | -- | 990,241 |
| | 08/08 | PERCENT | 8.46 | -- | 4.70 | 17.24 | 69.59 | -- | -- | 78.70 |
| COLUMN TOTALS | | COUNT | 121,398 | 414 | 64,462 | 237,642 | 831,440 | 688 | 2,204 | 1,258,248 |
| | | PERCENT | 9.65 | .03 | 5.12 | 18.89 | 66.08 | .05 | .18 | 100.00 |
| SEXES COMBINED | | | | | | | | | | |
| 1 | 06/13- | COUNT | 13,664 | 828 | 6,624 | 30,638 | 96,472 | -- | 828 | 149,054 |
| | 06/28 | PERCENT | 9.17 | .56 | 4.44 | 20.55 | 64.72 | -- | .56 | 6.88 |
| 2 | 06/29- | COUNT | 72,925 | -- | 26,831 | 97,692 | 153,418 | 1,376 | 2,064 | 354,306 |
| | 06/30 | PERCENT | 20.58 | -- | 7.58 | 27.57 | 43.30 | .39 | .58 | 16.35 |
| 3 | 07/01- | COUNT | 149,002 | -- | 86,918 | 304,212 | 1,120,618 | -- | 3,104 | 1,663,854 |
| | 08/08 | PERCENT | 8.96 | -- | 5.22 | 18.28 | 67.35 | -- | .19 | 76.77 |
| COLUMN TOTALS | | COUNT | 235,591 | 828 | 120,373 | 432,542 | 1,370,508 | 1,376 | 5,996 | 2,167,214 |
| | | PERCENT | 10.87 | .04 | 5.55 | 19.96 | 63.24 | .06 | .28 | 100.00 |

TABLE 9 KVICHAK RIVER APPORTIONED CATCH AND ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION AND AGE GROUP, 1977

| | AGE GROUP | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 32 | 41 | 42 | 43 | 52 | 53 | 63 | 64 | 74 | TOTAL |
| CATCH | | | | | | | | | | |
| MALES | | | | | | | | | | |
| NUMBER | -- | -- | 56,804 | 316 | 22,872 | 167,959 | 71,438 | -- | 3,792 | 323,181 |
| PERCENT | -- | -- | 17.58 | .10 | 7.08 | 51.97 | 22.10 | -- | 1.17 | 43.70 |
| FEMALES | | | | | | | | | | |
| NUMBER | -- | -- | 65,365 | 304 | 26,130 | 210,359 | 111,233 | 688 | 2,204 | 416,283 |
| PERCENT | -- | -- | 15.70 | .07 | 6.28 | 50.53 | 26.72 | .17 | .53 | 56.30 |
| SEXES COMBINED | | | | | | | | | | |
| NUMBER | -- | -- | 122,169 | 620 | 49,002 | 378,318 | 182,671 | 688 | 5,996 | 739,464 |
| PERCENT | -- | -- | 16.52 | .09 | 6.63 | 51.16 | 24.70 | .09 | .81 | 100.00 |
| ESCAPEMENT | | | | | | | | | | |
| MALES | | | | | | | | | | |
| NUMBER | 8,908 | -- | 211,326 | 1,623 | 48,592 | 283,634 | 37,587 | -- | 541 | 592,211 |
| PERCENT | 1.50 | -- | 35.69 | .27 | 8.21 | 47.89 | 6.35 | -- | .09 | 44.16 |
| FEMALES | | | | | | | | | | |
| NUMBER | 722 | 841 | 218,587 | 1,381 | 60,369 | 424,282 | 41,911 | 840 | -- | 748,933 |
| PERCENT | .10 | .11 | 29.19 | .18 | 8.06 | 56.65 | 5.60 | .11 | -- | 55.84 |
| SEXES COMBINED | | | | | | | | | | |
| NUMBER | 9,630 | 841 | 429,913 | 3,004 | 108,961 | 707,916 | 79,498 | 840 | 541 | 1,341,144 |
| PERCENT | .72 | .06 | 32.06 | .22 | 8.12 | 52.79 | 5.93 | .06 | .04 | 100.00 |
| CATCH AND ESCAPEMENT | | | | | | | | | | |
| MALES | | | | | | | | | | |
| NUMBER | 8,908 | -- | 268,130 | 1,939 | 71,464 | 451,593 | 109,025 | -- | 4,333 | 915,392 |
| PERCENT | .97 | -- | 29.29 | .21 | 7.81 | 49.33 | 11.91 | -- | .48 | 44.00 |
| FEMALES | | | | | | | | | | |
| NUMBER | 722 | 841 | 283,952 | 1,685 | 86,499 | 634,641 | 153,144 | 1,528 | 2,204 | 1,165,216 |
| PERCENT | .06 | .07 | 24.37 | .15 | 7.42 | 54.47 | 13.14 | .13 | .19 | 56.00 |
| SEXES COMBINED | | | | | | | | | | |
| NUMBER | 9,630 | 841 | 552,082 | 3,624 | 157,963 | 1,086,234 | 262,169 | 1,528 | 6,537 | 2,080,608 |
| PERCENT | .46 | .04 | 26.54 | .17 | 7.59 | 52.21 | 12.60 | .07 | .32 | 100.00 |

TABLE 10 KVICHAK RIVER DAILY SOCKEYE SALMON ESCAPEMENT COUNTS, 1977

| DATE | | DAILY COUNT | ACCUMULATIVE COUNT | DAILY PERCENT OF TOTAL | ACCUMULATIVE PERCENT |
|---|---|---|---|---|---|
| JUNE | 22 | 42 | 42 | 0. | 0. |
| | 23 | 528 | 570 | 0.04 | 0.04 |
| | 24 | 2,484 | 3,054 | 0.19 | 0.23 |
| | 25 | 2,940 | 5,994 | 0.22 | 0.45 |
| | 26 | 5,292 | 11,286 | 0.39 | 0.84 |
| | 27 | 11,226 | 22,512 | 0.84 | 1.68 |
| | 28 | 5,058 | 27,570 | 0.38 | 2.06 |
| | 29 | 7,818 | 35,388 | 0.58 | 2.64 |
| | 30 | 66,672 | 102,060 | 4.97 | 7.61 |
| JULY | 1 | 131,484 | 233,544 | 9.80 | 17.41 |
| | 2 | 86,820 | 320,364 | 6.47 | 23.88 |
| | 3 | 103,392 | 423,756 | 7.71 | 31.59 |
| | 4 | 129,702 | 553,458 | 9.67 | 41.26 |
| | 5 | 145,374 | 698,832 | 10.84 | 52.10 |
| | 6 | 150,180 | 849,012 | 11.20 | 63.30 |
| | 7 | 87,558 | 936,570 | 6.53 | 69.83 |
| | 8 | 33,876 | 970,446 | 2.53 | 72.36 |
| | 9 | 27,168 | 997,614 | 2.03 | 74.39 |
| | 10 | 15,006 | 1,012,620 | 1.12 | 75.51 |
| | 11 | 9,618 | 1,022,238 | 0.72 | 76.23 |
| | 12 | 50,448 | 1,072,686 | 3.76 | 79.99 |
| | 13 | 50,952 | 1,123,638 | 3.80 | 83.79 |
| | 14 | 70,740 | 1,194,378 | 5.27 | 89.06 |
| | 15 | 76,380 | 1,270,758 | 5.69 | 94.75 |
| | 16 | 25,704 | 1,296,462 | 1.92 | 96.67 |
| | 17 | 11,826 | 1,308,288 | 0.88 | 97.55 |
| | 18 | 9,582 | 1,317,870 | 0.71 | 98.26 |
| | 19 | 7,740 | 1,325,610 | 0.58 | 98.84 |
| | 20 | 6,264 | 1,331,874 | 0.47 | 99.31 |
| | 21 | 3,798 | 1,335,672 | 0.28 | 99.59 |
| | 22 | 2,664 | 1,338,336 | 0.20 | 99.79 |
| | 23 | 1,764 | 1,340,100 | 0.13 | 99.92 |
| | 24 | 1,044 | 1,341,144 | 0.08 | 100.00 |

TABLE 11 KVICHAK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1977

| PERIOD NUMBER | DATE | NO. OF FISH SAMPLED | COUNT | | PERCENT | | ESCAPEMENT | NUMBER IN ESCAPEMENT | |
|---|---|---|---|---|---|---|---|---|---|
| | | | MALES | FEMALES | MALES | FEMALES | | MALES | FEMALES |
| 1 | 06/22-07/02 | 592 | 292 | 300 | 49.32 | 50.68 | 320,364 | 158,017 | 162,347 |
| 2 | 07/03-07/06 | 629 | 275 | 354 | 43.72 | 56.28 | 528,648 | 231,126 | 297,522 |
| 3 | 07/07-07/24 | 681 | 281 | 400 | 41.26 | 58.74 | 492,132 | 203,068 | 289,064 |
| TOTAL | | 1,902 | 848 | 1,054 | 44.16 | 55.84 | 1,341,144 | 592,211 | 748,933 |

TABLE 12 KVICHAK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1977

| SAMPLE PERIOD | DATE | | AGE GROUP 32 | 41 | 42 | 43 | 52 | 53 | 63 | 64 | 74 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MALES | | | | | | | | | | | | |
| 1 | 06/22- | COUNT | -- | -- | 57,904 | 1,623 | 8,658 | 80,091 | 9,200 | -- | 541 | 158,017 |
| | 07/02 | PERCENT | -- | -- | 36.64 | 1.03 | 5.48 | 50.68 | 5.82 | -- | .34 | 26.68 |
| 2 | 07/03- | COUNT | 1,681 | -- | 84,046 | -- | 16,809 | 116,824 | 11,766 | -- | -- | 231,126 |
| | 07/06 | PERCENT | .73 | -- | 36.36 | -- | 7.27 | 50.55 | 5.09 | -- | -- | 39.03 |
| 3 | 07/07- | COUNT | 7,227 | -- | 69,376 | -- | 23,125 | 86,719 | 16,621 | -- | -- | 203,068 |
| | 07/24 | PERCENT | 3.56 | -- | 34.16 | -- | 11.39 | 42.70 | 8.19 | -- | -- | 34.29 |
| COLUMN TOTALS | | COUNT | 8,908 | -- | 211,326 | 1,623 | 48,592 | 283,634 | 37,587 | -- | 541 | 592,211 |
| | | PERCENT | 1.50 | -- | 35.69 | .27 | 8.21 | 47.89 | 6.35 | -- | .09 | 100.00 |
| FEMALES | | | | | | | | | | | | |
| 1 | 06/22- | COUNT | -- | -- | 50,327 | 541 | 12,988 | 86,044 | 12,447 | -- | -- | 162,347 |
| | 07/02 | PERCENT | -- | -- | 31.00 | .33 | 8.00 | 53.00 | 7.67 | -- | -- | 21.68 |
| 2 | 07/03- | COUNT | -- | 841 | 76,482 | 840 | 23,533 | 180,698 | 14,288 | 840 | -- | 297,522 |
| | 07/06 | PERCENT | -- | .28 | 25.71 | .28 | 7.91 | 60.73 | 4.80 | .28 | -- | 39.72 |
| 3 | 07/07- | COUNT | 722 | -- | 91,778 | -- | 23,848 | 157,540 | 15,176 | -- | -- | 289,064 |
| | 07/24 | PERCENT | .25 | -- | 31.75 | -- | 8.25 | 54.50 | 5.25 | -- | -- | 38.60 |
| COLUMN TOTALS | | COUNT | 722 | 841 | 218,587 | 1,381 | 60,369 | 424,282 | 41,911 | 840 | -- | 748,933 |
| | | PERCENT | .10 | .11 | 29.19 | .18 | 8.06 | 56.65 | 5.60 | .11 | -- | 100.00 |
| SEXES COMBINED | | | | | | | | | | | | |
| 1 | 06/22- | COUNT | -- | -- | 108,231 | 2,164 | 21,646 | 166,135 | 21,647 | -- | 541 | 320,364 |
| | 07/02 | PERCENT | -- | -- | 33.78 | .67 | 6.76 | 51.86 | 6.76 | -- | .17 | 23.89 |
| 2 | 07/03- | COUNT | 1,681 | 841 | 160,528 | 840 | 40,342 | 297,522 | 26,054 | 840 | -- | 528,648 |
| | 07/06 | PERCENT | .32 | .16 | 30.36 | .16 | 7.63 | 56.28 | 4.93 | .16 | -- | 39.42 |
| 3 | 07/07- | COUNT | 7,949 | -- | 161,154 | -- | 46,973 | 244,259 | 31,797 | -- | -- | 492,132 |
| | 07/24 | PERCENT | 1.62 | -- | 32.75 | -- | 9.54 | 49.63 | 6.46 | -- | -- | 36.69 |
| COLUMN TOTALS | | COUNT | 9,630 | 841 | 429,913 | 3,004 | 108,961 | 707,916 | 79,498 | 840 | 541 | 1,341,144 |
| | | PERCENT | .72 | .06 | 32.06 | .22 | 8.12 | 52.79 | 5.93 | .06 | .04 | 100.00 |

TABLE 13 BRANCH RIVER APPORTIONED CATCH AND ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION AND AGE GROUP, 1977

| | AGE GROUP | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 31 | 32 | 41 | 42 | 43 | 52 | 53 | 63 | TOTAL |
| CATCH | | | | | | | | | |
| MALES | | | | | | | | | |
| NUMBER | -- | -- | -- | 9,367 | 98 | 2,471 | 1,303 | 9,598 | 22,837 |
| PERCENT | -- | -- | -- | 41.02 | .43 | 10.82 | 5.70 | 42.03 | 45.55 |
| FEMALES | | | | | | | | | |
| NUMBER | -- | -- | -- | 10,421 | 110 | 2,272 | 1,091 | 13,403 | 27,297 |
| PERCENT | -- | -- | -- | 38.18 | .40 | 8.32 | 4.00 | 49.10 | 54.45 |
| SEXES COMBINED | | | | | | | | | |
| NUMBER | -- | -- | -- | 19,788 | 208 | 4,743 | 2,394 | 23,001 | 50,134 |
| PERCENT | -- | -- | -- | 39.47 | .41 | 9.46 | 4.78 | 45.88 | 100.00 |
| ESCAPEMENT \1 | | | | | | | | | |
| MALES | | | | | | | | | |
| NUMBER | 150 | 1,850 | 150 | 34,850 | 500 | 5,250 | 2,200 | 5,050 | 50,000 |
| PERCENT | .30 | 3.70 | .30 | 69.70 | 1.00 | 10.50 | 4.40 | 10.10 | 50.00 |
| FEMALES | | | | | | | | | |
| NUMBER | 150 | 1,850 | 150 | 34,850 | 500 | 5,250 | 2,200 | 5,050 | 50,000 |
| PERCENT | .30 | 3.70 | .30 | 69.70 | 1.00 | 10.50 | 4.40 | 10.10 | 50.00 |
| SEXES COMBINED | | | | | | | | | |
| NUMBER | 300 | 3,700 | 300 | 69,700 | 1,000 | 10,500 | 4,400 | 10,100 | 100,000 |
| PERCENT | .30 | 3.70 | .30 | 69.70 | 1.00 | 10.50 | 4.40 | 10.10 | 100.00 |
| CATCH AND ESCAPEMENT | | | | | | | | | |
| MALES | | | | | | | | | |
| NUMBER | 150 | 1,850 | 150 | 44,217 | 598 | 7,721 | 3,503 | 14,648 | 72,837 |
| PERCENT | .20 | 2.54 | .21 | 60.71 | .82 | 10.60 | 4.81 | 20.11 | 48.51 |
| FEMALES | | | | | | | | | |
| NUMBER | 150 | 1,850 | 150 | 45,271 | 610 | 7,522 | 3,291 | 18,453 | 77,297 |
| PERCENT | .20 | 2.39 | .19 | 58.57 | .79 | 9.73 | 4.26 | 23.87 | 51.49 |
| SEXES COMBINED | | | | | | | | | |
| NUMBER | 300 | 3,700 | 300 | 89,488 | 1,208 | 15,243 | 6,794 | 33,101 | 150,134 |
| PERCENT | .20 | 2.46 | .20 | 59.61 | .80 | 10.15 | 4.53 | 22.05 | 100.00 |

\1 TOTAL EXCAPEMENT ESTIMATED BY AERIAL SURVEY. SEX RATIO ARBITRARILY SET 1:1. AGE COMPOSITION ESTIMATED FROM OTILITH SAMPLES.

TABLE 14 NAKNEK RIVER APPORTIONED CATCH AND ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION AND AGE GROUP, 1977

| | AGE GROUP | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 32 | 42 | 52 | 53 | 62 | 63 | 64 | TOTAL |
| CATCH | | | | | | | | |
| MALES | | | | | | | | |
| NUMBER | -- | 48,022 | 30,568 | 25,638 | -- | 458,032 | 688 | 562,948 |
| PERCENT | -- | 8.53 | 5.43 | 4.56 | -- | 81.36 | .12 | 40.86 |
| FEMALES | | | | | | | | |
| NUMBER | -- | 45,612 | 36,060 | 26,192 | -- | 706,804 | -- | 814,668 |
| PERCENT | -- | 5.60 | 4.43 | 3.21 | -- | 86.76 | -- | 59.14 |
| SEXES COMBINED | | | | | | | | |
| NUMBER | -- | 93,634 | 66,628 | 51,830 | -- | 1,164,836 | 688 | 1,377,616 |
| PERCENT | -- | 6.80 | 4.84 | 3.76 | -- | 84.55 | .05 | 100.00 |
| ESCAPEMENT | | | | | | | | |
| MALES | | | | | | | | |
| NUMBER | 596 | 178,659 | 64,942 | 43,295 | -- | 240,994 | 596 | 529,082 |
| PERCENT | .11 | 33.77 | 12.28 | 8.18 | -- | 45.55 | .11 | 48.72 |
| FEMALES | | | | | | | | |
| NUMBER | 1,192 | 152,533 | 83,313 | 52,827 | 596 | 266,313 | -- | 556,774 |
| PERCENT | .21 | 27.40 | 14.96 | 9.49 | .11 | 47.83 | -- | 51.28 |
| SEXES COMBINED | | | | | | | | |
| NUMBER | 1,788 | 331,192 | 148,255 | 96,122 | 596 | 507,307 | 596 | 1,085,856 |
| PERCENT | .16 | 30.50 | 13.65 | 8.85 | .06 | 46.72 | .06 | 100.00 |
| CATCH AND ESCAPEMENT | | | | | | | | |
| MALES | | | | | | | | |
| NUMBER | 596 | 226,681 | 95,510 | 68,933 | -- | 699,026 | 1,284 | 1,092,030 |
| PERCENT | .05 | 20.76 | 8.75 | 6.31 | -- | 64.01 | .12 | 44.33 |
| FEMALES | | | | | | | | |
| NUMBER | 1,192 | 198,145 | 119,373 | 79,019 | 596 | 973,117 | -- | 1,371,442 |
| PERCENT | .09 | 14.45 | 8.70 | 5.76 | .04 | 70.96 | -- | 55.67 |
| SEXES COMBINED | | | | | | | | |
| NUMBER | 1,788 | 424,826 | 214,883 | 147,952 | 596 | 1,672,143 | 1,284 | 2,463,472 |
| PERCENT | .07 | 17.25 | 8.72 | 6.01 | .02 | 67.88 | .05 | 100.00 |

TABLE 15 NAKNEK RIVER DAILY SOCKEYE SALMON ESCAPEMENT COUNTS, 1977

| DATE | | DAILY COUNT | ACCUMULATIVE COUNT | DAILY PERCENT OF TOTAL | ACCUMULATIVE PERCENT |
|---|---|---|---|---|---|
| JUNE | 20 | 126 | 126 | 0.01 | 0.01 |
| | 21 | 120 | 246 | 0.01 | 0.02 |
| | 22 | 1,218 | 1,464 | 0.11 | 0.13 |
| | 23 | 3,114 | 4,578 | 0.29 | 0.42 |
| | 24 | 324 | 4,902 | 0.03 | 0.45 |
| | 25 | 18,780 | 23,682 | 1.73 | 2.18 |
| | 26 | 51,606 | 75,288 | 4.75 | 6.93 |
| | 27 | 40,116 | 115,404 | 3.69 | 10.62 |
| | 28 | 6,216 | 121,620 | 0.57 | 11.19 |
| | 29 | 247,314 | 368,934 | 22.78 | 33.97 |
| | 30 | 150,078 | 519,012 | 13.82 | 47.79 |
| JULY | 1 | 25,884 | 544,896 | 2.38 | 50.17 |
| | 2 | 34,698 | 579,594 | 3.20 | 53.37 |
| | 3 | 150,516 | 730,110 | 13.86 | 67.23 |
| | 4 | 143,160 | 873,270 | 13.18 | 80.41 |
| | 5 | 8,988 | 882,258 | 0.83 | 81.24 |
| | 6 | 4,506 | 886,764 | 0.42 | 81.66 |
| | 7 | 4,548 | 891,312 | 0.42 | 82.08 |
| | 8 | 8,910 | 900,222 | 0.82 | 82.90 |
| | 9 | 26,226 | 926,448 | 2.42 | 85.32 |
| | 10 | 61,716 | 988,164 | 5.68 | 91.00 |
| | 11 | 63,354 | 1,051,518 | 5.83 | 96.83 |
| | 12 | 16,554 | 1,068,072 | 1.53 | 98.36 |
| | 13 | 5,574 | 1,073,646 | 0.51 | 98.87 |
| | 14 | 4,362 | 1,078,008 | 0.40 | 99.27 |
| | 15 | 2,676 | 1,080,684 | 0.25 | 99.52 |
| | 16 | 3,012 | 1,083,696 | 0.28 | 99.80 |
| | 17 | 2,160 | 1,085,856 | 0.20 | 100.00 |

TABLE 16 NAKNEK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1977

| PERIOD NUMBER | DATE | NO. OF FISH SAMPLED | COUNT MALES | COUNT FEMALES | PERCENT MALES | PERCENT FEMALES | ESCAPEMENT | NUMBER IN ESCAPEMENT MALES | NUMBER IN ESCAPEMENT FEMALES |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 06/20-07/03 | 387 | 174 | 213 | 44.96 | 55.04 | 730,110 | 328,267 | 401,843 |
| 2 | 07/04-07/17 | 597 | 337 | 260 | 56.45 | 43.55 | 355,746 | 200,815 | 154,931 |
| TOTAL | | 984 | 511 | 473 | 48.72 | 51.28 | 1,085,856 | 529,082 | 556,774 |

TABLE 17 NAKNEK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1977

| SAMPLE PERIOD | DATE | | AGE GROUP 32 | 42 | 52 | 53 | 62 | 63 | 64 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|
| MALES | | | | | | | | | | |
| 1 | 06/20- | COUNT | -- | 43,392 | 45,278 | 30,185 | -- | 209,412 | -- | 328,267 |
| | 07/03 | PERCENT | -- | 13.22 | 13.79 | 9.20 | -- | 63.79 | -- | 62.04 |
| 2 | 07/04- | COUNT | 596 | 135,267 | 19,664 | 13,110 | -- | 31,582 | 596 | 200,815 |
| | 07/17 | PERCENT | .30 | 67.36 | 9.79 | 6.53 | -- | 15.73 | .30 | 37.96 |
| COLUMN | | COUNT | 596 | 178,659 | 64,942 | 43,295 | -- | 240,994 | 596 | 529,082 |
| TOTALS | | PERCENT | .11 | 33.77 | 12.28 | 8.18 | -- | 45.55 | .11 | 100.00 |
| FEMALES | | | | | | | | | | |
| 1 | 06/20- | COUNT | -- | 67,917 | 54,711 | 41,505 | -- | 237,710 | -- | 401,843 |
| | 07/03 | PERCENT | -- | 16.90 | 13.62 | 10.33 | -- | 59.15 | -- | 72.17 |
| 2 | 07/04- | COUNT | 1,192 | 84,616 | 28,602 | 11,322 | 596 | 28,603 | -- | 154,931 |
| | 07/17 | PERCENT | .77 | 54.62 | 18.46 | 7.31 | .38 | 18.46 | -- | 27.83 |
| COLUMN | | COUNT | 1,192 | 152,533 | 83,313 | 52,827 | 596 | 266,313 | -- | 556,774 |
| TOTALS | | PERCENT | .21 | 27.40 | 14.96 | 9.49 | .11 | 47.83 | -- | 100.00 |
| SEXES COMBINED | | | | | | | | | | |
| 1 | 06/20- | COUNT | -- | 111,309 | 99,989 | 71,690 | -- | 447,122 | -- | 730,110 |
| | 07/03 | PERCENT | -- | 15.25 | 13.69 | 9.82 | -- | 61.24 | -- | 67.24 |
| 2 | 07/04- | COUNT | 1,788 | 219,883 | 48,266 | 24,432 | 596 | 60,185 | 596 | 355,746 |
| | 07/17 | PERCENT | .50 | 61.81 | 13.57 | 6.87 | .16 | 16.92 | .17 | 32.76 |
| COLUMN | | COUNT | 1,788 | 331,192 | 148,255 | 96,122 | 596 | 507,307 | 596 | 1,085,856 |
| TOTALS | | PERCENT | .16 | 30.50 | 13.65 | 8.85 | .06 | 46.72 | .06 | 100.00 |

## EGEGIK DISTRICT

The sockeye run into this district (Figure 3) was expected to be in excess of escapement requirements and a season catch approaching the long-term average was anticipated. The eventual total run amounted to 2.5 million fish compared with the inshore forecast of 1.6 million. District escapement goals were achieved and the long-term average harvest of 1.2 million was exceeded.

Early season fishing in this district was affected by an unresolved price agreement between the industry and some fishermen. As a result of the price dispute only about half of the available fishing effort participated in the fishery prior to 28 June. By 23 June, approximately 71,000 sockeye had been harvested by about 150 units of gear. It was apparent that the run was already beginning to develop and that it was either earlier than normal or larger than forecast, or both. Earlier than normal run timing was anticipated in 1977 since the previous winter had been extremely mild and water temperatures were above normal.

Additional fishing periods and catches on 25 June (58,000 fish), 28 June (152,000) and 30 June (259,000) demonstrated a rapid and strong buildup of the run. Even with the heavy catches on 28 and 30 June, the Department's inside test fishing project above the fishery indicated a strong surge of fish into the lower river above the commercial fishery. With over 60% of the escapement goal accounted for by 1 July another 12-hour fishing period was announced for 2 July. Heavy fishing continued on 2 July and the indicated escapement rose to 75% of the escapement goal. After a short closure the fishery was re-opened on 3 July and subsequently extended until further notice when it became apparent that the sockeye escapement goal of 600,000 was assured.

The 15-day period of continuous fishing from 3 July to 17 July produced an additional 1.1 million fish, bringing the season total catch to 1.8 million, or 77% above pre-season expectations. Although processing and tender capacity was comparable to 1976 and early fishing periods were short and regularly spaced, catches from adjacent districts during the same time period necessitated the placement of fishermen on limits for several days. The Egegik District catch in 1977 amounted to 37% of the total Bay catch, while the total run of 2.5 million fish was over 26% of the total Bay return, and 25% higher than the 20-year average return of 2.0 million.

The final district sockeye escapement amounted to 693,000 fish, exceeding the escapement goal of 600,000 by less than 16%. The 20-year average sockeye escapement to this district was 851,000 fish.

Age composition of the sockeye run to Egegik this season was dominated by 5-year-old fish (59%) from the 1972 brood year, followed by 6-year-old fish (38%) and 4-year-old fish (3%). The average weight of the commercially caught sockeye was 6.33 lb in the district.

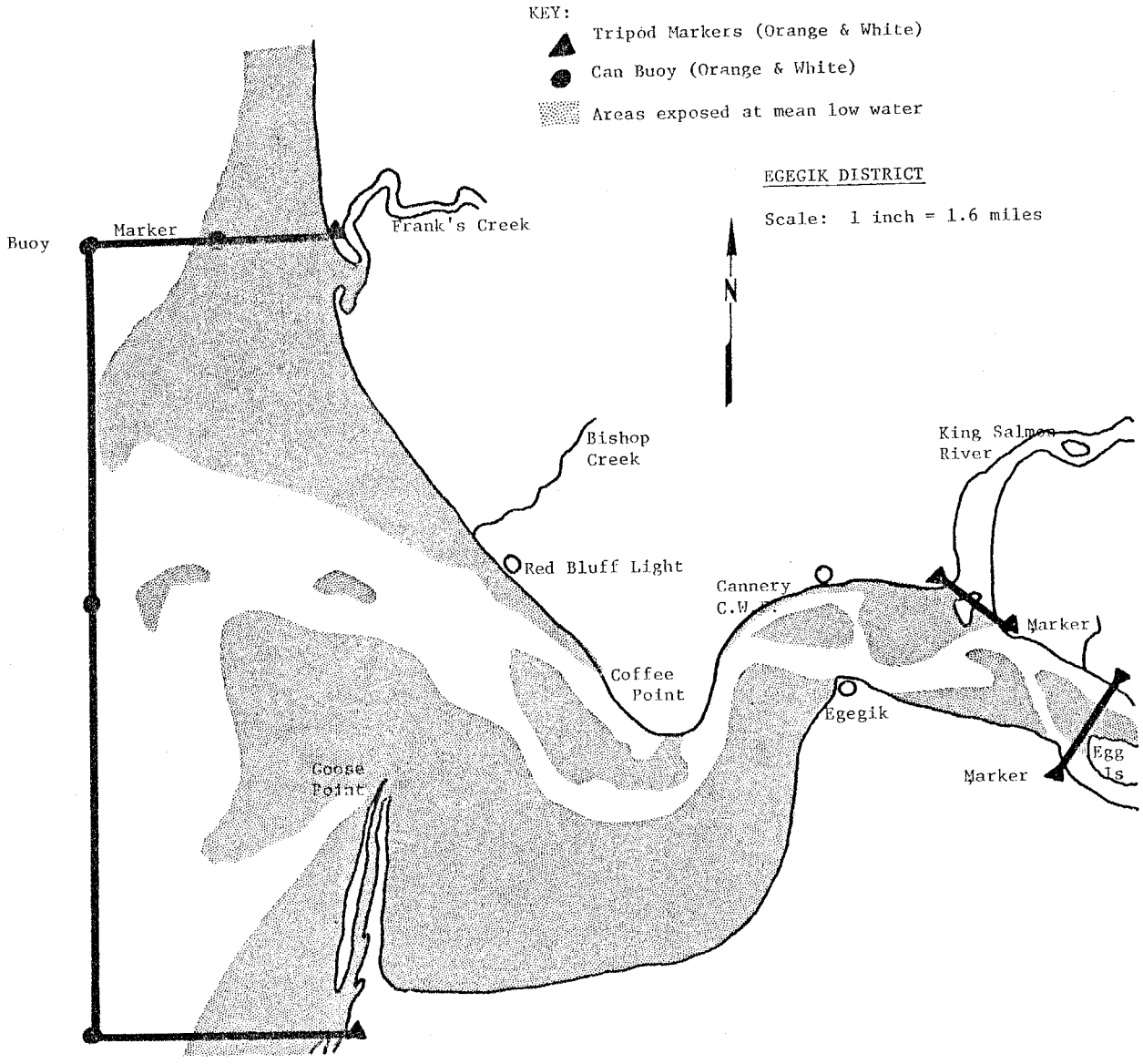


Figure 3. Egegik District commercial fishing boundaries,1977.

TABLE 18 EGEGIK RIVER CATCH AND ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION AND AGE GROUP, 1977

| | AGE GROUP | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 42 | 43 | 52 | 53 | 63 | 64 | 74 | TOTAL |
| CATCH | | | | | | | | |
| MALES | | | | | | | | |
| NUMBER | 30,969 | -- | 18,780 | 577,445 | 278,566 | 18,197 | 10,702 | 934,659 |
| PERCENT | 3.31 | -- | 2.01 | 61.78 | 29.80 | 1.95 | 1.15 | 52.49 |
| FEMALES | | | | | | | | |
| NUMBER | 35,484 | 252 | 23,850 | 434,681 | 309,614 | 34,773 | 7,254 | 845,908 |
| PERCENT | 4.19 | .03 | 2.82 | 51.39 | 36.60 | 4.11 | .86 | 47.51 |
| SEXES COMBINED | | | | | | | | |
| NUMBER | 66,453 | 252 | 42,630 | 1,012,126 | 588,180 | 52,970 | 17,956 | 1,780,567 |
| PERCENT | 3.73 | .01 | 2.40 | 56.84 | 33.03 | 2.98 | 1.01 | 100.00 |
| ESCAPEMENT | | | | | | | | |
| MALES | | | | | | | | |
| NUMBER | 1,463 | 643 | 8,136 | 206,702 | 141,629 | 5,854 | 3,811 | 368,238 |
| PERCENT | .40 | .17 | 2.21 | 56.13 | 38.46 | 1.59 | 1.04 | 53.17 |
| FEMALES | | | | | | | | |
| NUMBER | 1,286 | -- | 7,268 | 175,588 | 132,287 | 7,493 | 354 | 324,276 |
| PERCENT | .40 | -- | 2.24 | 54.15 | 40.79 | 2.31 | .11 | 46.83 |
| SEXES COMBINED | | | | | | | | |
| NUMBER | 2,749 | 643 | 15,404 | 382,290 | 273,916 | 13,347 | 4,165 | 692,514 |
| PERCENT | .40 | .09 | 2.23 | 55.20 | 39.55 | 1.93 | .60 | 100.00 |
| CATCH AND ESCAPEMENT | | | | | | | | |
| MALES | | | | | | | | |
| NUMBER | 32,432 | 643 | 26,916 | 784,147 | 420,195 | 24,051 | 14,513 | 1,302,897 |
| PERCENT | 2.49 | .05 | 2.07 | 60.18 | 32.25 | 1.85 | 1.11 | 52.68 |
| FEMALES | | | | | | | | |
| NUMBER | 36,770 | 252 | 31,118 | 610,269 | 441,901 | 42,266 | 7,608 | 1,170,184 |
| PERCENT | 3.14 | .02 | 2.66 | 52.15 | 37.77 | 3.61 | .65 | 47.32 |
| SEXES COMBINED | | | | | | | | |
| NUMBER | 69,202 | 895 | 58,034 | 1,394,416 | 862,096 | 66,317 | 22,121 | 2,473,081 |
| PERCENT | 2.80 | .04 | 2.35 | 56.38 | 34.86 | 2.68 | .89 | 100.00 |

TABLE 19 EGEGIK DISTRICT COMMERCIAL CATCH OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1977

| PERIOD NUMBER | DATE | NO. OF FISH SAMPLED | COUNT MALES | COUNT FEMALES | PERCENT MALES | PERCENT FEMALES | CATCH | NUMBER IN CATCH MALES | NUMBER IN CATCH FEMALES |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 06/06-06/27 | 513 | 276 | 237 | 53.80 | 46.20 | 129,534 | 69,691 | 59,843 |
| 2 | 06/28-07/02 | 540 | 288 | 252 | 53.33 | 46.67 | 524,463 | 279,714 | 244,749 |
| 3 | 07/03-07/23 | 641 | 333 | 308 | 51.95 | 48.05 | 1,126,570 | 585,254 | 541,316 |
| TOTAL | | 1,694 | 897 | 797 | 52.49 | 47.51 | 1,780,567 | 934,659 | 845,908 |

TABLE 20 EGEGIK DISTRICT COMMERCIAL CATCH OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1977

| SAMPLE PERIOD | DATE | | AGE GROUP 42 | 43 | 52 | 53 | 63 | 64 | 74 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|
| MALES | | | | | | | | | | |
| 1 | 06/06- | COUNT | 2,525 | -- | 2,778 | 32,573 | 30,805 | 252 | 758 | 69,691 |
| | 06/27 | PERCENT | 3.62 | -- | 3.99 | 46.74 | 44.20 | .36 | 1.09 | 7.45 |
| 2 | 06/28- | COUNT | 12,626 | -- | 1,942 | 175,793 | 82,554 | 3,885 | 2,914 | 279,714 |
| | 07/02 | PERCENT | 4.51 | -- | .69 | 62.85 | 29.51 | 1.39 | 1.04 | 29.93 |
| 3 | 07/03- | COUNT | 15,818 | -- | 14,060 | 369,079 | 165,207 | 14,060 | 7,030 | 585,254 |
| | 07/23 | PERCENT | 2.70 | -- | 2.40 | 63.06 | 28.23 | 2.40 | 1.20 | 62.62 |
| COLUMN TOTALS | | COUNT | 30,969 | -- | 18,780 | 577,445 | 278,566 | 18,197 | 10,702 | 934,659 |
| | | PERCENT | 3.31 | -- | 2.01 | 61.78 | 29.80 | 1.95 | 1.15 | 100.00 |
| FEMALES | | | | | | | | | | |
| 1 | 06/06- | COUNT | 1,768 | 252 | 2,020 | 24,998 | 28,785 | 1,010 | 1,010 | 59,843 |
| | 06/27 | PERCENT | 2.95 | .42 | 3.38 | 41.77 | 48.10 | 1.69 | 1.69 | 7.08 |
| 2 | 06/28- | COUNT | 12,626 | -- | 7,770 | 112,662 | 106,835 | 3,885 | 971 | 244,749 |
| | 07/02 | PERCENT | 5.16 | -- | 3.17 | 46.03 | 43.65 | 1.59 | .40 | 28.93 |
| 3 | 07/03- | COUNT | 21,090 | -- | 14,060 | 297,021 | 173,994 | 29,878 | 5,273 | 541,316 |
| | 07/23 | PERCENT | 3.90 | -- | 2.60 | 54.87 | 32.14 | 5.52 | .97 | 63.99 |
| COLUMN TOTALS | | COUNT | 35,484 | 252 | 23,850 | 434,681 | 309,614 | 34,773 | 7,254 | 845,908 |
| | | PERCENT | 4.19 | .03 | 2.82 | 51.39 | 36.60 | 4.11 | .86 | 100.00 |
| SEXES COMBINED | | | | | | | | | | |
| 1 | 06/06- | COUNT | 4,293 | 252 | 4,798 | 57,571 | 59,590 | 1,262 | 1,768 | 129,534 |
| | 06/27 | PERCENT | 3.31 | .20 | 3.70 | 44.45 | 46.00 | .97 | 1.37 | 7.28 |
| 2 | 06/28- | COUNT | 25,252 | -- | 9,712 | 288,455 | 189,389 | 7,770 | 3,885 | 524,463 |
| | 07/02 | PERCENT | 4.82 | -- | 1.85 | 55.00 | 36.11 | 1.48 | .74 | 29.45 |
| 3 | 07/03- | COUNT | 36,908 | -- | 28,120 | 666,100 | 339,201 | 43,938 | 12,303 | 1,126,570 |
| | 07/23 | PERCENT | 3.28 | -- | 2.49 | 59.13 | 30.11 | 3.90 | 1.09 | 63.27 |
| COLUMN TOTALS | | COUNT | 66,453 | 252 | 42,630 | 1,012,126 | 588,180 | 52,970 | 17,956 | 1,780,567 |
| | | PERCENT | 3.73 | .01 | 2.40 | 56.84 | 33.03 | 2.98 | 1.01 | 100.00 |

TABLE 21 EGEGIK RIVER DAILY SOCKEYE SALMON ESCAPEMENT COUNTS, 1977

| DATE | | DAILY COUNT | ACCUMULATIVE COUNT | DAILY PERCENT OF TOTAL | ACCUMULATIVE PERCENT |
|---|---|---|---|---|---|
| JUNE | 22 | 822 | 822 | 0.12 | 0.12 |
| | 23 | 9,594 | 10,416 | 1.39 | 1.51 |
| | 24 | 4,668 | 15,084 | 0.67 | 2.18 |
| | 25 | 5,004 | 20,088 | 0.72 | 2.90 |
| | 26 | 8,958 | 29,046 | 1.29 | 4.19 |
| | 27 | 15,270 | 44,316 | 2.21 | 6.40 |
| | 28 | 29,070 | 73,386 | 4.20 | 10.60 |
| | 29 | 37,698 | 111,084 | 5.44 | 16.04 |
| | 30 | 61,320 | 172,404 | 8.86 | 24.90 |
| JULY | 1 | 49,248 | 221,652 | 7.11 | 32.01 |
| | 2 | 87,726 | 309,378 | 12.67 | 44.68 |
| | 3 | 77,100 | 386,478 | 11.13 | 55.81 |
| | 4 | 21,252 | 407,730 | 3.07 | 58.88 |
| | 5 | 91,314 | 499,044 | 13.19 | 72.07 |
| | 6 | 97,626 | 596,670 | 14.10 | 86.17 |
| | 7 | 32,262 | 628,932 | 4.66 | 90.83 |
| | 8 | 16,998 | 645,930 | 2.45 | 93.28 |
| | 9 | 12,528 | 658,458 | 1.81 | 95.09 |
| | 10 | 9,552 | 668,010 | 1.38 | 96.47 |
| | 11 | 8,652 | 676,662 | 1.25 | 97.72 |
| | 12 | 2,280 | 678,942 | 0.33 | 98.05 |
| | 13 | 3,078 | 682,020 | 0.44 | 98.49 |
| | 14 | 3,696 | 685,716 | 0.53 | 99.02 |
| | 15 | 3,078 | 688,794 | 0.44 | 99.46 |
| | 16 | 1,632 | 690,426 | 0.24 | 99.70 |
| | 17 | 2,088 | 692,514 | 0.30 | 100.00 |

TABLE 22 EGEGIK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1977

| PERIOD NUMBER | DATE | NO. OF FISH SAMPLED | COUNT | | PERCENT | | ESCAPEMENT | NUMBER IN ESCAPEMENT | |
|---|---|---|---|---|---|---|---|---|---|
| | | | MALES | FEMALES | MALES | FEMALES | | MALES | FEMALES |
| 1 | 06/22-06/29 | 628 | 351 | 277 | 55.89 | 44.11 | 111,084 | 62,087 | 48,997 |
| 2 | 06/30-07/17 | 904 | 476 | 428 | 52.65 | 47.35 | 581,430 | 306,151 | 275,279 |
| TOTAL | | 1,532 | 827 | 705 | 53.17 | 46.83 | 692,514 | 368,238 | 324,276 |

TABLE 23 EGEGIK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1977

| SAMPLE PERIOD | DATE | | AGE GROUP 42 | 43 | 52 | 53 | 63 | 64 | 74 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|
| MALES | | | | | | | | | | |
| 1 | 06/22- | COUNT | 177 | -- | 1,061 | 29,186 | 29,717 | 708 | 1,238 | 62,087 |
| | 06/29 | PERCENT | .28 | -- | 1.71 | 47.01 | 47.86 | 1.14 | 1.99 | 16.86 |
| 2 | 06/30- | COUNT | 1,286 | 643 | 7,075 | 177,516 | 111,912 | 5,146 | 2,573 | 306,151 |
| | 07/17 | PERCENT | .42 | .21 | 2.31 | 57.98 | 36.55 | 1.68 | .84 | 83.14 |
| COLUMN TOTALS | | COUNT | 1,463 | 643 | 8,136 | 206,702 | 141,629 | 5,854 | 3,811 | 368,238 |
| | | PERCENT | .40 | .17 | 2.21 | 56.13 | 38.46 | 1.59 | 1.04 | 100.00 |
| FEMALES | | | | | | | | | | |
| 1 | 06/22- | COUNT | -- | -- | 2,123 | 21,226 | 24,233 | 1,061 | 354 | 48,997 |
| | 06/29 | PERCENT | -- | -- | 4.33 | 43.32 | 49.46 | 2.17 | .72 | 15.11 |
| 2 | 06/30- | COUNT | 1,286 | -- | 5,145 | 154,362 | 108,054 | 6,432 | -- | 275,279 |
| | 07/17 | PERCENT | .47 | -- | 1.87 | 56.07 | 39.25 | 2.34 | -- | 84.89 |
| COLUMN TOTALS | | COUNT | 1,286 | -- | 7,268 | 175,588 | 132,287 | 7,493 | 354 | 324,276 |
| | | PERCENT | .40 | -- | 2.24 | 54.15 | 40.79 | 2.31 | .11 | 100.00 |
| SEXES COMBINED | | | | | | | | | | |
| 1 | 06/22- | COUNT | 177 | -- | 3,184 | 50,412 | 53,950 | 1,769 | 1,592 | 111,084 |
| | 06/29 | PERCENT | .16 | -- | 2.87 | 45.38 | 48.57 | 1.59 | 1.43 | 16.04 |
| 2 | 06/30- | COUNT | 2,572 | 643 | 12,220 | 331,878 | 219,966 | 11,578 | 2,573 | 581,430 |
| | 07/17 | PERCENT | .44 | .11 | 2.10 | 57.08 | 37.83 | 1.99 | .45 | 83.96 |
| COLUMN TOTALS | | COUNT | 2,749 | 643 | 15,404 | 382,290 | 273,916 | 13,347 | 4,165 | 692,514 |
| | | PERCENT | .40 | .09 | 2.23 | 55.20 | 39.55 | 1.93 | .60 | 100.00 |

UGASHIK DISTRICT

Pre-season fishery expectations for this district (Figure 4) indicated an inshore total return of only 257,000 sockeye salmon. Since the 500,000 escapement goal was twice the forecast of total return, no fishing time was anticipated during the emergency order period from 23 June to 17 July. Salmon production in Ugashik has exhibited a general downward trend in the past 10 years with the total run averaging less than 435,000 fish. Faced with the dim likelihood of fishing time, most Ugashik fishermen transferred to other districts once the early season king salmon run was over.

Sockeye catches were normally minimal prior to the beginning of the regulatory closure on 23 June. However, an unexpectedly large catch of over 26,000 sockeye was made just prior to the start of the regulatory closed period on 23 June. Since the Ugashik sockeye run normally peaks the second week of July and over 10% of the forecast return had already been harvested, the fishery was not re-opened for additional fishing time.

In the absence of a commercial fishery or a test fishing index program to aid in assessing in-season run strength, the Ugashik run development was monitored with daily intensive aerial survey flights to detect escapement trends in Ugashik River. Run development was continously and closely monitored throughout the season and despite the unexpectedly large season catches a run larger than forecast did not materialize. By 17 July only 167,000 fish were assured in the escapement, and since the run normally peaks before 10 July and with minimal fishing effort remaining in the area, an extension of the closure beyond the regulatory period of 17 July would ordinarily afford little additional protection to these stocks. Therefore, fishing was permitted to return to the usual schedule of 5 days per week after 17 July.

About 35 boats transferred to Ugashik in time to fish the first week after the end of the regulatory period. Catches during the first few days after the opening were again larger than would have been anticipated based on the observed strength of the run entering the river. During the first week of fishing following the month long closure, fishermen managed a catch of over 62,000 sockeye salmon, bringing the total season catch to 93,000 fish. Catches in the Ugashik District were considerably higher than would have been expected with the small run size and the complete closure of the fishery for a month during the middle of the run. The total sockeye run to the Ugashik River watershed amounted to 294,000 compared with a forecast inshore run of 257,000 and a 20-year average return of 759,000.

The final sockeye escapement to the Ugashik District totaled 201,000 fish and was only 40% of the optimum goal of 500,000. Although the final escapement was less than the desired level, it was the fourth largest escapement since 1971.

Age composition of the sockeye run to Ugashik this season was made up predominantly of 5-year-old fish (55%) from the 1972 brood year with a somewhat smaller contribution of 6-year-old fish (39%) from 1971. The 4-year-old component of the run from the 1973 brood year comprised only a minor portion of the run (6%). The average weight of commercial caught sockeye was 6.76 lb.

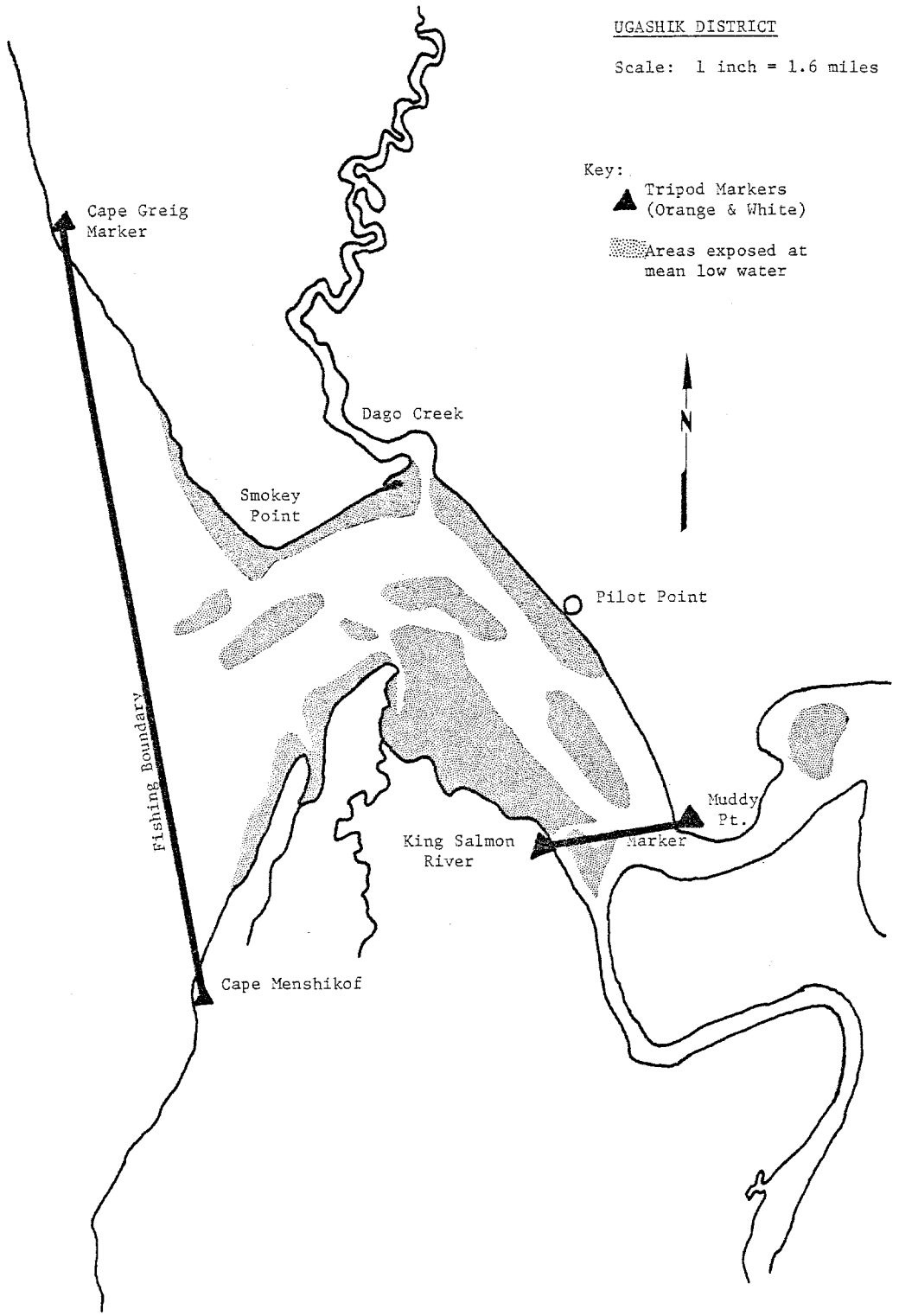


Figure 4. Ugashik District commercial fishing boundaries,1977

TABLE 24 UGASHIK RIVER CATCH AND ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION AND AGE GROUP, 1977

| | AGE GROUP | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 41 | 42 | 43 | 52 | 53 | 63 | 64 | 74 | TOTAL |
| CATCH | | | | | | | | | |
| MALES | | | | | | | | | |
| NUMBER | 316 | 1,897 | -- | 5,690 | 14,541 | 14,858 | -- | 316 | 37,618 |
| PERCENT | .84 | 5.04 | -- | 15.13 | 38.65 | 39.50 | -- | .84 | 40.61 |
| FEMALES | | | | | | | | | |
| NUMBER | 316 | 1,265 | -- | 16,754 | 11,380 | 25,290 | -- | -- | 55,005 |
| PERCENT | .57 | 2.30 | -- | 30.46 | 20.69 | 45.98 | -- | -- | 59.39 |
| SEXES COMBINED | | | | | | | | | |
| NUMBER | 632 | 3,162 | -- | 22,444 | 25,921 | 40,148 | -- | 316 | 92,623 |
| PERCENT | .68 | 3.41 | -- | 24.23 | 27.99 | 43.35 | -- | .34 | 100.00 |
| ESCAPEMENT | | | | | | | | | |
| MALES | | | | | | | | | |
| NUMBER | -- | 5,225 | -- | 14,325 | 43,124 | 36,772 | 263 | -- | 99,709 |
| PERCENT | -- | 5.24 | -- | 14.37 | 43.25 | 36.88 | .26 | -- | 49.49 |
| FEMALES | | | | | | | | | |
| NUMBER | -- | 7,407 | 263 | 14,814 | 41,507 | 37,523 | -- | 263 | 101,777 |
| PERCENT | -- | 7.28 | .26 | 14.55 | 40.78 | 36.87 | -- | .26 | 50.51 |
| SEXES COMBINED | | | | | | | | | |
| NUMBER | -- | 12,632 | 263 | 29,139 | 84,631 | 74,295 | 263 | 263 | 201,486 |
| PERCENT | -- | 6.27 | .13 | 14.46 | 42.00 | 36.88 | .13 | .13 | 100.00 |
| CATCH AND ESCAPEMENT | | | | | | | | | |
| MALES | | | | | | | | | |
| NUMBER | 316 | 7,122 | -- | 20,015 | 57,665 | 51,630 | 263 | 316 | 137,327 |
| PERCENT | .23 | 5.19 | -- | 14.57 | 41.99 | 37.60 | .19 | .23 | 46.69 |
| FEMALES | | | | | | | | | |
| NUMBER | 316 | 8,672 | 263 | 31,568 | 52,887 | 62,813 | -- | 263 | 156,782 |
| PERCENT | .20 | 5.53 | .17 | 20.14 | 33.73 | 40.06 | -- | .17 | 53.31 |
| SEXES COMBINED | | | | | | | | | |
| NUMBER | 632 | 15,794 | 263 | 51,583 | 110,552 | 114,443 | 263 | 579 | 294,109 |
| PERCENT | .21 | 5.37 | .09 | 17.54 | 37.59 | 38.91 | .09 | .20 | 100.00 |

TABLE 25 UGASHIK DISTRICT COMMERCIAL CATCH OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1977

| PERIOD NUMBER | DATE | NO. OF FISH SAMPLED | COUNT MALES | COUNT FEMALES | PERCENT MALES | PERCENT FEMALES | CATCH | NUMBER IN CATCH MALES | NUMBER IN CATCH FEMALES |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 06/06-07/30 | 293 | 119 | 174 | 40.61 | 59.39 | 92,623 | 37,618 | 55,005 |

TABLE 26 UGASHIK DISTRICT COMMERCIAL CATCH OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1977

| SAMPLE PERIOD | DATE | | AGE GROUP 41 | 42 | 52 | 53 | 63 | 74 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|
| MALES | | | | | | | | | |
| 1 | 06/06- | COUNT | 316 | 1,897 | 5,690 | 14,541 | 14,858 | 316 | 37,618 |
| | 07/30 | PERCENT | .84 | 5.04 | 15.13 | 38.66 | 39.50 | .84 | 100.00 |
| FEMALES | | | | | | | | | |
| 1 | 06/06- | COUNT | 316 | 1,265 | 16,754 | 11,380 | 25,290 | -- | 55,005 |
| | 07/30 | PERCENT | .57 | 2.30 | 30.46 | 20.69 | 45.98 | -- | 100.00 |
| SEXES COMBINED | | | | | | | | | |
| 1 | 06/06- | COUNT | 632 | 3,162 | 22,444 | 25,921 | 40,148 | 316 | 92,623 |
| | 07/30 | PERCENT | .68 | 3.41 | 24.23 | 27.99 | 43.35 | .34 | 100.00 |

TABLE 27 UGASHIK RIVER DAILY SOCKEYE SALMON ESCAPEMENT COUNTS, 1977

| DATE | DAILY COUNT | ACCUMULATIVE COUNT | DAILY PERCENT OF TOTAL | ACCUMULATIVE PERCENT |
|---|---|---|---|---|
| JULY 6 | 17,898 | 17,898 | 8.88 | 8.88 |
| 7 | 42,630 | 60,528 | 21.16 | 30.04 |
| 8 | 12,474 | 73,002 | 6.19 | 36.23 |
| 9 | 8,076 | 81,078 | 4.01 | 40.24 |
| 10 | 9,060 | 90,138 | 4.50 | 44.74 |
| 11 | 13,104 | 103,242 | 6.50 | 51.24 |
| 12 | 12,546 | 115,788 | 6.23 | 57.47 |
| 13 | 1,866 | 117,654 | 0.93 | 58.40 |
| 14 | 12,300 | 129,954 | 6.10 | 64.50 |
| 15 | 702 | 130,656 | 0.35 | 64.85 |
| 16 | 144 | 130,800 | 0.07 | 64.92 |
| 17 | 114 | 130,914 | 0.06 | 64.98 |
| 18 | 12 | 130,926 | 0.01 | 64.99 |
| 19 | 252 | 131,178 | 0.12 | 65.11 |
| 20 | 5,562 | 136,740 | 2.76 | 67.87 |
| 21 | 38,868 | 175,608 | 19.29 | 87.16 |
| 22 | 11,136 | 186,744 | 5.53 | 92.69 |
| 23 | 9,246 | 195,990 | 4.59 | 97.28 |
| 24 | 1,326 | 197,316 | 0.66 | 97.94 |
| 25 | 1,578 | 198,894 | 0.78 | 98.72 |
| 26 | 972 | 199,866 | 0.48 | 99.20 |
| 27 | 330 | 200,196 | 0.16 | 99.36 |
| 28 | 552 | 200,748 | 0.27 | 99.63 |
| 29 | 738 | 201,486 | 0.37 | 100.00 |

TABLE 28 UGASHIK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1977

| PERIOD NUMBER | DATE | NO. OF FISH SAMPLED | COUNT MALES | COUNT FEMALES | PERCENT MALES | PERCENT FEMALES | ESCAPEMENT | NUMBER IN ESCAPEMENT MALES | NUMBER IN ESCAPEMENT FEMALES |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 07/06-07/13 | 447 | 226 | 221 | 50.56 | 49.44 | 117,654 | 59,485 | 58,169 |
| 2 | 07/14-07/29 | 446 | 214 | 232 | 47.98 | 52.02 | 83,832 | 40,224 | 43,608 |
| TOTAL | | 893 | 440 | 453 | 49.49 | 50.51 | 201,486 | 99,709 | 101,777 |

TABLE 29 UGASHIK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1977

| SAMPLE PERIOD | DATE | | AGE GROUP 42 | 43 | 52 | 53 | 63 | 64 | 74 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|
| MALES | | | | | | | | | | |
| 1 | 07/06- | COUNT | 1,842 | -- | 11,318 | 21,320 | 24,742 | 263 | -- | 59,485 |
| | 07/13 | PERCENT | 3.10 | -- | 19.03 | 35.84 | 41.59 | .44 | -- | 59.66 |
| 2 | 07/14- | COUNT | 3,383 | -- | 3,007 | 21,804 | 12,030 | -- | -- | 40,224 |
| | 07/29 | PERCENT | 8.41 | -- | 7.48 | 54.21 | 29.91 | -- | -- | 40.34 |
| COLUMN | | COUNT | 5,225 | -- | 14,325 | 43,124 | 36,772 | 263 | -- | 99,709 |
| TOTALS | | PERCENT | 5.24 | -- | 14.37 | 43.25 | 36.88 | .26 | -- | 100.00 |
| FEMALES | | | | | | | | | | |
| 1 | 07/06- | COUNT | 4,211 | 263 | 11,055 | 20,267 | 22,110 | -- | 263 | 58,169 |
| | 07/13 | PERCENT | 7.24 | .45 | 19.00 | 34.84 | 38.01 | -- | .45 | 57.15 |
| 2 | 07/14- | COUNT | 3,196 | -- | 3,759 | 21,240 | 15,413 | -- | -- | 43,608 |
| | 07/29 | PERCENT | 7.33 | -- | 8.62 | 48.71 | 35.34 | -- | -- | 42.85 |
| COLUMN | | COUNT | 7,407 | 263 | 14,814 | 41,507 | 37,523 | -- | 263 | 101,777 |
| TOTALS | | PERCENT | 7.28 | .26 | 14.55 | 40.78 | 36.87 | -- | .26 | 100.00 |
| SEXES COMBINED | | | | | | | | | | |
| 1 | 07/06- | COUNT | 6,053 | 263 | 22,373 | 41,587 | 46,852 | 263 | 263 | 117,654 |
| | 07/13 | PERCENT | 5.15 | .22 | 19.02 | 35.35 | 39.82 | .22 | .22 | 58.39 |
| 2 | 07/14- | COUNT | 6,579 | -- | 6,766 | 43,044 | 27,443 | -- | -- | 83,832 |
| | 07/29 | PERCENT | 7.85 | -- | 8.07 | 51.34 | 32.74 | -- | -- | 41.61 |
| COLUMN | | COUNT | 12,632 | 263 | 29,139 | 84,631 | 74,295 | 263 | 263 | 201,486 |
| TOTALS | | PERCENT | 6.27 | .13 | 14.46 | 42.00 | 36.88 | .13 | .13 | 100.00 |

## NUSHAGAK DISTRICT

The pre-season inshore sockeye salmon forecast to Nushagak District (Figure 5) called for a return of 1.7 million fish with a probable harvest of 450,000 after escapement requirements were met. Limited fishing time was expected in this district, and, like the Naknek-Kvichak District, the management approach called for complete closure of the Nushagak section until Wood and Nuyakuk River escapement requirements were obtained. Limited fishing time was anticipated in the Igushik section where the forecast was 258,000 fish in excess of escapement goals.

Early season fishing periods were allowed in the Igushik section to test incoming run strength to the Igushik River system. Three 12-hour periods between 24-30 June produced a harvest of only 111,000 sockeye. This relatively low catch further substantiated the weak forecast for this district.

Significant buildup of sockeye commenced in the Nushagak section as early as 26 June; however, scale pattern analysis and daily escapement trends in Wood River showed these fish to be primarily of Nuyakuk River origin. Since all Nuyakuk fish were needed for escapement, the Nushagak section remained closed.

By 29 June Wood River escapement trends had increased dramatically, and test boat catches and aerial surveillance all indicated a strong show of fish in the inner district. A 12-hour period was announced for 1 July for the entire district, and both peak catches and fishing effort occurred during this period. The 1 July catch of over 257,000 sockeye brought the season total to 376,000 fish.

After heavy fishing success on 1 July, all river system daily escapements leveled off, and a district-wide extended closure was required to bring the escapements into the management range.

Further scale analysis of the Wood River sockeye escapement showed that a much larger proportion (73%) of 5-year-old fish were returning than anticipated. Based on the high proportion of older fish, the Wood River escapement goal was lowered in-season from 800,000 to 500-600,000 to account for the expected spawning ground distribution of the 5-year-old fish.

By 9 July the Wood River escapement was adequate to allow additional fishing time on remaining sockeye in the district, as well as to harvest what was approaching a record breaking chum salmon run. As in the Ugashik District, sockeye catches after 10 July were larger than would have been anticipated based on the observed strength of the run entering the district. An additional 243,000 sockeye were caught after 10 July along with 677,000 chum salmon. The Nushagak District produced a final catch of 619,000 sockeye, above the forecast of 450,000, but well below the average catch of 943,000 for this district.

Sockeye escapements into all river systems of Nushagak District amounted to 1.2 million fish and was equal to district-wide escapement goals. Both Wood and Nuyakuk Rivers received near optimum escapements, 562,000 to 233,000 respectively. Escapement to Igushik River (96,000) fell just below the management range, while the Nushagak-Mulchatna system escapement of 313,000 fish established a new record high. The total sockeye return to Nushagak District in 1977 of 1.8 million accounted for 19% of the total Bay run.

Age composition of the sockeye run to the Nushagak District in 1977 was composed primarily of 5-year-old fish (68%) from the 1972 brood year with lesser contributions from 4 and 6-year-old fish (19% and 13%, respectively). The average weight of commercially caught sockeye was 7.49 lb for this district.

The Nushagak District sockeye catch was apportioned to the various river systems in a similar manner to that applied to Naknek-Kvichak mixed stocks.

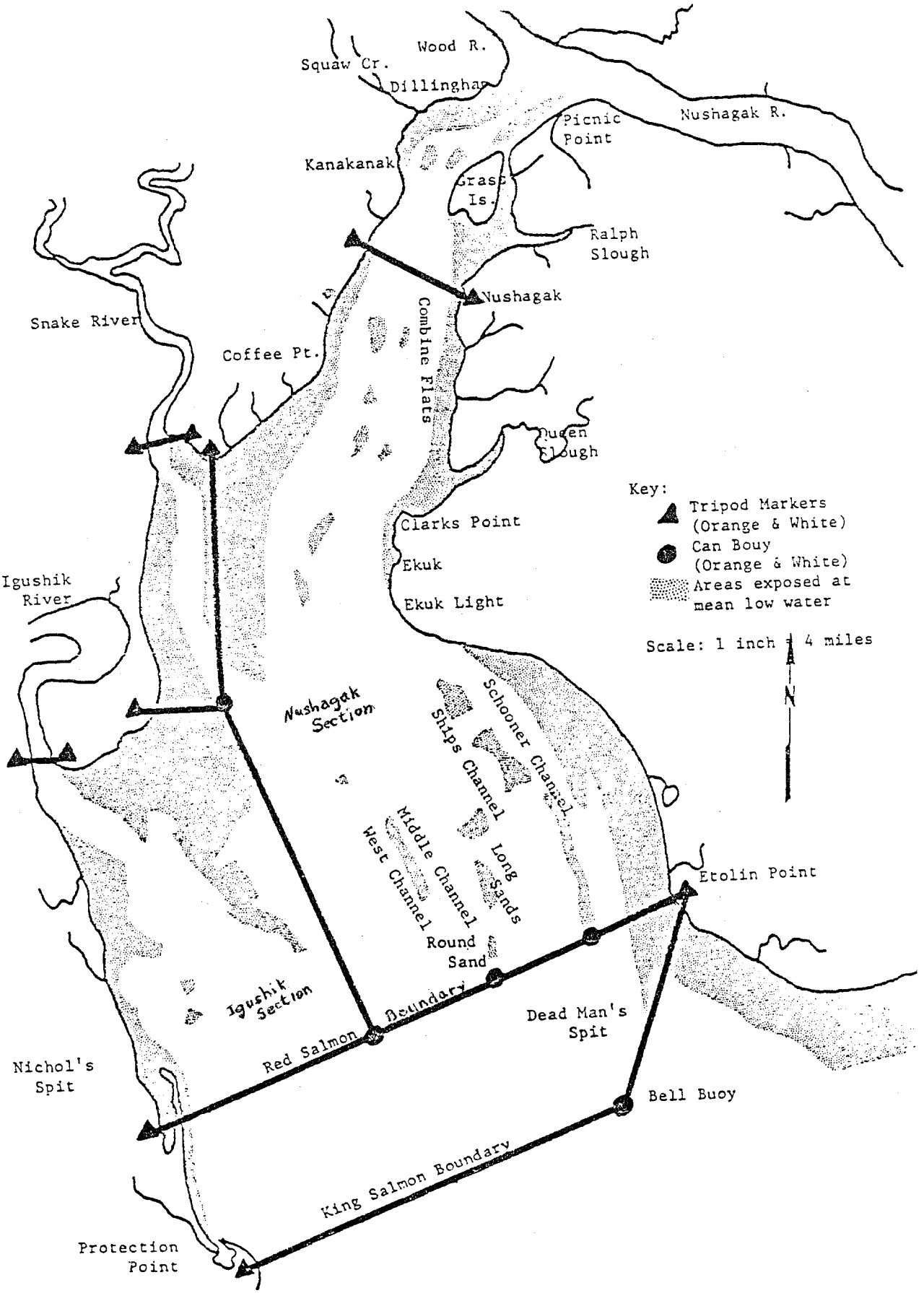


Figure 5. Nushagak-Igushik District commercial fishing boundaries, 1977.

TABLE 30 NUSHAGAK-IGUSHIK DISTRICT INSHORE RETURN OF SOCKEYE SALMON, SEX COMPOSITION AND AGE GROUP, 1977

| | AGE GROUP | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 31 | 32 | 41 | 42 | 51 | 52 | 53 | 62 | 63 | 73 | TOTAL |
| MALES | | | | | | | | | | | |
| ESCAPEMENT | 783 | 3,455 | 15,794 | 139,073 | 2,978 | 402,022 | 27,534 | 360 | 82,162 | -- | 674,161 |
| CATCH | 24 | -- | 6,513 | 27,764 | -- | 185,567 | 7,858 | 469 | 32,625 | 7 | 260,827 |
| TOTAL | 807 | 3,455 | 22,307 | 166,837 | 2,978 | 587,589 | 35,392 | 829 | 114,787 | 7 | 934,988 |
| PERCENT | .09 | .37 | 2.39 | 17.84 | .32 | 62.84 | 3.78 | .09 | 12.28 | -- | 51.03 |
| FEMALES | | | | | | | | | | | |
| ESCAPEMENT | 783 | 3,869 | 16,100 | 105,282 | 2,978 | 310,779 | 22,699 | 41 | 76,434 | -- | 538,965 |
| CATCH | 23 | -- | 13,320 | 24,754 | 59 | 272,163 | 6,203 | 1,115 | 40,555 | 6 | 358,198 |
| TOTAL | 806 | 3,869 | 29,420 | 130,036 | 3,037 | 582,942 | 28,902 | 1,156 | 116,989 | 6 | 897,163 |
| PERCENT | .09 | .43 | 3.28 | 14.49 | .34 | 64.98 | 3.22 | .13 | 13.04 | -- | 48.97 |
| SEXES COMBINED | | | | | | | | | | | |
| ESCAPEMENT | 1,566 | 7,324 | 31,894 | 244,355 | 5,956 | 712,801 | 50,233 | 401 | 158,596 | -- | 1,213,126 |
| CATCH | 47 | -- | 19,833 | 52,518 | 59 | 457,730 | 14,061 | 1,584 | 73,180 | 13 | 619,025 |
| TOTAL | 1,613 | 7,324 | 51,727 | 296,873 | 6,015 | 1,170,531 | 64,294 | 1,985 | 231,776 | 13 | 1,832,151 |
| PERCENT | .09 | .40 | 2.82 | 16.20 | .33 | 63.89 | 3.51 | .11 | 12.65 | -- | 100.00 |

TABLE 31 NUSHAGAK SECTION COMMERCIAL CATCH OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1977

| PERIOD NUMBER | DATE | NO. OF FISH SAMPLED | COUNT MALES | COUNT FEMALES | PERCENT MALES | PERCENT FEMALES | CATCH | NUMBER IN CATCH MALES | NUMBER IN CATCH FEMALES |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 06/06-07/09 | 558 | 254 | 304 | 45.52 | 54.48 | 352,881 | 160,630 | 192,251 |
| 2 | 07/10-08/13 | 545 | 195 | 350 | 35.78 | 64.22 | 208,499 | 74,601 | 133,898 |
| TOTAL | | 1,103 | 449 | 654 | 41.90 | 58.10 | 561,380 | 235,231 | 326,149 |

TABLE 32 NUSHAGAK SECTION COMMERICAL CATCH OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1977

| SAMPLE PERIOD | DATE | | AGE GROUP 41 | 42 | 52 | 53 | 62 | 63 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|
| MALES | | | | | | | | | |
| 1 | 06/06-07/09 | COUNT | 5,691 | 13,913 | 120,789 | 4,427 | -- | 15,810 | 160,630 |
| | | PERCENT | 3.54 | 8.66 | 75.20 | 2.76 | -- | 9.84 | 68.29 |
| 2 | 07/10-08/13 | COUNT | 383 | 11,860 | 46,673 | 3,060 | 383 | 12,242 | 74,601 |
| | | PERCENT | .51 | 15.90 | 62.56 | 4.10 | .51 | 16.41 | 31.71 |
| COLUMN TOTALS | | COUNT | 6,074 | 25,773 | 167,462 | 7,487 | 383 | 28,052 | 235,231 |
| | | PERCENT | 2.58 | 10.96 | 71.19 | 3.18 | .16 | 11.93 | 100.00 |
| FEMALES | | | | | | | | | |
| 1 | 06/06-07/09 | COUNT | 7,589 | 12,648 | 144,821 | 2,530 | 632 | 24,031 | 192,251 |
| | | PERCENT | 3.95 | 6.58 | 75.33 | 1.32 | .33 | 12.50 | 58.95 |
| 2 | 07/10-08/13 | COUNT | 4,973 | 10,712 | 104,058 | 2,678 | 383 | 11,094 | 133,898 |
| | | PERCENT | 3.71 | 8.00 | 77.71 | 2.00 | .29 | 8.29 | 41.05 |
| COLUMN TOTALS | | COUNT | 12,562 | 23,360 | 248,879 | 5,208 | 1,015 | 35,125 | 326,149 |
| | | PERCENT | 3.85 | 7.16 | 76.31 | 1.60 | .31 | 10.77 | 100.00 |
| SEXES COMBINED | | | | | | | | | |
| 1 | 06/06-07/09 | COUNT | 13,280 | 26,561 | 265,610 | 6,957 | 632 | 39,841 | 352,881 |
| | | PERCENT | 3.76 | 7.53 | 75.27 | 1.97 | .18 | 11.29 | 62.86 |
| 2 | 07/10-08/13 | COUNT | 5,356 | 22,572 | 150,731 | 5,738 | 766 | 23,336 | 208,499 |
| | | PERCENT | 2.57 | 10.83 | 72.29 | 2.75 | .37 | 11.19 | 37.14 |
| COLUMN TOTALS | | COUNT | 18,636 | 49,133 | 416,341 | 12,695 | 1,398 | 63,177 | 561,380 |
| | | PERCENT | 3.32 | 8.75 | 74.16 | 2.26 | .25 | 11.26 | 100.00 |

TABLE 33 IGUSHIK SECTION COMMERCIAL CATCH OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1977

| PERIOD NUMBER | DATE | NO. OF FISH SAMPLED | COUNT MALES | COUNT FEMALES | PERCENT MALES | PERCENT FEMALES | CATCH | NUMBER IN CATCH MALES | NUMBER IN CATCH FEMALES |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 06/06-06/29 | 781 | 355 | 426 | 45.45 | 54.55 | 10,437 | 4,744 | 5,693 |
| 2 | 06/30-08/13 | 1,018 | 450 | 568 | 44.20 | 55.80 | 47,208 | 20,868 | 26,340 |
| TOTAL | | 1,799 | 805 | 994 | 44.43 | 55.57 | 57,645 | 25,612 | 32,033 |

TABLE 34 IGUSHIK SECTION COMMERICAL CATCH OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1977

| SAMPLE PERIOD | DATE | | AGE GROUP 31 | 41 | 42 | 51 | 52 | 53 | 62 | 63 | 73 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MALES | | | | | | | | | | | | |
| 1 | 06/06- | COUNT | -- | 161 | 414 | -- | 3,822 | -- | 40 | 307 | -- | 4,744 |
| | 06/29 | PERCENT | -- | 3.38 | 8.73 | -- | 80.56 | -- | .85 | 6.48 | -- | 18.52 |
| 2 | 06/30- | COUNT | 47 | 278 | 1,577 | -- | 14,283 | 371 | 46 | 4,266 | -- | 20,868 |
| | 08/13 | PERCENT | .22 | 1.33 | 7.56 | -- | 68.44 | 1.78 | .22 | 20.44 | -- | 81.48 |
| COLUMN TOTALS | | COUNT | 47 | 439 | 1,991 | -- | 18,105 | 371 | 86 | 4,573 | -- | 25,612 |
| | | PERCENT | .18 | 1.71 | 7.77 | -- | 70.69 | 1.45 | .34 | 17.86 | -- | 100.00 |
| FEMALES | | | | | | | | | | | | |
| 1 | 06/06- | COUNT | -- | 294 | 281 | 13 | 4,410 | 67 | 54 | 561 | 13 | 5,693 |
| | 06/29 | PERCENT | -- | 5.16 | 4.93 | .23 | 77.46 | 1.17 | .94 | 9.86 | .23 | 17.77 |
| 2 | 06/30- | COUNT | -- | 464 | 1,113 | 46 | 18,874 | 928 | 46 | 4,869 | -- | 26,340 |
| | 08/13 | PERCENT | -- | 1.76 | 4.23 | .18 | 71.65 | 3.52 | .18 | 18.49 | -- | 82.23 |
| COLUMN TOTALS | | COUNT | -- | 758 | 1,394 | 59 | 23,284 | 995 | 100 | 5,430 | 13 | 32,033 |
| | | PERCENT | -- | 2.37 | 4.35 | .18 | 72.69 | 3.11 | .31 | 16.95 | .04 | 100.00 |
| SEXES COMBINED | | | | | | | | | | | | |
| 1 | 06/06- | COUNT | -- | 455 | 695 | 13 | 8,232 | 67 | 94 | 868 | 13 | 10,437 |
| | 06/29 | PERCENT | -- | 4.36 | 6.66 | .13 | 78.87 | .64 | .90 | 8.32 | .12 | 18.11 |
| 2 | 06/30- | COUNT | 47 | 742 | 2,690 | 46 | 33,157 | 1,299 | 92 | 9,135 | -- | 47,208 |
| | 08/13 | PERCENT | .10 | 1.57 | 5.70 | .10 | 70.24 | 2.75 | .19 | 19.35 | -- | 81.89 |
| COLUMN TOTALS | | COUNT | 47 | 1,197 | 3,385 | 59 | 41,389 | 1,366 | 186 | 10,003 | 13 | 57,645 |
| | | PERCENT | .08 | 2.08 | 5.87 | .10 | 71.80 | 2.37 | .32 | 17.36 | .02 | 100.00 |

TABLE 35 WOOD RIVER APPORTIONED CATCH AND ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION AND AGE GROUP, 1977

| | AGE GROUP | | | | | | |
|---|---|---|---|---|---|---|---|
| | 32 | 41 | 42 | 52 | 53 | 63 | TOTAL |
| CATCH | | | | | | | |
| MALES | | | | | | | |
| NUMBER | -- | 638 | 18,848 | 97,517 | 2,871 | 9,219 | 129,093 |
| PERCENT | -- | .50 | 14.60 | 75.54 | 2.22 | 7.14 | 48.97 |
| FEMALES | | | | | | | |
| NUMBER | -- | 640 | 15,648 | 107,079 | 2,115 | 9,033 | 134,515 |
| PERCENT | -- | .48 | 11.63 | 79.60 | 1.57 | 6.72 | 51.03 |
| SEXES COMBINED | | | | | | | |
| NUMBER | -- | 1,278 | 34,496 | 204,596 | 4,986 | 18,252 | 263,608 |
| PERCENT | -- | .49 | 13.09 | 77.61 | 1.89 | 6.92 | 100.00 |
| ESCAPEMENT | | | | | | | |
| MALES | | | | | | | |
| NUMBER | 3,095 | 1,548 | 94,412 | 211,266 | 10,060 | 23,216 | 343,597 |
| PERCENT | .90 | .45 | 27.48 | 61.48 | 2.93 | 6.76 | 61.16 |
| FEMALES | | | | | | | |
| NUMBER | 3,869 | 774 | 66,553 | 122,271 | 7,739 | 17,025 | 218,231 |
| PERCENT | 1.77 | .35 | 30.50 | 56.03 | 3.55 | 7.80 | 38.84 |
| SEXES COMBINED | | | | | | | |
| NUMBER | 6,964 | 2,322 | 160,965 | 333,537 | 17,799 | 40,241 | 561,828 |
| PERCENT | 1.24 | .41 | 28.65 | 59.37 | 3.17 | 7.16 | 100.00 |
| CATCH AND ESCAPEMENT | | | | | | | |
| MALES | | | | | | | |
| NUMBER | 3,095 | 2,186 | 113,260 | 308,783 | 12,931 | 32,435 | 472,690 |
| PERCENT | .66 | .46 | 23.96 | 65.32 | 2.74 | 6.86 | 57.27 |
| FEMALES | | | | | | | |
| NUMBER | 3,869 | 1,414 | 82,201 | 229,350 | 9,854 | 26,058 | 352,746 |
| PERCENT | 1.10 | .40 | 23.30 | 65.02 | 2.79 | 7.39 | 42.73 |
| SEXES COMBINED | | | | | | | |
| NUMBER | 6,964 | 3,600 | 195,461 | 538,133 | 22,785 | 58,493 | 825,436 |
| PERCENT | .84 | .44 | 23.68 | 65.19 | 2.76 | 7.09 | 100.00 |

TABLE 36 WOOD RIVER DAILY SOCKEYE SALMON ESCAPEMENT COUNTS, 1977

| DATE | | DAILY COUNT | ACCUMULATIVE COUNT | DAILY PERCENT OF TOTAL | ACCUMULATIVE PERCENT |
|---|---|---|---|---|---|
| JUNE | 21 | 42 | 42 | 0.01 | 0.01 |
| | 22 | 354 | 396 | 0.06 | 0.07 |
| | 23 | 774 | 1,170 | 0.14 | 0.21 |
| | 24 | 204 | 1,374 | 0.04 | 0.25 |
| | 25 | 2,778 | 4,152 | 0.49 | 0.74 |
| | 26 | 4,230 | 8,382 | 0.75 | 1.49 |
| | 27 | 3,474 | 11,856 | 0.62 | 2.11 |
| | 28 | 8,400 | 20,256 | 1.49 | 3.60 |
| | 29 | 39,066 | 59,322 | 6.95 | 10.55 |
| | 30 | 61,734 | 121,056 | 10.99 | 21.54 |
| JULY | 1 | 49,530 | 170,586 | 8.82 | 30.36 |
| | 2 | 20,886 | 191,472 | 3.72 | 34.08 |
| | 3 | 33,882 | 225,354 | 6.03 | 40.11 |
| | 4 | 73,062 | 298,416 | 13.00 | 53.11 |
| | 5 | 64,782 | 363,198 | 11.53 | 64.64 |
| | 6 | 27,912 | 391,110 | 4.97 | 69.61 |
| | 7 | 38,280 | 429,390 | 6.81 | 76.42 |
| | 8 | 24,732 | 454,122 | 4.40 | 80.82 |
| | 9 | 24,822 | 478,944 | 4.42 | 85.24 |
| | 10 | 23,538 | 502,482 | 4.19 | 89.43 |
| | 11 | 7,170 | 509,652 | 1.28 | 90.71 |
| | 12 | 4,920 | 514,572 | 0.88 | 91.59 |
| | 13 | 22,494 | 537,066 | 4.00 | 95.59 |
| | 14 | 13,110 | 550,176 | 2.33 | 97.92 |
| | 15 | 2,838 | 553,014 | 0.50 | 98.42 |
| | 16 | 1,404 | 554,418 | 0.25 | 98.67 |
| | 17 | 1,590 | 556,008 | 0.28 | 98.95 |
| | 18 | 2,052 | 558,060 | 0.37 | 99.32 |
| | 19 | 1,434 | 559,494 | 0.26 | 99.58 |
| | 20 | 1,056 | 560,550 | 0.19 | 99.77 |
| | 21 | 1,068 | 561,618 | 0.19 | 99.96 |
| | 22 | 210 | 561,828 | 0.04 | 100.00 |

TABLE 37 WOOD RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1977

| PERIOD NUMBER | DATE | NO. OF FISH SAMPLED | COUNT | | PERCENT | | ESCAPEMENT | NUMBER IN ESCAPEMENT | |
|---|---|---|---|---|---|---|---|---|---|
| | | | MALES | FEMALES | MALES | FEMALES | | MALES | FEMALES |
| 1 | 06/21-07/22 | 726 | 444 | 282 | 61.16 | 38.84 | 561,828 | 343,597 | 218,231 |

TABLE 38 WOOD RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1977

| SAMPLE PERIOD | DATE | | AGE GROUP 32 | 41 | 42 | 52 | 53 | 63 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|
| MALES | | | | | | | | | |
| 1 | 06/21-07/22 | COUNT | 3,095 | 1,548 | 94,412 | 211,266 | 10,060 | 23,216 | 343,597 |
| | | PERCENT | .90 | .45 | 27.48 | 61.49 | 2.93 | 6.76 | 100.00 |
| FEMALES | | | | | | | | | |
| 1 | 06/21-07/22 | COUNT | 3,869 | 774 | 66,553 | 122,271 | 7,739 | 17,025 | 218,231 |
| | | PERCENT | 1.77 | .35 | 30.50 | 56.03 | 3.55 | 7.80 | 100.00 |
| SEXES COMBINED | | | | | | | | | |
| 1 | 06/21-07/22 | COUNT | 6,964 | 2,322 | 160,965 | 333,537 | 17,799 | 40,241 | 561,828 |
| | | PERCENT | 1.24 | .41 | 28.65 | 59.37 | 3.17 | 7.16 | 100.00 |

TABLE 39 IGUSHIK RIVER APPORTIONED CATCH AND ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION AND AGE GROUP, 1977

| | AGE GROUP | | | | | | |
|---|---|---|---|---|---|---|---|
| | 31 | 42 | 52 | 53 | 63 | 73 | TOTAL |
| CATCH | | | | | | | |
| MALES | | | | | | | |
| NUMBER | 24 | 1,914 | 13,273 | 855 | 2,807 | 7 | 18,880 |
| PERCENT | .13 | 10.14 | 70.30 | 4.53 | 14.87 | .03 | 35.67 |
| FEMALES | | | | | | | |
| NUMBER | 23 | 1,240 | 27,176 | 393 | 5,213 | 6 | 34,051 |
| PERCENT | .07 | 3.64 | 79.81 | 1.15 | 15.31 | .02 | 64.33 |
| SEXES COMBINED | | | | | | | |
| NUMBER | 47 | 3,154 | 40,449 | 1,248 | 8,020 | 13 | 52,931 |
| PERCENT | .09 | 5.96 | 76.42 | 2.36 | 15.15 | .02 | 100.00 |
| ESCAPEMENT | | | | | | | |
| MALES | | | | | | | |
| NUMBER | -- | 9,585 | 28,755 | 2,995 | 7,069 | -- | 48,404 |
| PERCENT | -- | 19.80 | 59.41 | 6.19 | 14.60 | -- | 50.44 |
| FEMALES | | | | | | | |
| NUMBER | -- | 5,272 | 31,032 | 1,438 | 9,824 | -- | 47,566 |
| PERCENT | -- | 11.09 | 65.24 | 3.02 | 20.65 | -- | 49.56 |
| SEXES COMBINED | | | | | | | |
| NUMBER | -- | 14,857 | 59,787 | 4,433 | 16,893 | -- | 95,970 |
| PERCENT | -- | 15.48 | 62.30 | 4.62 | 17.60 | -- | 100.00 |
| CATCH AND ESCAPEMENT | | | | | | | |
| MALES | | | | | | | |
| NUMBER | 24 | 11,499 | 42,028 | 3,850 | 9,876 | 7 | 67,284 |
| PERCENT | .04 | 17.09 | 62.46 | 5.72 | 14.68 | .01 | 45.19 |
| FEMALES | | | | | | | |
| NUMBER | 23 | 6,512 | 58,208 | 1,831 | 15,037 | 6 | 81,617 |
| PERCENT | .03 | 7.98 | 71.32 | 2.24 | 18.42 | .01 | 54.81 |
| SEXES COMBINED | | | | | | | |
| NUMBER | 47 | 18,011 | 100,236 | 5,681 | 24,913 | 13 | 148,901 |
| PERCENT | .03 | 12.10 | 67.32 | 3.81 | 16.73 | .01 | 100.00 |

TABLE 40 IGUSHIK RIVER DAILY SOCKEYE SALMON ESCAPEMENT COUNTS, 1977

| DATE | DAILY COUNT | ACCUMULATIVE COUNT | DAILY PERCENT OF TOTAL | ACCUMULATIVE PERCENT |
|---|---|---|---|---|
| JUNE 24 | 384 | 384 | 0.40 | 0.40 |
| 25 | 516 | 900 | 0.54 | 0.94 |
| 26 | 408 | 1,308 | 0.42 | 1.36 |
| 27 | 660 | 1,968 | 0.69 | 2.05 |
| 28 | 1,812 | 3,780 | 1.89 | 3.94 |
| 29 | 2,388 | 6,168 | 2.49 | 6.43 |
| 30 | 3,342 | 9,510 | 3.48 | 9.91 |
| JULY 1 | 4,116 | 13,626 | 4.29 | 14.20 |
| 2 | 4,428 | 18,054 | 4.61 | 18.81 |
| 3 | 2,730 | 20,784 | 2.84 | 21.65 |
| 4 | 2,982 | 23,766 | 3.11 | 24.76 |
| 5 | 3,912 | 27,678 | 4.08 | 28.84 |
| 6 | 3,510 | 31,188 | 3.66 | 32.50 |
| 7 | 2,790 | 33,978 | 2.91 | 35.41 |
| 8 | 9,408 | 43,386 | 9.80 | 45.21 |
| 9 | 13,242 | 56,628 | 13.80 | 59.01 |
| 10 | 7,422 | 64,050 | 7.73 | 66.74 |
| 11 | 9,054 | 73,104 | 9.43 | 76.17 |
| 12 | 5,838 | 78,942 | 6.08 | 82.25 |
| 13 | 3,570 | 82,512 | 3.72 | 85.97 |
| 14 | 2,400 | 84,912 | 2.50 | 88.47 |
| 15 | 3,402 | 88,314 | 3.54 | 92.01 |
| 16 | 2,814 | 91,128 | 2.93 | 94.94 |
| 17 | 1,404 | 92,532 | 1.46 | 96.40 |
| 18 | 1,206 | 93,738 | 1.26 | 97.66 |
| 19 | 612 | 94,350 | 0.64 | 98.30 |
| 20 | 630 | 94,980 | 0.66 | 98.96 |
| 21 | 648 | 95,628 | 0.68 | 99.64 |
| 22 | 342 | 95,970 | 0.36 | 100.00 |

TABLE 41 IGUSHIK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1977

| PERIOD NUMBER | DATE | NO. OF FISH SAMPLED | COUNT | | PERCENT | | ESCAPEMENT | NUMBER IN ESCAPEMENT | |
|---|---|---|---|---|---|---|---|---|---|
| | | | MALES | FEMALES | MALES | FEMALES | | MALES | FEMALES |
| 1 | 06/24-07/22 | 801 | 404 | 397 | 50.44 | 49.56 | 95,970 | 48,404 | 47,566 |

TABLE 42 IGUSHIK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1977

| SAMPLE PERIOD | DATE | | AGE GROUP 42 | 52 | 53 | 63 | TOTAL |
|---|---|---|---|---|---|---|---|
| MALES | | | | | | | |
| 1 | 06/24- | COUNT | 9,585 | 28,755 | 2,995 | 7,069 | 48,404 |
| | 07/22 | PERCENT | 19.80 | 59.41 | 6.19 | 14.60 | 100.00 |
| FEMALES | | | | | | | |
| 1 | 06/24- | COUNT | 5,272 | 31,032 | 1,438 | 9,824 | 47,566 |
| | 07/22 | PERCENT | 11.08 | 65.24 | 3.02 | 20.65 | 100.00 |
| SEXES COMBINED | | | | | | | |
| 1 | 06/24- | COUNT | 14,857 | 59,787 | 4,433 | 16,893 | 95,970 |
| | 07/22 | PERCENT | 15.48 | 62.30 | 4.62 | 17.60 | 100.00 |

TABLE 43 NUYAKUK RIVER APPORTIONED CATCH AND ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION AND AGE GROUP, 1977

| | AGE GROUP | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 32 | 41 | 42 | 52 | 53 | 62 | 63 | TOTAL |
| CATCH | | | | | | | | |
| MALES | | | | | | | | |
| NUMBER | -- | 445 | 3,162 | 38,883 | 1,337 | 469 | 5,718 | 50,014 |
| PERCENT | -- | .89 | 6.32 | 77.75 | 2.67 | .94 | 11.43 | 37.72 |
| FEMALES | | | | | | | | |
| NUMBER | -- | 1,787 | 3,132 | 69,988 | 984 | -- | 6,685 | 82,576 |
| PERCENT | -- | 2.16 | 3.79 | 84.76 | 1.19 | -- | 8.10 | 62.28 |
| SEXES COMBINED | | | | | | | | |
| NUMBER | -- | 2,232 | 6,294 | 108,871 | 2,321 | 469 | 12,403 | 132,590 |
| PERCENT | -- | 1.68 | 4.75 | 82.11 | 1.75 | .35 | 9.36 | 100.00 |
| ESCAPEMENT | | | | | | | | |
| MALES | | | | | | | | |
| NUMBER | 360 | 1,080 | 15,839 | 84,238 | 4,680 | 360 | 14,400 | 120,957 |
| PERCENT | .30 | .89 | 13.09 | 69.64 | 3.87 | .30 | 11.91 | 52.01 |
| FEMALES | | | | | | | | |
| NUMBER | -- | 2,160 | 13,319 | 79,918 | 3,600 | -- | 12,600 | 111,597 |
| PERCENT | -- | 1.94 | 11.93 | 71.61 | 3.23 | -- | 11.29 | 47.99 |
| SEXES COMBINED | | | | | | | | |
| NUMBER | 360 | 3,240 | 29,158 | 164,156 | 8,280 | 360 | 27,000 | 232,554 |
| PERCENT | .16 | 1.39 | 12.54 | 70.59 | 3.56 | .15 | 11.61 | 100.00 |
| CATCH AND ESCAPEMENT | | | | | | | | |
| MALES | | | | | | | | |
| NUMBER | 360 | 1,525 | 19,001 | 123,121 | 6,017 | 829 | 20,118 | 170,971 |
| PERCENT | .21 | .89 | 11.11 | 72.01 | 3.52 | .49 | 11.77 | 46.82 |
| FEMALES | | | | | | | | |
| NUMBER | -- | 3,947 | 16,451 | 149,906 | 4,584 | -- | 19,285 | 194,173 |
| PERCENT | -- | 2.04 | 8.47 | 77.20 | 2.36 | -- | 9.93 | 53.18 |
| SEXES COMBINED | | | | | | | | |
| NUMBER | 360 | 5,472 | 35,452 | 273,027 | 10,601 | 829 | 39,403 | 365,144 |
| PERCENT | .10 | 1.50 | 9.71 | 74.77 | 2.90 | .23 | 10.79 | 100.00 |

TABLE 44 NUYAKUK RIVER DAILY SOCKEYE SALMON ESCAPEMENT COUNTS, 1977

| DATE | | DAILY COUNT | ACCUMULATIVE COUNT | DAILY PERCENT OF TOTAL | ACCUMULATIVE PERCENT |
|---|---|---|---|---|---|
| JULY | 5 | 6 | 6 | 0. | 0. |
| | 8 | 36 | 42 | 0.01 | 0.01 |
| | 9 | 540 | 582 | 0.23 | 0.24 |
| | 10 | 43,344 | 43,926 | 18.64 | 18.88 |
| | 11 | 45,492 | 89,418 | 19.56 | 38.44 |
| | 12 | 30,432 | 119,850 | 13.09 | 51.53 |
| | 13 | 17,496 | 137,346 | 7.52 | 59.05 |
| | 14 | 14,088 | 151,434 | 6.06 | 65.11 |
| | 15 | 8,670 | 160,104 | 3.73 | 68.84 |
| | 16 | 7,890 | 167,994 | 3.39 | 72.23 |
| | 17 | 8,178 | 176,172 | 3.52 | 75.75 |
| | 18 | 8,442 | 184,614 | 3.63 | 79.38 |
| | 19 | 6,888 | 191,502 | 2.96 | 82.34 |
| | 20 | 7,212 | 198,714 | 3.10 | 85.44 |
| | 21 | 4,704 | 203,418 | 2.02 | 87.46 |
| | 22 | 2,196 | 205,614 | 0.94 | 88.40 |
| | 23 | 696 | 206,310 | 0.30 | 88.70 |
| | 24 | 2,352 | 208,662 | 1.01 | 89.71 |
| | 25 | 1,572 | 210,234 | 0.68 | 90.39 |
| | 26 | 2,256 | 212,490 | 0.97 | 91.36 |
| | 27 | 1,656 | 214,146 | 0.71 | 92.07 |
| | 28 | 2,106 | 216,252 | 0.91 | 92.98 |
| | 29 | 3,156 | 219,408 | 1.36 | 94.34 |
| | 30 | 1,416 | 220,824 | 0.61 | 94.95 |
| | 31 | 2,412 | 223,236 | 1.04 | 95.99 |
| AUG. | 1 | 2,700 | 225,936 | 1.16 | 97.15 |
| | 2 | 1,482 | 227,418 | 0.64 | 97.79 |
| | 3 | 1,758 | 229,176 | 0.76 | 98.55 |
| | 4 | 1,752 | 230,928 | 0.75 | 99.30 |
| | 5 | 1,356 | 232,284 | 0.58 | 99.88 |
| | 6 | 270 | 232,554 | 0.12 | 100.00 |

TABLE 45 NUYAKUK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1977

| PERIOD NUMBER | DATE | NO. OF FISH SAMPLED | COUNT MALES | COUNT FEMALES | PERCENT MALES | PERCENT FEMALES | ESCAPEMENT | NUMBER IN ESCAPEMENT MALES | NUMBER IN ESCAPEMENT FEMALES |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 07/05-08/06 | 646 | 336 | 310 | 52.01 | 47.99 | 232,554 | 120,957 | 111,597 |

TABLE 46 NUYAKUK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1977

| SAMPLE PERIOD | DATE | | AGE GROUP 32 | 41 | 42 | 52 | 53 | 62 | 63 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|
| MALES | | | | | | | | | | |
| 1 | 07/05- | COUNT | 360 | 1,080 | 15,839 | 84,238 | 4,680 | 360 | 14,400 | 120,957 |
| | 08/06 | PERCENT | .30 | .89 | 13.10 | 69.64 | 3.87 | .30 | 11.90 | 100.00 |
| FEMALES | | | | | | | | | | |
| 1 | 07/05- | COUNT | -- | 2,160 | 13,319 | 79,918 | 3,600 | -- | 12,600 | 111,597 |
| | 08/06 | PERCENT | -- | 1.94 | 11.94 | 71.61 | 3.23 | -- | 11.29 | 100.00 |
| SEXES COMBINED | | | | | | | | | | |
| 1 | 07/05- | COUNT | 360 | 3,240 | 29,158 | 164,156 | 8,280 | 360 | 27,000 | 232,554 |
| | 08/06 | PERCENT | .16 | 1.39 | 12.54 | 70.59 | 3.56 | .15 | 11.61 | 100.00 |

TABLE 47 SNAKE RIVER APPORTIONED CATCH AND ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION AND AGE GROUP, 1977

| | AGE GROUP | | | | | |
|---|---|---|---|---|---|---|
| | 42 | 52 | 53 | 62 | 63 | TOTAL |
| CATCH | | | | | | |
| MALES | | | | | | |
| NUMBER | 524 | 227 | 23 | -- | 505 | 1,279 |
| PERCENT | 40.97 | 17.75 | 1.80 | -- | 39.48 | 32.44 |
| FEMALES | | | | | | |
| NUMBER | 829 | 251 | 56 | 1,115 | 413 | 2,664 |
| PERCENT | 31.12 | 9.42 | 2.10 | 41.86 | 15.50 | 67.56 |
| SEXES COMBINED | | | | | | |
| NUMBER | 1,353 | 478 | 79 | 1,115 | 918 | 3,943 |
| PERCENT | 34.32 | 12.12 | 2.00 | 28.28 | 23.28 | 100.00 |
| ESCAPEMENT | | | | | | |
| MALES | | | | | | |
| NUMBER | 2,623 | 492 | 82 | -- | 1,271 | 4,468 |
| PERCENT | 58.71 | 11.01 | 1.83 | -- | 28.45 | 48.02 |
| FEMALES | | | | | | |
| NUMBER | 3,524 | 287 | 205 | 41 | 779 | 4,836 |
| PERCENT | 72.87 | 5.93 | 4.24 | .85 | 16.11 | 51.98 |
| SEXES COMBINED | | | | | | |
| NUMBER | 6,147 | 779 | 287 | 41 | 2,050 | 9,304 |
| PERCENT | 66.07 | 8.37 | 3.09 | .44 | 22.03 | 100.00 |
| CATCH AND ESCAPEMENT | | | | | | |
| MALES | | | | | | |
| NUMBER | 3,147 | 719 | 105 | -- | 1,776 | 5,747 |
| PERCENT | 54.76 | 12.51 | 1.83 | -- | 30.90 | 43.38 |
| FEMALES | | | | | | |
| NUMBER | 4,353 | 538 | 261 | 1,156 | 1,192 | 7,500 |
| PERCENT | 58.04 | 7.18 | 3.48 | 15.41 | 15.89 | 56.62 |
| SEXES COMBINED | | | | | | |
| NUMBER | 7,500 | 1,257 | 366 | 1,156 | 2,968 | 13,247 |
| PERCENT | 56.62 | 9.49 | 2.76 | 8.73 | 22.40 | 100.00 |

TABLE 48 SNAKE RIVER DAILY SOCKEYE SALMON ESCAPEMENT COUNTS, 1977

| DATE | DAILY COUNT | ACCUMULATIVE COUNT | DAILY PERCENT OF TOTAL | ACCUMULATIVE PERCENT |
|---|---|---|---|---|
| JUNE 20 | 1 | 1 | 0.01 | 0.01 |
| 23 | 17 | 18 | 0.18 | 0.19 |
| 26 | 9 | 27 | 0.10 | 0.29 |
| 27 | 17 | 44 | 0.18 | 0.47 |
| JULY 1 | 260 | 304 | 2.80 | 3.27 |
| 2 | 310 | 614 | 3.33 | 6.60 |
| 3 | 386 | 1,000 | 4.15 | 10.75 |
| 4 | 184 | 1,184 | 1.98 | 12.73 |
| 5 | 237 | 1,421 | 2.55 | 15.28 |
| 6 | 405 | 1,826 | 4.35 | 19.63 |
| 7 | 562 | 2,388 | 6.04 | 25.67 |
| 8 | 1,093 | 3,481 | 11.75 | 37.42 |
| 9 | 1,155 | 4,636 | 12.41 | 49.83 |
| 10 | 1,346 | 5,982 | 14.47 | 64.30 |
| 11 | 479 | 6,461 | 5.15 | 69.45 |
| 12 | 652 | 7,113 | 7.01 | 76.46 |
| 13 | 336 | 7,449 | 3.61 | 80.07 |
| 14 | 193 | 7,642 | 2.08 | 82.15 |
| 15 | 360 | 8,002 | 3.87 | 86.02 |
| 16 | 80 | 8,082 | 0.86 | 86.88 |
| 18 | 368 | 8,450 | 3.96 | 90.84 |
| 19 | 224 | 8,674 | 2.41 | 93.25 |
| 20 | 106 | 8,780 | 1.14 | 94.39 |
| 21 | 71 | 8,851 | 0.76 | 95.15 |
| 22 | 40 | 8,891 | 0.43 | 95.58 |
| 23 | 2 | 8,893 | 0.02 | 95.60 |
| 24 | 24 | 8,917 | 0.26 | 95.86 |
| 28 | 124 | 9,041 | 1.33 | 97.19 |
| 29 | 3 | 9,044 | 0.03 | 97.22 |
| 30 | 40 | 9,084 | 0.43 | 97.65 |
| 31 | 19 | 9,103 | 0.20 | 97.85 |
| AUG. 1 | 17 | 9,120 | 0.18 | 98.03 |
| 2 | 5 | 9,125 | 0.05 | 98.08 |
| 3 | 2 | 9,127 | 0.02 | 98.10 |
| 15 | 177 | 9,304 | 1.90 | 100.00 |

TABLE 49 SNAKE RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1977

| PERIOD NUMBER | DATE | NO. OF FISH SAMPLED | COUNT | | PERCENT | | ESCAPEMENT | NUMBER IN ESCAPEMENT | |
|---|---|---|---|---|---|---|---|---|---|
| | | | MALES | FEMALES | MALES | FEMALES | | MALES | FEMALES |
| 1 | 06/20-08/15 | 227 | 109 | 118 | 48.02 | 51.98 | 9,304 | 4,468 | 4,836 |

TABLE 50 SNAKE RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1977

| SAMPLE PERIOD | DATE | | AGE GROUP 42 | 52 | 53 | 62 | 63 | TOTAL |
|---|---|---|---|---|---|---|---|---|
| MALES | | | | | | | | |
| 1 | 06/20- | COUNT | 2,623 | 492 | 82 | -- | 1,271 | 4,468 |
| | 08/15 | PERCENT | 58.72 | 11.01 | 1.83 | -- | 28.44 | 100.00 |
| FEMALES | | | | | | | | |
| 1 | 06/20- | COUNT | 3,524 | 287 | 205 | 41 | 779 | 4,836 |
| | 08/15 | PERCENT | 72.88 | 5.93 | 4.24 | .85 | 16.10 | 100.00 |
| SEXES COMBINED | | | | | | | | |
| 1 | 06/20- | COUNT | 6,147 | 779 | 287 | 41 | 2,050 | 9,304 |
| | 08/15 | PERCENT | 66.07 | 8.37 | 3.09 | .44 | 22.03 | 100.00 |

TABLE 51 NUSHAGAK-MULCHATNA RIVER APPORTIONED CATCH AND ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION AND AGE GROUP, 1977

| | AGE GROUP | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 31 | 41 | 42 | 51 | 52 | 53 | 63 | TOTAL |
| CATCH | | | | | | | | |
| MALES | | | | | | | | |
| NUMBER | -- | 5,430 | 3,316 | -- | 35,667 | 2,772 | 14,376 | 61,561 |
| PERCENT | -- | 8.82 | 5.39 | -- | 57.94 | 4.50 | 23.35 | 37.10 |
| FEMALES | | | | | | | | |
| NUMBER | -- | 10,893 | 3,905 | 59 | 67,669 | 2,655 | 19,211 | 104,392 |
| PERCENT | -- | 10.44 | 3.74 | .06 | 64.82 | 2.54 | 18.40 | 62.90 |
| SEXES COMBINED | | | | | | | | |
| NUMBER | -- | 16,323 | 7,221 | 59 | 103,336 | 5,427 | 33,587 | 165,953 |
| PERCENT | -- | 9.84 | 4.35 | .03 | 62.27 | 3.27 | 20.24 | 100.00 |
| ESCAPEMENT \1 | | | | | | | | |
| MALES | | | | | | | | |
| NUMBER | 783 | 13,166 | 16,614 | 2,978 | 77,271 | 9,717 | 36,206 | 156,735 |
| PERCENT | .50 | 8.40 | 10.60 | 1.90 | 49.30 | 6.20 | 23.10 | 50.00 |
| FEMALES | | | | | | | | |
| NUMBER | 783 | 13,166 | 16,614 | 2,978 | 77,271 | 9,717 | 36,206 | 156,735 |
| PERCENT | .50 | 8.40 | 10.60 | 1.90 | 49.30 | 6.20 | 23.10 | 50.00 |
| SEXES COMBINED | | | | | | | | |
| NUMBER | 1,566 | 26,332 | 33,228 | 5,956 | 154,542 | 19,434 | 72,412 | 313,470 |
| PERCENT | .50 | 8.40 | 10.60 | 1.90 | 49.30 | 6.20 | 23.10 | 100.00 |
| CATCH AND ESCAPEMENT | | | | | | | | |
| MALES | | | | | | | | |
| NUMBER | 783 | 18,596 | 19,930 | 2,978 | 112,938 | 12,489 | 50,582 | 218,296 |
| PERCENT | .36 | 8.52 | 9.13 | 1.36 | 51.74 | 5.72 | 23.17 | 45.53 |
| FEMALES | | | | | | | | |
| NUMBER | 783 | 24,059 | 20,519 | 3,037 | 144,940 | 12,372 | 55,417 | 261,127 |
| PERCENT | .30 | 9.21 | 7.86 | 1.16 | 55.51 | 4.74 | 21.22 | 54.47 |
| SEXES COMBINED | | | | | | | | |
| NUMBER | 1,566 | 42,655 | 40,449 | 6,015 | 257,878 | 24,861 | 105,999 | 479,423 |
| PERCENT | .33 | 8.90 | 8.44 | 1.25 | 53.79 | 5.18 | 22.11 | 100.00 |

\1 TOTAL ESCAPEMENT ESTIMATED BY AERIAL SURVEY. SEX RATIO ARBITRARILY SET 1:1. AGE COMPOSITION ESTIMATED FROM PAST BROOD YEAR DATA.

## TOGIAK DISTRICT

The sockeye salmon run to the Togiak District (Figure 6) in 1977 was forecast to total 255,000 fish. In-season management of this system's salmon run is conducted differently than that of the other districts in Bristol Bay. Fishing periods at Togiak are set in advance and adjusted as required during the course of the season to balance catch with needed escapement. Since the total inshore forecast return of sockeye salmon to the Togiak District was more than double the 100,000 escapement goal, additional fishing time over the standard fishing schedule was anticipated.

Although the actual sockeye run was stronger than forecast, increased fishing effort and longer availability of the sockeye run to the fishing fleet in 1977 resulted in a reduction of fishing time over the standard weekly schedule to meet escapement needs.

Heavy sockeye catches from 27 June to 23 July (196,000 fish) resulted in two extended weekend closures on 6-8 July and 22-23 July. The final season sockeye catch amounted to 218,000 fish, above both the forecast of 155,000 and the 20-year long-term average catch of 156,000.

With the two weekly period adjustments in fishing time, the Togiak River escapement rose to 134,000 by the end of the season, only slightly above the upper management range of 120,000 fish. An additional 69,000 sockeye were enumerated during aerial surveys of numerous tributary streams to bring the district total escapement to 203,000 compared with the 20-year long-term average escapement of 137,000 fish. The total sockeye run into the Togiak District amounted to 421,000 fish compared with the 20-year average return of 293,000.

In the absence of age and sex composition samples from these numerous smaller sockeye stocks they have not been included in the summary tables that follow. Age composition of the sockeye run to Togiak was composed primarily of 5-year-old fish (44%) from the 1972 brood year with age 4 and 6-year-old fish contributing 39% and 17%, respectively. The average weight of commercially caught sockeye was 7.88 lb in this district.

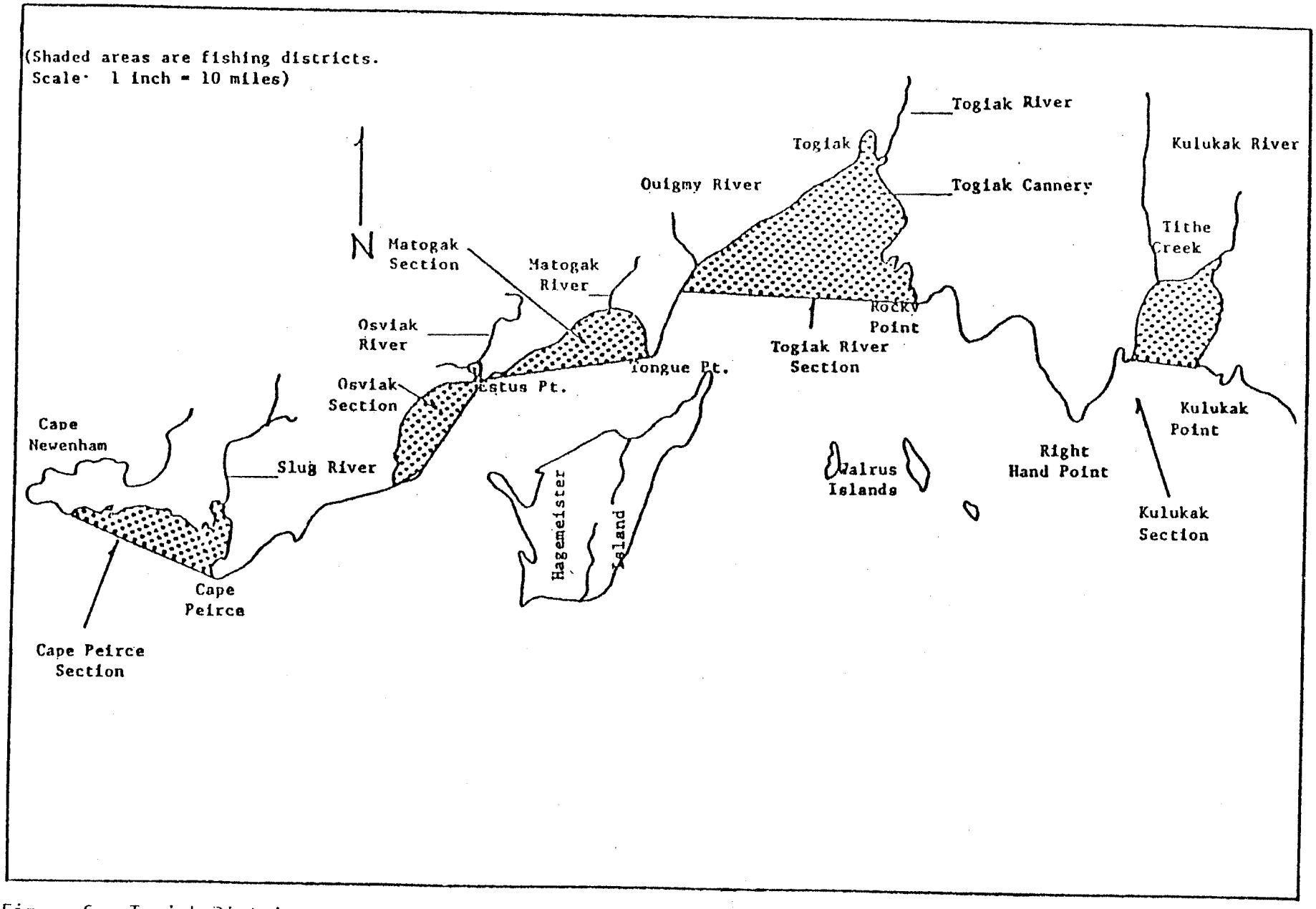


Figure 6. Togiak District commercial fishing boundaries, 1977.

TABLE 52 TOGIAK RIVER CATCH AND ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION AND AGE GROUP, 1977

| | AGE GROUP | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 31 | 41 | 42 | 51 | 52 | 53 | 62 | 63 | 73 | 74 | TOTAL |
| CATCH | | | | | | | | | | | |
| MALES | | | | | | | | | | | |
| NUMBER | -- | 3,251 | 23,514 | 268 | 44,808 | 5,444 | 319 | 22,307 | 125 | 80 | 100,116 |
| PERCENT | -- | 3.25 | 23.49 | .27 | 44.75 | 5.44 | .32 | 22.28 | .12 | .08 | 45.83 |
| FEMALES | | | | | | | | | | | |
| NUMBER | 178 | 2,605 | 32,626 | -- | 52,549 | 9,068 | 419 | 20,607 | 203 | 80 | 118,335 |
| PERCENT | .15 | 2.20 | 27.57 | -- | 44.41 | 7.66 | .35 | 17.42 | .17 | .07 | 54.17 |
| SEXES COMBINED | | | | | | | | | | | |
| NUMBER | 178 | 5,856 | 56,140 | 268 | 97,357 | 14,512 | 738 | 42,914 | 328 | 160 | 218,451 |
| PERCENT | .08 | 2.68 | 25.70 | .12 | 44.57 | 6.64 | .34 | 19.65 | .15 | .07 | 100.00 |
| ESCAPEMENT | | | | | | | | | | | |
| MALES | | | | | | | | | | | |
| NUMBER | 197 | 1,182 | 31,710 | -- | 20,484 | 2,560 | 197 | 12,605 | -- | -- | 68,935 |
| PERCENT | .29 | 1.71 | 46.00 | -- | 29.71 | 3.71 | .29 | 18.29 | -- | -- | 51.55 |
| FEMALES | | | | | | | | | | | |
| NUMBER | -- | 1,379 | 40,770 | -- | 15,560 | 2,560 | 197 | 4,333 | -- | -- | 64,799 |
| PERCENT | -- | 2.13 | 62.92 | -- | 24.01 | 3.95 | .30 | 6.69 | -- | -- | 48.45 |
| SEXES COMBINED | | | | | | | | | | | |
| NUMBER | 197 | 2,561 | 72,480 | -- | 36,044 | 5,120 | 394 | 16,938 | -- | -- | 133,734 \1 |
| PERCENT | .15 | 1.91 | 54.20 | -- | 26.95 | 3.83 | .29 | 12.67 | -- | -- | 100.00 |
| CATCH AND ESCAPEMENT | | | | | | | | | | | |
| MALES | | | | | | | | | | | |
| NUMBER | 197 | 4,433 | 55,224 | 268 | 65,292 | 8,004 | 516 | 34,912 | 125 | 80 | 169,051 |
| PERCENT | .12 | 2.62 | 32.67 | .16 | 38.62 | 4.73 | .31 | 20.65 | .07 | .05 | 48.00 |
| FEMALES | | | | | | | | | | | |
| NUMBER | 178 | 3,984 | 73,396 | -- | 68,109 | 11,628 | 616 | 24,940 | 203 | 80 | 183,134 |
| PERCENT | .10 | 2.17 | 40.08 | -- | 37.19 | 6.35 | .34 | 13.62 | .11 | .04 | 52.00 |
| SEXES COMBINED | | | | | | | | | | | |
| NUMBER | 375 | 8,417 | 128,620 | 268 | 133,401 | 19,632 | 1,132 | 59,852 | 328 | 160 | 352,185 \1 |
| PERCENT | .11 | 2.39 | 36.52 | .08 | 37.88 | 5.57 | .32 | 16.99 | .09 | .05 | 100.00 |

\1 DOES NOT INCLUDE 68,900 SOCKEYE SALMON ESCAPEMENT ESTIMATED BY AERIAL SURVEY OF TOGIAK AND KULUKAK TRIBUTARY STREAMS.

TABLE 53 TOGIAK DISTRICT COMMERCIAL CATCH OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1977

| PERIOD NUMBER | DATE | NO. OF FISH SAMPLED | COUNT MALES | COUNT FEMALES | PERCENT MALES | PERCENT FEMALES | CATCH | NUMBER IN CATCH MALES | NUMBER IN CATCH FEMALES |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 06/06-07/03 | 702 | 337 | 365 | 48.01 | 51.99 | 62,670 | 30,085 | 32,585 |
| 2 | 07/04-07/10 | 531 | 261 | 270 | 49.15 | 50.85 | 42,339 | 20,811 | 21,528 |
| 3 | 07/11-07/17 | 497 | 218 | 279 | 43.86 | 56.14 | 62,110 | 27,243 | 34,867 |
| 4 | 07/18-08/13 | 661 | 283 | 378 | 42.81 | 57.19 | 51,332 | 21,977 | 29,355 |
| TOTAL | | 2,391 | 1,099 | 1,292 | 45.83 | 54.17 | 218,451 | 100,116 | 118,335 |

TABLE 54 TOGIAK DISTRICT COMMERCIAL CATCH OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1977

| SAMPLE PERIOD | DATE | | AGE GROUP 31 | 41 | 42 | 51 | 52 | 53 | 62 | 63 | 73 | 74 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MALES | | | | | | | | | | | | | |
| 1 | 06/06- | COUNT | -- | 2,410 | 6,071 | 268 | 17,765 | 357 | -- | 3,214 | -- | -- | 30,085 |
| | 07/03 | PERCENT | -- | 8.01 | 20.18 | .89 | 59.05 | 1.19 | -- | 10.68 | -- | -- | 30.05 |
| 2 | 07/04- | COUNT | -- | 638 | 5,263 | -- | 9,807 | 558 | 319 | 4,146 | -- | 80 | 20,811 |
| | 07/10 | PERCENT | -- | 3.07 | 25.29 | -- | 47.13 | 2.68 | 1.53 | 19.92 | -- | .38 | 20.79 |
| 3 | 07/11- | COUNT | -- | 125 | 6,123 | -- | 10,247 | 1,500 | -- | 9,123 | 125 | -- | 27,243 |
| | 07/17 | PERCENT | -- | .46 | 22.48 | -- | 37.61 | 5.50 | -- | 33.49 | .46 | -- | 27.21 |
| 4 | 07/18- | COUNT | -- | 78 | 6,057 | -- | 6,989 | 3,029 | -- | 5,824 | -- | -- | 21,977 |
| | 08/13 | PERCENT | -- | .35 | 27.56 | -- | 31.80 | 13.78 | -- | 26.50 | -- | -- | 21.95 |
| COLUMN TOTALS | | COUNT | -- | 3,251 | 23,514 | 268 | 44,808 | 5,444 | 319 | 22,307 | 125 | 80 | 100,116 |
| | | PERCENT | -- | 3.25 | 23.49 | .27 | 44.75 | 5.44 | .32 | 22.28 | .12 | .08 | 100.00 |
| FEMALES | | | | | | | | | | | | | |
| 1 | 06/06- | COUNT | 178 | 1,161 | 7,320 | -- | 21,069 | 268 | 89 | 2,500 | -- | -- | 32,585 |
| | 07/03 | PERCENT | .55 | 3.56 | 22.47 | -- | 64.66 | .82 | .27 | 7.67 | -- | -- | 27.54 |
| 2 | 07/04- | COUNT | -- | 1,116 | 4,864 | -- | 11,083 | 797 | 80 | 3,508 | -- | 80 | 21,528 |
| | 07/10 | PERCENT | -- | 5.19 | 22.59 | -- | 51.48 | 3.70 | .37 | 16.30 | -- | .37 | 18.19 |
| 3 | 07/11- | COUNT | -- | 250 | 11,123 | -- | 11,622 | 3,499 | 250 | 7,998 | 125 | -- | 34,867 |
| | 07/17 | PERCENT | -- | .72 | 31.90 | -- | 33.33 | 10.04 | .72 | 22.94 | .36 | -- | 29.46 |
| 4 | 07/18- | COUNT | -- | 78 | 9,319 | -- | 8,775 | 4,504 | -- | 6,601 | 78 | -- | 29,355 |
| | 08/13 | PERCENT | -- | .26 | 31.75 | -- | 29.89 | 15.34 | -- | 22.49 | .26 | -- | 24.81 |
| COLUMN TOTALS | | COUNT | 178 | 2,605 | 32,626 | -- | 52,549 | 9,068 | 419 | 20,607 | 203 | 80 | 118,335 |
| | | PERCENT | .15 | 2.20 | 27.57 | -- | 44.41 | 7.66 | .35 | 17.42 | .17 | .07 | 100.00 |
| SEXES COMBINED | | | | | | | | | | | | | |
| 1 | 06/06- | COUNT | 178 | 3,571 | 13,391 | 268 | 38,834 | 625 | 89 | 5,714 | -- | -- | 62,670 |
| | 07/03 | PERCENT | .28 | 5.70 | 21.37 | .43 | 61.96 | 1.00 | .14 | 9.12 | -- | -- | 28.69 |
| 2 | 07/04- | COUNT | -- | 1,754 | 10,127 | -- | 20,890 | 1,355 | 399 | 7,654 | -- | 160 | 42,339 |
| | 07/10 | PERCENT | -- | 4.14 | 23.92 | -- | 49.34 | 3.20 | .94 | 18.08 | -- | .38 | 19.38 |
| 3 | 07/11- | COUNT | -- | 375 | 17,246 | -- | 21,869 | 4,999 | 250 | 17,121 | 250 | -- | 62,110 |
| | 07/17 | PERCENT | -- | .60 | 27.77 | -- | 35.21 | 8.05 | .40 | 27.57 | .40 | -- | 28.43 |
| 4 | 07/18- | COUNT | -- | 156 | 15,376 | -- | 15,764 | 7,533 | -- | 12,425 | 78 | -- | 51,332 |
| | 08/13 | PERCENT | -- | .30 | 29.95 | -- | 30.71 | 14.68 | -- | 24.21 | .15 | -- | 23.50 |
| COLUMN TOTALS | | COUNT | 178 | 5,856 | 56,140 | 268 | 97,357 | 14,512 | 738 | 42,914 | 328 | 160 | 218,451 |
| | | PERCENT | .08 | 2.68 | 25.70 | .12 | 44.57 | 6.64 | .34 | 19.65 | .15 | .07 | 100.00 |

TABLE 55 TOGIAK RIVER DAILY SOCKEYE SALMON ESCAPEMENT COUNTS, 1977

| DATE | | DAILY COUNT | ACCUMULATIVE COUNT | DAILY PERCENT OF TOTAL | ACCUMULATIVE PERCENT |
|---|---|---|---|---|---|
| JULY | 4 | 54 | 54 | 0.04 | 0.04 |
| | 5 | 150 | 204 | 0.11 | 0.15 |
| | 6 | 804 | 1,008 | 0.60 | 0.75 |
| | 7 | 6,858 | 7,866 | 5.13 | 5.88 |
| | 8 | 4,926 | 12,792 | 3.68 | 9.56 |
| | 9 | 5,460 | 18,252 | 4.08 | 13.64 |
| | 10 | 6,678 | 24,930 | 4.99 | 18.63 |
| | 11 | 8,412 | 33,342 | 6.29 | 24.92 |
| | 12 | 11,550 | 44,892 | 8.64 | 33.56 |
| | 13 | 11,082 | 55,974 | 8.29 | 41.85 |
| | 14 | 10,650 | 66,624 | 7.96 | 49.81 |
| | 15 | 8,142 | 74,766 | 6.09 | 55.90 |
| | 16 | 2,982 | 77,748 | 2.23 | 58.13 |
| | 17 | 2,754 | 80,502 | 2.06 | 60.19 |
| | 18 | 2,760 | 83,262 | 2.07 | 62.26 |
| | 19 | 5,160 | 88,422 | 3.86 | 66.12 |
| | 20 | 6,804 | 95,226 | 5.09 | 71.21 |
| | 21 | 6,744 | 101,970 | 5.04 | 76.25 |
| | 22 | 4,458 | 106,428 | 3.33 | 79.58 |
| | 23 | 2,928 | 109,356 | 2.19 | 81.77 |
| | 24 | 2,178 | 111,534 | 1.63 | 83.40 |
| | 25 | 1,770 | 113,304 | 1.32 | 84.72 |
| | 26 | 1,374 | 114,678 | 1.03 | 85.75 |
| | 27 | 1,848 | 116,526 | 1.38 | 87.13 |
| | 28 | 2,280 | 118,806 | 1.71 | 88.84 |
| | 29 | 1,020 | 119,826 | 0.76 | 89.60 |
| | 30 | 2,436 | 122,262 | 1.82 | 91.42 |
| | 31 | 2,616 | 124,878 | 1.96 | 93.38 |
| AUG. | 1 | 2,064 | 126,942 | 1.54 | 94.92 |
| | 2 | 1,668 | 128,610 | 1.25 | 96.17 |
| | 3 | 2,502 | 131,112 | 1.87 | 98.04 |
| | 4 | 2,154 | 133,266 | 1.61 | 99.65 |
| | 5 | 468 | 133,734 \1 | 0.35 | 100.00 |

\1 DOES NOT INCLUDE 68,900 SOCKEYE SALMON ESCAPEMENT ESTIMATED BY AERIAL SURVEY OF TOGIAK AND KULUKAK TRIBUTARY STREAMS.

TABLE 56 TOGIAK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1977

| PERIOD NUMBER | DATE | NO. OF FISH SAMPLED | COUNT MALES | COUNT FEMALES | PERCENT MALES | PERCENT FEMALES | ESCAPEMENT | NUMBER IN ESCAPEMENT MALES | NUMBER IN ESCAPEMENT FEMALES |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 07/04-08/05 | 679 | 350 | 329 | 51.55 | 48.45 | 133,734 \1 | 68,935 | 64,799 |

\1 DOES NOT INCLUDE 68,900 SOCKEYE SALMON ESCAPEMENT ESTIMATED BY AERIAL SURVEY OF TOGIAK AND KULUKAK TRIBUTARY STREAMS.

TABLE 57 TOGIAK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1977

| SAMPLE PERIOD | DATE | | AGE GROUP 31 | 41 | 42 | 52 | 53 | 62 | 63 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|
| MALES | | | | | | | | | | |
| 1 | 07/04- | COUNT | 197 | 1,182 | 31,710 | 20,484 | 2,560 | 197 | 12,605 | 68,935 |
| | 08/05 | PERCENT | .29 | 1.71 | 46.00 | 29.71 | 3.71 | .29 | 18.29 | 100.00 |
| FEMALES | | | | | | | | | | |
| 1 | 07/04- | COUNT | -- | 1,379 | 40,770 | 15,560 | 2,560 | 197 | 4,333 | 64,799 |
| | 08/05 | PERCENT | -- | 2.13 | 62.92 | 24.01 | 3.95 | .30 | 6.69 | 100.00 |
| SEXES COMBINED | | | | | | | | | | |
| 1 | 07/04- | COUNT | 197 | 2,561 | 72,480 | 36,044 | 5,120 | 394 | 16,938 | 133,734 \1 |
| | 08/05 | PERCENT | .15 | 1.91 | 54.20 | 26.95 | 3.83 | .29 | 12.67 | 100.00 |

\1 DOES NOT INCLUDE 68,900 SOCKEYE SALMON ESCAPEMENT ESTIMATED BY AERIAL SURVEY OF TOGIAK AND KULUKAK TRIBUTARY STREAMS.

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