

Fishery Management Report No. 08-28

2007 Bristol Bay Area Annual Management Report

by

Tim Sands,

Charlotte Westing,

Paul Salomone,

Slim Morstad,

Tim Baker,

Fred West,

and

Chuck Brazil

May 2008

Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries



Symbols and Abbreviations

The following symbols and abbreviations, and others approved for the Système International d'Unités (SI), are used without definition in the following reports by the Divisions of Sport Fish and of Commercial Fisheries: Fishery Manuscripts, Fishery Data Series Reports, Fishery Management Reports, and Special Publications. All others, including deviations from definitions listed below, are noted in the text at first mention, as well as in the titles or footnotes of tables, and in figure or figure captions.

| | | | | | |
|---|--------------------|--|---|---|-------------------------|
| Weights and measures (metric) | | General | | Measures (fisheries) | |
| centimeter | cm | Alaska Administrative Code | AAC | fork length | FL |
| deciliter | dL | all commonly accepted abbreviations | e.g., Mr., Mrs., AM, PM, etc. | mid-eye-to-fork | MEF |
| gram | g | all commonly accepted professional titles | e.g., Dr., Ph.D., R.N., etc. | mid-eye-to-tail-fork | METF |
| hectare | ha | at | @ | standard length | SL |
| kilogram | kg | compass directions: | | total length | TL |
| kilometer | km | east | E | | |
| liter | L | north | N | Mathematics, statistics | |
| meter | m | south | S | <i>all standard mathematical signs, symbols and abbreviations</i> | |
| milliliter | mL | west | W | alternate hypothesis | H _A |
| millimeter | mm | copyright | © | base of natural logarithm | <i>e</i> |
| | | corporate suffixes: | | catch per unit effort | CPUE |
| Weights and measures (English) | | Company | Co. | coefficient of variation | CV |
| cubic feet per second | ft ³ /s | Corporation | Corp. | common test statistics | (F, t, χ^2 , etc.) |
| foot | ft | Incorporated | Inc. | confidence interval | CI |
| gallon | gal | Limited | Ltd. | correlation coefficient (multiple) | R |
| inch | in | District of Columbia | D.C. | correlation coefficient (simple) | r |
| mile | mi | et alii (and others) | et al. | covariance | cov |
| nautical mile | nmi | et cetera (and so forth) | etc. | degree (angular) | ° |
| ounce | oz | exempli gratia | e.g. | degrees of freedom | df |
| pound | lb | (for example) | | expected value | <i>E</i> |
| quart | qt | Federal Information Code | FIC | greater than | > |
| yard | yd | id est (that is) | i.e. | greater than or equal to | ≥ |
| | | latitude or longitude | lat. or long. | harvest per unit effort | HPUE |
| Time and temperature | | monetary symbols | | less than | < |
| day | d | (U.S.) | \$, ¢ | less than or equal to | ≤ |
| degrees Celsius | °C | months (tables and figures): first three letters | Jan, ..., Dec | logarithm (natural) | ln |
| degrees Fahrenheit | °F | registered trademark | ® | logarithm (base 10) | log |
| degrees kelvin | K | trademark | ™ | logarithm (specify base) | log ₂ , etc. |
| hour | h | United States (adjective) | U.S. | minute (angular) | ' |
| minute | min | United States of America (noun) | USA | not significant | NS |
| second | s | U.S.C. | United States Code | null hypothesis | H ₀ |
| | | U.S. state | use two-letter abbreviations (e.g., AK, WA) | percent | % |
| Physics and chemistry | | | | probability | P |
| all atomic symbols | | | | probability of a type I error (rejection of the null hypothesis when true) | α |
| alternating current | AC | | | probability of a type II error (acceptance of the null hypothesis when false) | β |
| ampere | A | | | second (angular) | " |
| calorie | cal | | | standard deviation | SD |
| direct current | DC | | | standard error | SE |
| hertz | Hz | | | variance | |
| horsepower | hp | | | population | Var |
| hydrogen ion activity (negative log of) | pH | | | sample | var |
| parts per million | ppm | | | | |
| parts per thousand | ppt, ‰ | | | | |
| volts | V | | | | |
| watts | W | | | | |

FISHERY MANAGEMENT REPORT NO. 08-28

2007 BRISTOL BAY AREA ANNUAL MANAGEMENT REPORT

by

Tim Sands, Charlotte Westing

Alaska Department of Fish and Game, Division of Commercial Fisheries, Dillingham

Paul Salomone,

Alaska Department of Fish and Game, Division of Commercial Fisheries, Anchorage

Slim Morstad,

Alaska Department of Fish and Game, Division of Commercial Fisheries, King Salmon

Tim Baker, Fred West, and Chuck Brazil

Alaska Department of Fish and Game, Division of Commercial Fisheries, Anchorage

Alaska Department of Fish and Game
Division of Sport Fish, Research and Technical Services
333 Raspberry Road, Anchorage, Alaska, 99518-1565

May 2008

The Division of Sport Fish Fishery Management Reports series was established in 1989 for the publication of an overview of Division of Sport Fish management activities and goals in a specific geographic area. Since 2005, the Division of Commercial Fisheries has also used the Fishery Management Report series. Fishery Management Reports are intended for fishery and other technical professionals, as well as lay persons. Fishery Management Reports are available through the Alaska State Library and on the Internet: <http://www.sf.adfg.state.ak.us/statewide/divreports/html/intersearch.cfm>. This publication has undergone regional peer review.

Tim Sands, Charlotte Westing

*Alaska Department of Fish and Game, Division of Commercial Fisheries,
546 Kenny Wren Road, P.O. Box 230, Dillingham, AK 99576 USA*

Paul Salomone

*Alaska Department of Fish and Game, Division of Commercial Fisheries,
333 Raspberry Road, Anchorage, AK 99518 USA*

Slim Morstad,

*Alaska Department of Fish and Game, Division of Commercial Fisheries,
Main Street, P.O. Box 37, King Salmon, AK 99613 USA*

Tim Baker, Fred West, and Chuck Brazil

*Alaska Department of Fish and Game, Division of Commercial Fisheries,
333 Raspberry Road, Anchorage, AK, 99518 USA*

This document should be cited as:

Sands, T., C. Westing, P. Salomone, S. Morstad, T. Baker, F. West, and C. Brazil. 2008. 2007 Bristol Bay area annual management report. Alaska Department of Fish and Game, Fishery Management Report No. 08-28, Anchorage.

The Alaska Department of Fish and Game (ADF&G) administers all programs and activities free from discrimination based on race, color, national origin, age, sex, religion, marital status, pregnancy, parenthood, or disability. The department administers all programs and activities in compliance with Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act (ADA) of 1990, the Age Discrimination Act of 1975, and Title IX of the Education Amendments of 1972.

If you believe you have been discriminated against in any program, activity, or facility please write:

ADF&G ADA Coordinator, P.O. Box 115526, Juneau AK 99811-5526

U.S. Fish and Wildlife Service, 4040 N. Fairfax Drive, Suite 300 Webb, Arlington VA 22203

Office of Equal Opportunity, U.S. Department of the Interior, Washington DC 20240

The department's ADA Coordinator can be reached via phone at the following numbers:

(VOICE) 907-465-6077, (Statewide Telecommunication Device for the Deaf) 1-800-478-3648, (Juneau TDD) 907-465-3646, or (FAX) 907-465-6078

For information on alternative formats and questions on this publication, please contact:

ADF&G, Sport Fish Division, Research and Technical Services, 333 Raspberry Road, Anchorage AK 99518 (907)267-2375.

TABLE OF CONTENTS

| | Page |
|--|-------------|
| LIST OF TABLES..... | iii |
| LIST OF FIGURES | iv |
| LIST OF APPENDICES | iv |
| ABSTRACT | 1 |
| INTRODUCTION..... | 1 |
| Management Area Description..... | 1 |
| Overview of Bristol Bay Salmon Fisheries | 2 |
| 2007 COMMERCIAL SALMON FISHERY..... | 2 |
| Run Strength Indicators | 2 |
| Preseason Forecasts | 2 |
| South Unimak/Shumagin Island Fishery | 3 |
| Port Moller Test Fishery..... | 4 |
| Genetics | 4 |
| Economics and Market Production..... | 4 |
| Run and Harvest Performance by Species..... | 4 |
| Sockeye Salmon..... | 5 |
| Chinook Salmon | 5 |
| Chum Salmon | 5 |
| Pink Salmon..... | 5 |
| Coho Salmon | 5 |
| Season Summary by District | 5 |
| Naknek/Kvichak District | 5 |
| Egegik District..... | 8 |
| Ugashik District..... | 11 |
| Nushagak District | 14 |
| Togiak District..... | 17 |
| 2007 SUBSISTENCE SALMON FISHERY..... | 20 |
| Regulations | 21 |
| Permit System and Annual Subsistence Harvest | 21 |
| 2007 BRISTOL BAY HERRING FISHERY | 22 |
| Stock Assessment | 23 |
| Sac Roe Herring Fishery Overview | 24 |
| Fishing and Industry Participation | 24 |
| Gear Specifications | 25 |
| Harvest and Management Performance | 25 |
| Spawn-on-Kelp Fishery Overview | 27 |
| 2007 Season Summary | 28 |

TABLE OF CONTENTS (Continued)

| | Page |
|--|-------------|
| Biomass Estimation | 28 |
| Age Composition | 28 |
| Fishery Overview..... | 29 |
| Purse Seine Summary..... | 30 |
| Gillnet Summary | 30 |
| Spawn on Kelp | 30 |
| Exploitation | 31 |
| Exvessel Value | 31 |
| ACKNOWLEDGEMENTS..... | 32 |
| REFERENCE CITED..... | 32 |
| TABLES | 33 |
| APPENDIX A. SALMON..... | 79 |
| APPENDIX B. HERRING | 113 |
| APPENDIX C. 2007 BRISTOL BAY SALMON OUTLOOK..... | 123 |
| APPENDIX D. 2007 TOGIAC HERRING OUTLOOK..... | 131 |

LIST OF TABLES

| Table | Page |
|---|-------------|
| 1. Comparison of inshore sockeye salmon actual versus forecast inshore run, actual escapements versus escapement goals, and actual versus projected commercial harvest, by river system and district, in thousands of fish, Bristol Bay, 2007. | 34 |
| 2. Inshore forecast of sockeye salmon returns by age class, river system and district, in thousands of fish, Bristol Bay, 2007..... | 35 |
| 3. Inshore run of sockeye salmon by age class, river system and district, in thousands of fish, Bristol Bay, 2007..... | 36 |
| 4. Inshore commercial catch and escapement of sockeye salmon, in numbers of fish, Bristol Bay, 2007..... | 37 |
| 5. Summary of sockeye salmon test fishing indices in the Naknek/Kvichak District, by index area and date, Bristol Bay, 2007..... | 38 |
| 6. Summary of sockeye salmon test fishing indices in the Nushagak District, by index area and date, Bristol Bay, 2007..... | 39 |
| 7. Commercial fishing emergency orders, by district and stat area, Bristol Bay, 2007..... | 41 |
| 8. Daily district registration of drift gillnet permit holders by district, Bristol Bay, 2007. | 50 |
| 9. Commercial salmon catch by date and species, in numbers of fish, Naknek-Kvichak District, Bristol Bay, 2007. | 51 |
| 10. Commercial salmon catch by date and species, in numbers of fish, Egegik District, Bristol Bay, 2007. | 53 |
| 11. Commercial salmon catch by date and species, in numbers of fish, Ugashik District, Bristol Bay, 2007. | 55 |
| 12. Commercial salmon catch by date and species, in numbers of fish, Nushagak District, Bristol Bay, 2007..... | 57 |
| 13. Commercial salmon catch by date and species, in numbers of fish, Togiak District, Bristol Bay, 2007. | 59 |
| 14. Commercial salmon catch by date and species, in numbers of fish, Togiak Section Bristol Bay, 2007. | 60 |
| 15. Commercial salmon catch by date and species, in numbers of fish, Kulukak Section, Bristol Bay, 2007. | 61 |
| 16. Commercial salmon catch by date and species, in numbers of fish, Matogak Section, Bristol Bay, 2007. | 62 |
| 17. Commercial salmon catch by date and species, in numbers of fish, Osviak Section, Bristol Bay, 2007. | 62 |
| 18. Commercial salmon catch by district and species, in number of fish, Bristol Bay, 2007..... | 63 |
| 19. Daily sockeye salmon escapement tower counts by river system, east side Bristol Bay, 2007. | 64 |
| 20. Daily sockeye salmon escapement tower counts by river system, west side Bristol Bay, 2007. | 65 |
| 21. Final daily and cumulative escapement estimates by species, Nushagak River sonar project, Bristol Bay, 2007. | 66 |
| 22. Comparison of daily sockeye salmon escapement estimates by tower count, aerial survey and river test fishing enumeration methods, Kvichak River, Bristol Bay, 2007. | 68 |
| 23. Comparison of daily sockeye salmon escapement estimates by tower count, aerial survey and river test fishing enumeration methods, Egegik River, Bristol Bay, 2007. | 69 |
| 24. Comparison of daily sockeye salmon escapement estimates by tower count, aerial survey and river test fishing enumeration methods, Ugashik River, Bristol Bay, 2007. | 70 |
| 25. Commercial salmon processors and buyers operating in Bristol Bay, 2007. | 71 |
| 26. Mean round weight, price per pound, and total exvessel value of the commercial salmon catch, Bristol Bay, 2007. | 72 |
| 27. Subsistence salmon harvest by species, in numbers of fish, by district and location fished, Bristol Bay, 2006..... | 73 |
| 28. Daily observed estimates (tons) of herring by index area, Togiak District, 2007. | 74 |
| 29. Emergency order (EO) commercial fishing periods for herring sac roe and spawn-on-kelp, Togiak District, 2007..... | 75 |
| 30. Commercial herring harvest (tons) by fishing section, gear type, and date Togiak District, Bristol Bay, 2007..... | 76 |
| 31. Herring total run and commercial catch by year class, Togiak District, 2007..... | 78 |
| 32. Commercial herring sac roe and spawn-on-kelp buyers in Togiak District, 2007. | 78 |

LIST OF FIGURES

| Figure | Page |
|--|------|
| 1. Bristol Bay area commercial fisheries salmon management districts. | 1 |
| 2. Togiak Herring District, Bristol Bay. | 23 |
| 3. Spawn-on-kelp management areas (K-1 through K-11), Togiak District, Bristol Bay. | 28 |

LIST OF APPENDICES

| Appendix | Page |
|---|------|
| A1. Escapement goals and actual counts of sockeye salmon by river system, in thousands of fish, Bristol Bay, 1987–2007. | 80 |
| A2. Salmon entry permit registration by gear and residency, Bristol Bay, 1987–2007. | 82 |
| A3. Sockeye salmon commercial catch by district, in numbers of fish, Bristol Bay, 1987–2007. | 83 |
| A4. Chinook salmon commercial catch by district, in numbers of fish, Bristol Bay, 1987–2007. | 84 |
| A5. Chum salmon commercial catch by district, in numbers of fish, Bristol Bay, 1987–2007. | 85 |
| A6. Pink salmon commercial catch by district, in numbers of fish, Bristol Bay, 1987–2007. | 86 |
| A7. Coho salmon commercial catch by district, in numbers of fish, Bristol Bay, 1987–2007. | 87 |
| A8. Total salmon commercial catch by district, in numbers of fish, Bristol Bay, 1987–2007. | 88 |
| A9. Commercial sockeye salmon catch, in percent, by gear type and district, Bristol Bay, 1987–2007. | 89 |
| A10. Sockeye salmon escapement by district, in numbers of fish, Bristol Bay, 1987–2007. | 90 |
| A11. Inshore commercial catch and escapement of sockeye salmon in the Naknek-Kvichak District by river system, in numbers of fish, Bristol Bay, 1987–2007. | 91 |
| A12. Inshore sockeye salmon total run by river system Naknek-Kvichak District, in thousands of fish, Bristol Bay, 1987–2007. | 92 |
| A13. Inshore commercial catch and escapement of sockeye salmon in the Egegik District by river system, 1987–2007. | 93 |
| A14. Inshore commercial catch and escapement of sockeye salmon in the Ugashik District, by river system, 1987–2007. | 94 |
| A15. Inshore commercial catch and escapement of sockeye salmon in the Nushagak District by river system, in numbers of fish, Bristol Bay, 1987–2007. | 95 |
| A16. Inshore sockeye salmon total run by river system, in thousands of fish, Nushagak District, 1987–2007. | 96 |
| A17. Inshore commercial catch and escapement of sockeye salmon in the Togiak District by river system, in numbers of fish, Bristol Bay, 1987–2007. | 97 |
| A18. Inshore total run of sockeye salmon by district, in numbers of fish, Bristol Bay, 1987–2007. | 98 |
| A19. Chinook salmon harvest, escapement and total runs in the Nushagak District, in numbers of fish, Bristol Bay, 1987–2007. | 99 |
| A20. Chinook salmon harvest, escapement and total runs in the Togiak District, in numbers of fish, Bristol Bay, 1987–2007. | 100 |
| A21. Inshore commercial catch and escapement of chum salmon in the Nushagak and Togiak Districts, in numbers of fish, 1987–2007. | 101 |
| A22. Coho salmon harvest by fishery, escapement and total runs for the Togiak River, in numbers of fish, Bristol Bay, 1987–2007. | 102 |
| A23. Average round weight (lbs.) of the commercial salmon catch by species, Bristol Bay, 1987–2007. | 103 |
| A24. Average price paid in dollars per pound for salmon, by species, Bristol Bay, 1987–2007. | 104 |
| A25. Estimated exvessel value of the commercial salmon catch by species paid to fishermen, in thousands of dollars, Bristol Bay, 1987–2007. | 105 |
| A26. South Unimak and Shumagin Island preseason sockeye allocation, actual sockeye and chum harvest in thousands of fish, Alaska Peninsula, 1987–2007. | 106 |
| A27. Subsistence salmon harvest, by district and species, Bristol Bay, 1987–2007. | 107 |
| A28. Subsistence harvest of sockeye salmon by community, in numbers of fish, Kvichak River drainage, Bristol Bay, 1987–2007. | 110 |
| A29. Subsistence salmon harvest by community, Nushagak District, Bristol Bay, 1987–2007. | 111 |

LIST OF APPENDICES (Continued)

| Appendix | Page |
|--|-------------|
| B1. Sac roe herring industry participation, fishing effort and harvest, Togiak District, 1987–2007. | 114 |
| B2. Exploitation of Togiak herring stock, 1987–2007. | 115 |
| B3. Age composition of inshore herring, Togiak District, 1987–2007. | 117 |
| B4. Herring spawn-on-kelp industry participation, fishing effort, area and harvest, Togiak District, 1987– 2007. | 118 |
| B5. Aerial survey estimates of herring biomass and spawn deposition, Togiak District, 1987–2007. | 119 |
| B6. Exvessel value of the commercial herring and spawn-on-kelp harvest, in thousands of dollars, Togiak District, 1987–2007. | 120 |
| B7. Guideline and actual harvests of sac roe herring (tons) and spawn-on-kelp (lbs), Togiak District, 1987– 2007. | 121 |
| C1. 2007 Bristol Bay salmon outlook. | 124 |
| D1. 2007 Togiak herring fishery information. | 132 |

ABSTRACT

The 2007 Bristol Bay Management Report is the 46th consecutive annual volume reporting on management activities of the Alaska Department of Fish and Game, Division of Commercial Fisheries staff in Bristol Bay. The report emphasizes a descriptive account of the information, decisions, and rationale used to manage the Bristol Bay commercial salmon (sockeye *Oncorhynchus nerka*, Chinook *O. tshawytscha*, chum *O. keta*, pink *O. gorbuscha*, and coho *O. kisutch*) and Pacific herring *Clupea pallasii* fisheries, and outlines basic management objectives and procedures. We have included all information deemed necessary to fully explain the rationale behind management decisions formulated in 2007. All narrative and data tabulations in this volume are combined in two sections, salmon followed by herring, to aid in the use of this document as a reference source. The extensive set of tables has been updated to record previously unlisted data for easy reference. Fisheries data in this report supersedes information in previous reports. Corrections or comments should be directed to the Anchorage office. Attention: Editor Tim Sands, Westside Area Management Biologist, 546 Kenny Wren Rd, Dillingham AK, 99576.

Key words: Bristol Bay, management, commercial fisheries, Pacific herring, *Clupea pallasii*, sockeye salmon, *Oncorhynchus nerka*, Chinook salmon, *O. tshawytscha*, chum salmon, *O. keta*, coho salmon, *O. kisutch*, pink salmon, *O. gorbuscha*, Naknek, Kvichak, Egegik, Ugashik, Wood, Nushagak, Igushik, Togiak.

INTRODUCTION

MANAGEMENT AREA DESCRIPTION

The Bristol Bay management area includes all coastal and inland waters east of a line from Cape Newenham to Cape Menshikof (Figure 1). The area includes 9 major river systems: Naknek, Kvichak, Alagnak, Egegik, Ugashik, Wood, Nushagak, Igushik, and Togiak. Collectively, these rivers are home to the largest commercial sockeye salmon fishery in the world. Sockeye salmon *Oncorhynchus nerka* are by far the most abundant salmon species that return to Bristol Bay each year, but Chinook *O. tshawytscha*, chum *O. keta*, coho *O. kisutch*, and (in even-years) pink salmon *O. gorbuscha* returns are important to the fisheries as well. The Bristol Bay area is divided into 5 management districts (Naknek-Kvichak, Egegik, Ugashik, Nushagak, and Togiak) that correspond to the major river drainages. The management objective for each river is to achieve desired escapement goals for the major salmon species while harvesting all fish in excess of the established requirement through orderly fisheries. In addition, regulatory management plans have been adopted for individual species in certain districts.

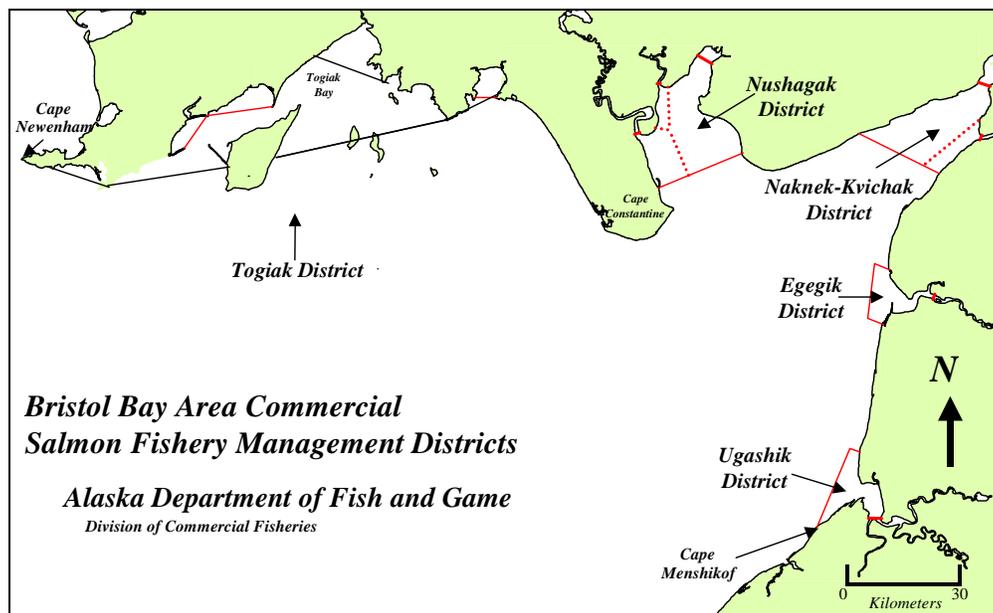


Figure 1.—Bristol Bay area commercial fisheries salmon management districts.

OVERVIEW OF BRISTOL BAY SALMON FISHERIES

The 5 species of pacific salmon found in Bristol Bay are the focus of major commercial, subsistence, and sport fisheries. Annual commercial catches for the most recent 20-year span (1987–2006) average over 24 million sockeye salmon, 67,000 Chinook, 937,000 chum, 98,000 coho, and 231,000 (even-years only) pink salmon (Appendices A3–A7). Since 1987, the value of the commercial salmon harvest in Bristol Bay has averaged \$126 million, with sockeye salmon being the most valuable, worth an average \$123 million (Appendix A25). Subsistence catches are comprised primarily of sockeye salmon and average approximately 145,000 salmon (Appendix A27). Sport fisheries harvest all species of salmon, with most effort directed toward Chinook and coho stocks. Approximately 40,000 salmon are harvested annually by sport fishermen in Bristol Bay.

Management of the commercial fishery in Bristol Bay is focused on discrete stocks with harvests directed at terminal areas around the mouths of major river systems. Each stock is managed to achieve a spawning escapement goal based on sustained yield. Escapement goals are achieved by regulating fishing time and area by emergency order (EO) and/or adjusting weekly fishing schedules. Legal gear for the commercial salmon fishery includes both drift (150 fathoms) and set (50 fathoms) gillnets. However, the Alaska Board of Fisheries (BOF) passed a regulation in 2003 allowing for two drift permit holders to concurrently fish from the same vessel and jointly operate up to 200 fathoms of drift gillnet gear. This regulation does not apply in special harvest areas. Drift gillnet permits were the most numerous at 1,862 in Bristol Bay (Area T), of those 1,621 fished in 2007. There were a total of 983 set gillnet permits in Bristol Bay, of those 836 made deliveries in 2007 (Appendix A2).

2007 COMMERCIAL SALMON FISHERY

RUN STRENGTH INDICATORS

Fishery managers in Bristol Bay have several early indicators of sockeye run size, including: the preseason forecast, the False Pass test fishery, an offshore test fishery operating from Port Moller, individual district test fishery programs, and the early performance of the commercial fishery. Evaluated individually, each of these pieces of information may not give a correct assessment of run size. Collectively, they form patterns such as weak year classes, discrepancies from the forecast, or differences in run timing that can be important to successful management of the commercial fishery.

PRESEASON FORECASTS

Total inshore sockeye salmon production for Bristol Bay in 2007 was forecast to be slightly more than 34.4 million (Table 1). The Bristol Bay sockeye harvest was predicted to reach approximately 26.4 million fish. Runs were expected to meet spawning escapement goals for all river systems in Bristol Bay.

The forecast for the sockeye salmon run to Bristol Bay in 2007 was the sum of individual predictions for 9 river systems (Kvichak, Alagnak, Naknek, Egegik, Ugashik, Wood, Igushik, Nushagak-Mulchatna, and Togiak) and 4 age classes (ages 1.2, 1.3, 2.2, and 2.3, plus ages 0.3 and 1.4 for Nushagak) (Table 2). Adult escapement and return data from brood years 1975–2003 were used in the analyses.

Predictions for each age class returning to a river system were calculated from models based on the relationship between adult returns and spawners or siblings from previous years. Tested models included simple linear regression, multiple regressions, and 5-year averages. In addition, univariate and multivariate time series analysis models were examined. The models chosen were those with statistically significant parameters having the greatest past reliability (accuracy and precision) based on mean absolute deviation, mean absolute percent error, and mean percent error between forecasts and actual returns for the years 2004 through 2006.

SOUTH UNIMAK/SHUMAGIN ISLAND FISHERY

These fisheries were managed under a guideline harvest (quota) specified in 5 AAC 09.365, the South Unimak/Shumagin Islands June Fishery Management Plan initially adopted in 1974 by the BOF. The original intent was to prevent overharvest of sockeye runs bound for river systems in Bristol Bay. In 2001, the BOF reviewed the management plan and concluded that because the fishery was based on the interception of stocks bound for Bristol Bay and the Arctic-Yukon-Kuskokwim region, it should be restricted to window periods of fishing time. These window periods were as follows: from June 10 to June 24 such that: commercial fishing periods may occur only from 6:00 a.m. to 10:00 p.m. and may not be open for more than (A) 3 days in any 7-day period, (B) 16-hours per day; (C) 48-hours in any 7-day period; (D) two consecutive 16-hour fishing periods in any 7-day period. The BOF removed the previous regulations that were based on a chum cap and a percentage of the Bristol Bay preseason sockeye salmon forecast.

The management plan was again brought before the BOF for review in January 2003. At that time, the BOF restructured the management plan. The South Unimak/Shumagin Island June Fishery Management Plan (5 AAC.09.365) states: (a) “The South Unimak and Shumagin Islands fishery harvest both sockeye salmon and chum salmon in a mixed stock fishery during the month of June. The sockeye salmon are predominantly of Bristol Bay and Alaska Peninsula origin. The chum salmon are bound for a number of areas, including Japan, Russia, the Arctic-Yukon-Kuskokwim, Bristol Bay, the Alaska Peninsula, and Southcentral Alaska. These salmon stocks have historically been harvested along the south Alaska Peninsula during the month of June. This management plan is intended to be consistent with the Policy for the Management of Sustainable Salmon Fisheries (5 AAC 39.222) and the Policy for the Mixed Stock Salmon Fisheries (5 AAC 39.220).” The BOF removed references to interception of Bristol Bay and Arctic-Yukon-Kuskokwim stocks and liberalized the fishing schedule: “(d) Beginning June 7, the commissioner may open, by emergency order, commercial fishing periods for purse seine, drift gillnet, and set gillnet gear in the South Unimak and Shumagin Islands fisheries as follows: (1) commercial fishing periods will begin at 6:00 a.m. and run 88 hours, until 10:00 p.m. 3 days later; commercial fishing will be closed for 32 hours and reopen at 6:00 a.m. 2 days later (2) notwithstanding (1) of this subsection, the final commercial fishing period will end at 10:00 p.m. on June 29.”

Preliminary catch information for 2007 indicates that the Shumagin Island fishery landed 852,000 sockeye, and the South Unimak fishery landed 738,000 sockeye (Appendix A26). The South Unimak sockeye harvest was 112% of the 10-year average and the chum catch was 94% of the 10-year average. In the Shumagin Island fishery, sockeye catch was 130% higher than the 10-year average and the chum harvest was 12% lower than the 10-year average. This translates to an overall sockeye harvest that was 55% higher than the 10-year average and a chum harvest that was 9% lower than the 10-year average.

PORT MOLLER TEST FISHERY

From 1967–1985, the Alaska Department of Fish and Game (ADF&G) operated a test fishery program based near the community of Port Moller. A large vessel fished specific coordinates on transect lines perpendicular to the migration path of sockeye salmon returning to Bristol Bay. Collected data was used to estimate strength, timing, age, and size composition of the run. Although the forecasting performance of the project was often inaccurate, the project was very popular with salmon processors because it gave an additional indication of run size, which influenced production capacity and the price paid to fishermen. The project did not operate in 1986, but through voluntary funding from industry and support from ADF&G and the Fisheries Research Institute (FRI), the Port Moller test fish project operated from 1987 through 2003. In 2004–2007, the FRI contribution to the project was replaced by the Bristol Bay Science and Research Institute (BBSRI), which operated the project and performed the bulk of daily inseason analysis.

GENETICS

Over the last 9 years, ADF&G has built and tested a genetic baseline capable of identifying stock compositions of mixed-fishery samples from within Bristol Bay. The genetics program has two primary objectives: 1) Provide managers with an advanced estimate of stock compositions of fish returning to Bristol Bay through the Port Moller test fishery; and 2) Provide researchers with stock composition estimates by year within fishing districts for potential use in the development of brood tables. It is important to note that multiple-years of data will need to be collected before within- and between-year variation can be assessed. Only after that analysis has been completed can migration patterns among fishing districts be examined.

Genetics sampling was added to the Port Moller test fishing project starting in 2004 and continuing through 2007. The intent was to use inseason genetic analysis to identify components of the annual run in time to assist management decisions for individual stocks. ADF&G genetics staff has the ability to complete analysis and deliver results in 3–5 days depending on several factors (e.g. timing of airline flights, weather on the fishing grounds, etc.). The travel time for fish from Port Moller to Bristol Bay is approximately 7 days depending on several factors (e.g. water temperature, wind, etc). Therefore, results from genetic sampling should be available before those fish reach the fishing districts of Bristol Bay. While it is still uncertain how the Port Moller genetics data will be integrated into the day to day management of Bristol Bay fisheries, the project is generating useful information.

ECONOMICS AND MARKET PRODUCTION

In 2007, the exvessel value of the inshore commercial salmon harvest was estimated at \$105.2 million. The 1997 to 2006 average exvessel value of Bristol Bay commercial salmon fisheries was about \$73.3 million (Appendix A25).

During the 2007 season, 9 companies canned, 31 companies froze, and 5 companies cured salmon in Bristol Bay. In addition, 24 companies exported fish by air (Table 25). A total of 39 processors/buyers reported that they processed fish from Bristol Bay in 2007.

RUN AND HARVEST PERFORMANCE BY SPECIES

The combined commercial salmon harvest in Bristol Bay totaled approximately 31.5 million fish in 2007, exceeding the 20-year average of 25.6 million salmon (Appendix A8).

Spring weather conditions in 2007 were cold until early May; but then warmed and although break-up was later than most recent years, it was not as prolonged as in 2006. The herring fishery was later than average in 2007 because of the colder and later spring. Additionally, freshwater (river) and ocean temperatures were relatively cold and slow to warm. This didn't seem to impact the run timing for salmon in the Bay in 2007 as much as it did in 2006.

Sockeye Salmon

The 2007 inshore sockeye run of 44.4 million fish was 23% greater than the preseason forecast of 34.4 million (Table 1). Actual runs were above forecast in all districts, except Egegik.

Sockeye salmon dominated the inshore commercial harvest, and totaled 29.5 million fish (Table 4). Sockeye escapement goals were met or exceeded in all systems where spawning requirements have been defined. The Alagnak River experienced another strong run this year with an escapement of 2.5 million and a total inshore run of 4.3 million.

Chinook Salmon

Chinook salmon harvests in 2007 were below the recent 20-year averages in all districts. The 2007 bay-wide commercial harvest of 62,700 Chinook was below the 20-year average of 67,000. The main factor here was the unexpected shortfall in the Nushagak District where the harvest was only 51,000 (Appendix A4). This was well below the expected harvest of 140,000.

Chum Salmon

In 2007, the inshore commercial harvest of 2.0 million chum salmon was more than double the 20-year average of 937,000 (Appendix A5). Chum salmon catches were above average in all districts.

Pink Salmon

Bristol Bay has a dominant even-year pink salmon cycle so there was no significant harvest in 2007.

Coho Salmon

The 2007 bay-wide commercial harvest of coho salmon totaled 52,000 and was the smallest harvest since 2003 (Appendix A7).

SEASON SUMMARY BY DISTRICT

Naknek/Kvichak District

The 2007 forecast for the Naknek/Kvichak District projected a total run slightly more than 11.5 million sockeye salmon; 4.1 million for escapement and 7.4 million for harvest (Table 1). The forecast by river system was 3.9 million to the Kvichak River, 2.0 million to the Alagnak River and 5.6 million for the Naknek River (Table 2). The escapement goals by river system are as follows: minimum 2.0 million for the Kvichak River, 400,000 for the Alagnak River and a range of 800,000 to 1,400,000 for the Naknek River. The actual total inshore run to the district for 2007 was 17.2 million sockeye salmon. The commercial catch was just over 9.0 million sockeye, with 42% of the sockeye harvested in the Naknek River Special Harvest Area (NRSWA).

The runs of Chinook salmon to Bristol Bay are many, however the Nushagak River is the only system large enough to justify producing a forecast. ADF&G does not forecast Chinook, chum,

or coho salmon for systems in the Naknek/Kvichak District. The commercial harvest of Chinook salmon has remained relatively insignificant due to the current mesh size restrictions that have been implemented since the early 1990s and how the NRSHA is managed. Mesh restrictions are set by “Emergency Order” (EO) that prohibit gillnets with mesh size larger than 5.5 inches until July 21 (Table 7). In addition to mesh restrictions when commercial fishing in the NRSHA, the fishery is also regulated by scheduling commercial periods through part of the flood and into the ebb tide. This results in a portion of each tide with no fishing so all species of fish have an opportunity to pass through the fishery unmolested.

The Alaska Board of Fisheries (BOF), during its December, 2006 meeting in Dillingham, passed a proposal which affected the Naknek River Special Harvest Area. This changed the allocation plan while fishing in the NRSHA to one set gillnet period for every three drift gillnet periods instead of a set harvest percentage for each gear type.

For the commercial fishery to begin in the Naknek/Kvichak District, the sockeye forecast for the Kvichak River must exceed the minimum escapement goal by 30%. When the forecast is less than 30% above the minimum sustainable escapement goal (SEG), fishing will begin in the special harvest areas of Naknek, Egegik and Ugashik Rivers (5 AAC 06.360 (h)). Based on the 2007 sockeye forecast for the Kvichak River, these restrictions were not implemented on June 1. However, the drift gillnet fleet was restricted to the Naknek Section when the fishery opened. Fishing time during the first 3 weeks of June was from 9:00 a.m. Monday to 9:00 a.m. Friday beginning 12:00 a.m. Friday, June 1 and ending 9:00 a.m. Friday, June 22.

In 2004, an emergency petition was submitted to the BOF in December to create an inriver set gillnet fishery in the Alagnak River due to the recent large escapements. The BOF accepted the petition and met in March, 2005 to discuss a special set gillnet fishery in the lower Alagnak River. Above normal runs to the Alagnak River have occurred for the past 6 years. This is due in large part to the restrictions in the commercial fishery that are designed to protect Kvichak sockeye stocks (Appendix A12). The petition asked the BOF to create a special set gillnet fishery in the Alagnak River in an attempt to harvest some surplus sockeye that have been going up the Alagnak River when the Naknek/Kvichak District has been closed. The BOF passed the inriver set gillnet fishery with restrictions (5 AAC 06.373 Alagnak River Sockeye Salmon Special Harvest Area (ARSHA) management plan).

The ARSHA management plan was reviewed again at the March, 2006 BOF meeting, this time to allow drift gillnet gear in the fishery. Drift gillnet gear was allowed in the ARSHA beginning in 2006 under the following guidelines: 1) alternating periods between the two gear groups for the first four tides, 2) after the fourth period, if the harvest from either gear group is 50% greater than that of the other gear group, the gear group with the higher harvest may fish additional periods.

The district opened on June 1 and the first recorded delivery occurred on June 12. The first significant effort occurred on June 18 when there were 52 drift and 20 set gillnet deliveries. The estimated cumulative harvest through 9:00 a.m. June 22 was approximately 90,000 sockeye salmon and of those, less than 5,000 were harvested by the set gillnet fleet operating in the Kvichak Section.

The escapement monitoring projects for the Naknek, Kvichak, and Alagnak Rivers were all operational during the 2007 season. The Naknek River tower began counting on June 19, the Kvichak River on June 21, and the Alagnak River on June 26 (Table 19). Escapement objectives

were met or exceeded in all three systems, the third time since 1999. Sockeye passage rates began stronger than expected considering the late break-up, indicating the run might be stronger than forecast. Escapement through June 23 for the Naknek River was 75,000 sockeye compared to the projected escapement for the same time period of 9,000. With significant escapement early in the run, the Naknek/Kvichak District was opened June 25 to set gillnet gear for an 8-hour period beginning at 7:30 a.m. and the drift gillnet fishery was open in the Naknek Section for 7.0-hours from 8:30 a.m. until 3:30 p.m. Escapement into the Naknek River continued at an above expected rate while in the Kvichak River, escapement was far less than desired. Through June 25, less than 3,400 sockeye had passed the Kvichak tower while the projected cumulative was 9,300. To allow for the harvest of Naknek River stocks and minimize the harvest of Kvichak River stocks fishing in the Naknek/Kvichak District was restricted to the flood portion of the tide beginning 9:30 p.m. June 25.

The cumulative escapement for the Naknek River through 6:00 a.m. June 26 was 130,000 sockeye. The expected cumulative escapement through June 26 was approximately 70,000. The cumulative escapement for the Kvichak River through 6:00 a.m. June 26 was 4,000 sockeye compared to the expected cumulative escapement through June 26 of 14,000. The daily projected escapement for the Kvichak River over the next 4 days was expected to exceed 20,000 sockeye per day to stay on track with the historical escapement curve. Based on the preceding information the likelihood of a NRSHA fishery was high. An announcement at 3:00 p.m. June 26 summarized the following information: 1) very few fish have been caught in the Kvichak inriver test fishery near Levelock, 2) the genetic results from the June 20 and 21 Port Moller test fishery were 2% Kvichak River and 13% Naknek River, 3) for the June 22 and 23 sample the Kvichak River proportion increased to 6% and the Naknek River proportion rose to 19%. It was announced at 3:00 p.m. June 26 that a NRSHA fishery as early as 11:30 a.m. Thursday, June 28 was expected. The drift gillnet fleet would fish first if and when the NRSHA opened. The Naknek Section only opened to drift gillnet gear while both the Naknek and Kvichak Sections opened to set gill net gear for two periods from 10:30 p.m. Tuesday, June 26, until 2:30 a.m. Wednesday, June 27 a 4-hour period, and from 8:30 a.m. until 1:30 p.m. Wednesday June 27 a 5.0-hour period. It was clear on June 27 that the Naknek/Kvichak District was going to close and continued commercial fishing was going to occur in the NRSHA.

The first three fishing periods in the NRSHA were restricted to drift gillnet gear only, the first period began at 11:00 a.m. Thursday, June 28. A cumulative harvest of nearly 450,000 sockeye occurred during the three drift periods with 276 permits making at least one delivery. The first set gillnet period occurred on June 30 for 9.0-hours, 41,000 sockeye were harvested with 171 permits fishing.

Sockeye escapement continued at a rate far above the projected daily rate for the Naknek River even with the commercial fishery fishing each tide. The cumulative escapement for June 28 through June 30 was slightly less than 500,000 sockeye. However, the Kvichak cumulative escapement through June 30 was only 52,000: the anticipated count for the same time period was nearly 175,000, which was 3-days behind the escapement goal curve. The Alagnak River escapement began slowly until June 30 when it jumped from 2,800 to 66,000 for the day. With this surge it was announced on July 1 that the ARSHA would open for two drift gillnet periods beginning at 4:00 p.m. July 2, and would follow with two set gillnet periods. There was no reported harvest from the two drift gillnet periods until July 6. Since there was no reported drift catch until late in the week only set net periods were scheduled until the fishery closed on July 9.

A total of 7,200 sockeye were harvested with set gillnet gear while drift gillnet gear harvested slightly more than 2,700.

The movement of sockeye past the Kvichak River tower started to increase on June 30 and by July 2 the daily escapements were over 100,000. The Kvichak still remained more than 1 day behind the cumulative escapement goal curve until Monday July 11, when it met the minimum escapement goal of 2.0 million sockeye.

The N/K District remained closed and all fishing effort was still confined to the NRSHA until July 9. Catch rates in the NRSHA remained strong for most of the fishery. The harvest during the July 3rd set gillnet period of 250,000 sockeye was the largest on record in the NRSHA and for the drift gillnet fleet, the 460,000 sockeye harvested on July 5 was also a record. Between July 6 and July 11 nearly all processors limited or suspended buying during several of the fishing periods. With reduced fishing effort, escapements increase significantly. It was announced at 3:00 p.m. Sunday, July 8, the Naknek Section of the Naknek/Kvichak District would open to drift gillnet gear at 7:00 a.m. July 9, with the entire district opening to set gillnet gear at 6:30 a.m. July 9, and the set gillnet fleet remained open to continuous fishing until 9:00 a.m. July 27. The drift gillnet fleet fished continuously from 3:00 a.m. Monday, July 17 until 9:00 a.m. Friday, July 27. Beginning 9:00 a.m. Monday, July 30 the Naknek/Kvichak District went to the fall schedule of 9:00 a.m. Monday to 9:00 a.m. Friday until September 28.

The Chinook salmon harvest totaled slightly more than 1,500 fish (Appendix A4). The chum salmon harvest totaled 380,000 fish, which was nearly five times the 10-year average of 118,000 (Appendix A5). There was a reported commercial harvest of slightly more than 2,000 coho salmon in the Naknek/Kvichak District, a decrease from the 2006 harvest of 5,163 (Appendix A7).

Egegik District

The 2007 Egegik District sockeye salmon run was 1 day later than the most recent 20-year average run timing peak of July 5. With an approximate inshore total of 7.9 million sockeye salmon to the Egegik District, the 2007 run ranks sixteenth since 1987, and was approximately 16% below the forecast of 9.2 million. Sockeye salmon runs to the Egegik District during the past 4 comparable cycle years, dating back to 1987, have ranged from 5.6 to 17.6 million fish with an average of 9.3 million. The 2007 run was 14% below the average for recent cycle years (Appendix A13). The most recent 20-year average (1987–2006) for the Egegik run was 10.1 million sockeye. The harvest of 6.5 million was the fifteenth largest commercial catch for the same 20-year period. An escapement of approximately 1.43 million fish was achieved, which was above the upper end of the SEG of 800,000 to 1,400,000 (Appendix A1).

The projected Egegik District harvest of 8.1 million sockeye was 31% of the predicted total Bristol Bay harvest of 26.3 million (Table 1). Drift gillnet participation peaked on July 12 with 388 permits registered to fish within the Egegik District (Table 8). At the beginning of the emergency order (EO) period (June 17), 140 drift permits were registered to fish in Egegik and 601 drift permits were registered Bay-wide.

Daily inriver test fishing, which provides estimates of sockeye salmon passage into the lower portions of the Egegik River, began on June 15 at the established sites just upstream of Wolverine Creek (Table 23). The Egegik River counting tower, which provides daily

estimates of sockeye salmon passage into Becharof Lake, became operational on June 19 with an unexpanded partial-day estimate of 1,122 (Table 23).

Because of a 2007 preseason forecast for a Kvichak River run that projected 30% above the minimum escapement of 2.0 million sockeye, commercial salmon fishing began in the full Egegik District. The district opened on June 1, but no landings occurred until June 12 (Table 10). Cumulative harvest through June 16 was approximately 7,000, indicating low volume and the fishery was allowed to close as scheduled at 9:00 a.m. on June 17. Inriver test fishery indices remained low and only subsistence fishing was allowed from June 15 to June 17 while escapement was allowed to build. On June 18 fishing was opened for 9 hours to both gear groups. Cumulative harvest through June 18 was lagging behind the historical average so the district was opened to subsistence fishing for 12 hours from noon on June 19 until midnight on June 20. The district was opened to both commercial gear groups on June 20-21 for 9 hours beginning at 4:15 p.m. Harvest from this period was approximately 75,000 sockeye salmon which brought the cumulative harvest to approximately 105,000. Test fishery indices continued to show a steady but slow passage rate and cumulative escapement counts at the tower through June 21 were approximately 100,000 sockeye which was tracking the historical escapement curve. On June 28, fishing was confined to the Egegik River Special Harvest Area (ERSHA) because the Kvichak River escapement had fallen behind its historical escapement curve. The Egegik River run continued to develop slowly until July 1 when the main part of the run arrived in the district, as evidenced by a significant increase in harvest and inriver indices.

Harvest through July 2 totaled slightly below 1.2 million sockeye salmon, or less than 13% of the preseason forecast for the district. The tower escapement counts continued to climb slowly with an approximate escapement of 188,000 through this date. This level of escapement was 4 days behind the 1990s average escapement timing and approximately 7 days behind the average escapement timing of 2000-2005. The average proportion of the run having passed the tower by this date was 30% using the 1990s run timing and 50% using the 2000-2005 run timing. Considering this information, the district was rested on the afternoon tide on July 1 and the morning tide on July 2 to allow additional escapement into the river.

A short 3-hour drift gillnet fishery was scheduled on the evening tide, July 2, to guard against a big escapement event. Inriver test fish indices increased significantly on July 2. Escapement and test fish indices continued an upward trend July 2-4 with the three highest daily indices for the season. An escapement of approximately 750,000 fish was realized from these 2 days. It took 3 days for the fish to travel to the counting tower. With a significant amount of fish entering the river, commercial fishing time was liberalized for the next several days until the pulse could be enumerated at the counting tower. Harvest on July 1 was approximately 300,000 fish. July 3 was the first of 10 consecutive days during which the harvest averaged over 400,000. The lower end of the escapement goal range was exceeded on July 6. Through July 7 escapement had increased to about 1 million fish, putting the run several days ahead of historical run timing. Cumulative harvest through July 7 was approximately 3.4 million fish.

As the run continued, fishing was allowed for both gear types on a daily basis. On July 8, the Kvichak River was projected to reach the lower end of its SEG of 2 million sockeye salmon. By regulation, this allowed the commercial fishing boundaries in the Egegik District to expand from the ERSHA to include the full district on the morning of July 9. Fishing continued in the full district until the end of the season. The fall fishing schedule of 9:00 a.m. Monday to 9:00 a.m.

Friday normally begins on July 17, however in 2007 the fishery was opened to continuous fishing by EO until July 27; the fall fishing schedule effectively began on July 30.

Processing capacity issues began to develop on the afternoon of July 4 and on July 5 many companies were on limits or had suspended buying. By the second week of July most companies had returned to a more normal state of operation and had removed limit restrictions from their fleets.

The preliminary age composition of the 2007 Egegik District sockeye run is shown in the table below.

| Age Group | Catch | Escapement | Total |
|------------------|--------------|-------------------|--------------|
| 1.2 | 32.1% | 38.6% | 33.3% |
| 2.2 | 16.3% | 16.9% | 16.4% |
| 1.3 | 28.5% | 19.0% | 26.8% |
| 2.3 | 22.6% | 20.4% | 22.2% |
| Other | 0.4% | 5.2% | 1.3% |
| Totals | 100% | 100% | 100% |

The 2007 Egegik run was split fairly evenly between 2- and 3-ocean fish, which came from the 2002 and 2003 escapements of 1.03 and 1.15 million respectively. Permit holders harvested approximately 82% of the Egegik inshore sockeye run in 2007, compared with the recent 20-year average exploitation rate of 83%. Peak harvest dates were July 3 and 5 when approximately 518,000 and 532,000 sockeye were landed. Peak tower counts occurred July 5 and 6, when over 288,000 and 310,000 sockeye were counted, respectively. During the EO period from June 16 to July 17 in 2007, a total of 220 hours were fished by the drift gillnet group (10 hours less than 2006) and 263.5 hours (11 hours more than in 2006) were fished by the set gillnet gear group, 36% and 44% respectively, of the 600 available hours. By the end of the EO period, drift and set gillnet fishers had harvest allocations of 84% and 16%, respectively (Appendix A9). The allocation specified in regulation is 86% drift gillnet and 14% set gillnet.

The commercial harvest of other salmon species in the Egegik District was approximately 185,198 fish, or about 2.7% of the total harvest. The reported Chinook salmon harvest was 541 fish, 66% below the 20-year average of 1,195 (Appendix A4). The district chum harvest of approximately 166,500 fish was almost twice the recent 20-year average of 86,000 (Appendix A5). No pink salmon were reported in the harvest, historical pink salmon harvest information is presented in Appendix A6. The coho salmon harvest of approximately 18,000 fish was 42% below the recent 20-year average of 31,000 (Appendix A7).

Aerial surveys were conducted in the Egegik and King Salmon River systems to provide escapement indices for Chinook, chum, and coho salmon. Resulting counts were 558 Chinook, and 3,788 chum salmon. Chinook escapement indices were below average in streams surveyed. Based on carcass distribution and presence it is believed the survey was near peak spawning. The Chinook salmon index was 46% below the 20-year average while the chum salmon index was roughly 20% below average. The Chinook salmon index ranked seventh in the last 10 years and the chum index was the second highest in 10 years.

Based primarily on commercial fishery information the coho run in 2007 was early, compressed and weak. Aerial surveys were flown in early September but few fish were observed. Coho that were observed were staged in front of tributary mouths within Becharof Lake.

In summary, the 2007 6.5 million sockeye salmon harvest in the Egegik District ranked fifteenth out of the last 20 years and was 23% lower than the recent 20-year average of approximately 8.4 million fish. The run was approximately 16% below forecast. The fishery harvested approximately 82% of the run into the district compared to the 20-year average of 83%. The midpoint of the run was July 5, which is 1 day later than the 20-year average. Peak effort occurred on July 12 when 388 drift gillnet vessels were registered to fish in the district. Fifteen processors registered to purchase fish in the Egegik District this season.

Ugashik District

The 2007 inshore sockeye salmon run to the Ugashik District of approximately 7.6 million fish was the largest run ever recorded in the Ugashik System. The run was 45% above forecast (Table 1). The run timing was approximately 1 day earlier than the most recent 20-year average of July 10. Market conditions in the Ugashik district were particularly tenuous during the 2007 season with set net permit holders being the most affected. The lack of stable markets coupled with the record run also impacted the ability of ADF&G to control escapement into the Ugashik River. The commercial sockeye catch of approximately 5.0 million fish was the largest harvest for the most recent 20-year period (1987-2006). The sockeye escapement to the Ugashik River was approximately 2.6 million, or 1.4 million over the upper range of the SEG range of 0.5 to 1.2 million. This is the second largest sockeye escapement on record for the Ugashik River. Comparable inshore runs over the last four cycles, dating back to 1987, have ranged from 2.5 to 5.5 million fish with an average of 3.2 million, placing the 2007 run 131% above the average for the last 4 cycle years (Appendix A14).

The district was opened to a schedule of 4 days per week fishing on June 1 by EO. Initial landings occurred in the district on June 12 (Table 11) when a handful of sockeye and chum salmon were delivered. Since the pre-season forecast for the Kvichak River allowed all fishing districts to start the season in their full areas, the 4 day per week schedule was continued until June 28, when the management of the fishery switched to a tide by tide basis. The cumulative harvest through June 28 was approximately 55,000 sockeye salmon. This compares to the 20-year average cumulative harvest of approximately 67,000 for the same date.

The preseason forecast for the Ugashik District indicated a projected harvest of 3.3 million sockeye salmon. Accordingly, permit holders were advised that fishing time after June 28 would depend on inriver test fishing results, tower escapement levels, and fishery performance. With this advisory, 46 vessels with drift gillnet permits were registered for the Ugashik District on June 28 (Table 9).

Inriver test fishing, which operates about 3 miles upstream of Ugashik Village, started on June 25 and provided a daily estimate of sockeye passage into the lower part of the Ugashik River. The counting tower project, operating about 24 miles upstream of Ugashik Village, started counting on June 30. The first tower count was a partial day count resulting in an unexpanded estimated passage of 4,080 fish (Table 24).

Initial information from the inriver test fishery became available beginning on June 25, but passage indices were too low to justify a commercial period. The district was opened to subsistence fishing only for 24 hours beginning at 3:00 p.m. June 26. Indices remained low so no fishing was permitted on June 28.

Small fleet size was used as justification for fishing on June 29 and the district was opened to set gillnets for 24 hours and to drift gillnets for 6 hours beginning at 9:00 a.m. Approximately 120,000 sockeye were caught during this period, which is a fairly large catch for this stage of the Ugashik run, especially considering the low amount of effort. Inriver test fishery indices began to show an upward trend on the morning of June 30 and a 6-hour drift gillnet only period was scheduled for July 1 beginning at 10:30 a.m.

Inriver indices continued to build until peaking on July 5-6. Fishing opportunity was escalated beginning on July 3 but, because of small fleet size, had little impact on escapement until July 7. July 3 was the first of 14 consecutive periods with an average harvest of slightly over 300,000. Atypical of the Ugashik run, fish were moving directly into the river system, whereas it is more common for fish to mill in the lower river before moving upstream. Fearing that the large catches being experienced in the district were because of exploitation of milling fish and given the early state of the run, management was deliberately conservative.

With continued high catches and index counts it became apparent that the 2007 Ugashik District sockeye run was large. The magnitude caught permit holders, managers and processors by surprise. The run and corresponding catches were large enough to exceed district market capacity and some reports of fish being dumped were received by ADF&G. Warnings and admonishments to be certain of markets before fishing were incorporated into daily announcements. According to reports, dumping was an issue for the initial part of the season and then lessened as permit holders discovered that no extra market capacity was available.

Another issue in 2007, similar to 2006, was that age composition information from the counting tower did not mirror the age composition of the catch. The escapement samples had a significant component of age 1.2 fish, but the catch data indicated a disproportionate number of larger age 1.3, 2.2, and 2.3 fish in samples taken from the commercial fishery. As a result no commercial fishing was scheduled on July 5 to allow some unfiltered fish into the escapement. The strategy was successful in that samples taken at the escapement project from fish that entered the river on this day showed a better mix of all age classes.

The lower end of the escapement goal range (500,000) was surpassed on July 7 when passage for the day at the tower was 412,000 sockeye. Cumulative harvest through July 7 was 1.65 million fish.

Sockeye landings began to taper off in mid-July with a final catch of approximately 5.0 million (Table 11). The final Ugashik River sockeye escapement count was 2,473,746 fish when the project ended on July 23. Additionally, about 125,000 sockeye were observed during post season aerial surveys of the Ugashik system, which includes approximately 50,000 sockeye at the outlet to lower Ugashik Lake (Appendix A14).

The fall fishing schedule of 9:00 a.m. Monday to 9:00 a.m. Friday normally begins on July 17, however in 2007 the fishery was opened to continuous fishing by EO until July 27; the fall fishing schedule effectively began on July 30.

By the end of the emergency order period (July 17), set gillnet permit holders had caught approximately 8% of the sockeye harvest and drift gillnet permit holders took 92% (Appendix A9). The allocation specified in regulation is 90% drift gillnet and 10% set gillnet. Between June 23 and July 17, set gillnets were permitted to fish a total of 222 hours, or 94.5 hours more fishing time than they fished in 2006, while drift gillnets were permitted to fish a total of 181 hours, or 46.5 hours more fishing time than in 2006.

Peak escapement counts occurred July 8, and 15, when 412,000 and 408,000 sockeye respectively passed the counting towers.

The preliminary age composition of the 2007 Ugashik District sockeye salmon run is shown in the table below.

| Age Group | Catch | Escapement | Total |
|------------------|--------------|-------------------|--------------|
| 1.2 | 48.5% | 78.9% | 58.9% |
| 2.2 | 7.9% | 2.9% | 6.2% |
| 1.3 | 36.4% | 15.8% | 29.4% |
| 2.3 | 6.1% | 1.4% | 4.5% |
| Other | 1.0% | 1.0% | 1.0% |
| Totals | 100% | 100% | 100% |

Commercial harvest of other salmon species was approximately 255,000 or 5% of the district's total harvest. The harvest of 1,445 Chinook salmon was 16% below the recent 20-year average of 1,705 (Appendix A4). Chinook escapement is assessed by aerial surveys in the Dog Salmon and King Salmon Rivers, the major tributaries of the Ugashik River, and the biggest producers of this species in the district.

The chum salmon harvest of approximately 251,000 fish was 319% above the 20-year average of 62,000 (Appendix A5). The coho salmon harvest of approximately 1,961 fish was well below the 20-year average of 15,000 but there was very little directed commercial effort for Ugashik coho salmon in 2007 (Appendix A7). Aerial surveys to enumerate coho salmon escapement were flown in early September since a strong pulse of coho arrived early in the district. Several of the surveyed streams were high and muddy preventing estimates. Aerial survey counts totaled 1,102 coho salmon.

Three pink salmon were reported in the harvest in 2007. Historic pink salmon harvest figures are presented in Appendix A6.

In summary, the 2007 Ugashik District fishery harvested approximately 67% of the sockeye run to the district compared to the 20-year average exploitation rate of 68%. Days of peak catch occurred on July 7 and 16 when 440,000 and 475,000 sockeye were harvested. The midpoint of the run was July 9, slightly early compared to the 20-year average of July 10. Days of peak escapement were July 8 and 15 when 412,000 and 408,000 sockeye, respectively, passed the counting tower. Peak effort was on July 17 when 440 vessels with drift gillnet permits were registered to fish in the district. Eleven buyers operated in the district during the season (Table 25).

Environmental Conditions

An unusual event occurred in the Mother Goose Lake Drainage during the spring or early summer of 2005. A lahar took place on Mt. Chiginigak, a semi-active volcano which is the headwater area of Volcano and Indecision Creeks. These creeks provide water to Mother Goose Lake, which in turn is the source for the King Salmon River, a tributary that empties into Ugashik Bay.

A lahar is a volcanically influenced runoff event, and while the mechanics or timing in this case are not clear, the effects were dramatic. Sometime in the spring or early summer of 2005, an event took place on or within Mt. Chiginigak that caused the snow on and within the summit

crater to melt and runoff into the Mother Goose Drainage and an unnamed tributary on the Pacific side of the Alaska Range. This runoff is extremely acidic in nature and was of a large enough volume to lower the pH of Mother Goose Lake and the King Salmon River to between 3.0 and 3.5. This condition persisted through most of the summer and into the fall and prevented salmon and other anadromous fish from migrating into the upper reaches of the system. Chinook and chum salmon were observed during aerial survey flights in two tributaries in the lower reaches of the King Salmon River, Pumice, and Old Creeks, but no fish were observed in the King Salmon River mainstem or Painter Creek, a tributary with a confluence just below Mother Goose Lake, or in Volcano or Indecision Creeks. Painter Creek is a major spawning area for Chinook salmon in the Ugashik system.

Long-term ramifications from this event could be significant. At least two and possibly three age classes of salmon were impacted, depending on the timing of the event. The juvenile classes of 2004, which hatched in the spring of 2005, and the 2005 return were definitely affected, but depending on the timing of the lahar, the outgoing age class of the 2003 spawning event (smolts) could have outmigrated before the river was impacted by the acidic runoff. If the runoff ceases or diminishes over the winter, then while impacted, the watershed would become more habitable for all species. If the pH continues to stay low, the ability of the system to support aquatic life will be diminished.

Aerial surveys conducted in early August and again in early September, 2007 revealed one pair of Chinook and a single chum salmon in Painter Creek. The area between the confluence of Painter Creek and the King Salmon River had no live fish but approaching the confluence of Old Creek and the King Salmon River a gradient of carcasses was observed with more carcasses closer to Old Creek and diminishing as distance upriver increased. The lowest two tributaries of the King Salmon River, Old and Pumice Creeks were again well populated with Chinook, chum and some sockeye salmon. The area of the mainstem King Salmon River immediately below the confluence of Pumice Creek had several thousand fish of mixed species staged and presumably waiting for a chance to move up the mainstem.

Unlike 2006, August of 2007 was comparatively dry. While conditions in 2006 may have allowed fish into the upper tributary, Painter Creek, low water likely prevented significant numbers of fish from making progress that high in 2007.

It is unknown at this time how long the acidic water will be produced and drain into the King Salmon River/ Mother Goose Lake complex and there is no way to remedy the situation. Staff from the Volcano Observatory Group, the USFWS Alaska Peninsula National Wildlife Refuge, and ADF&G will continue to monitor the river and document impacts to the watershed through time.

Nushagak District

The 2007 Nushagak District total inshore sockeye salmon run was approximately 10.6 million fish, 16% over the preseason forecast of 8.9 million fish (Table 1). Commercial sockeye harvest, in the Nushagak District, reached 8.1 million, 14% above the preseason projected harvest of 7.0 million sockeye. Total sockeye escapement in the district's three major river systems was 2.5 million, which was near the combined upper escapement goal range of 2.6 million. Chinook salmon escapement into the Nushagak River was 60,000, 80% of the 75,000 inriver goal. Harvest was 51,000 Chinook in the Nushagak District.

Peak Chinook salmon production in the early 1980s resulted in record commercial harvests and growth of the sport fishery. Declining run sizes and the question of how to share the burden of conservation among users precipitated the development of a management plan for Nushagak Chinook salmon. Since the plan was adopted in 1992, the Nushagak-Mulchatna Chinook Salmon Management Plan (NMCSMP) has governed management of the Nushagak Chinook salmon fisheries (5 AAC 06.361). The plan was amended in 1995, 1997, and 2003.

The purpose of this management plan is to ensure an adequate spawning escapement of Chinook salmon into the Nushagak River system. The plan directs ADF&G to manage the commercial fishery for an inriver goal of 75,000 Chinook salmon past the sonar site at Portage Creek. The inriver goal provides: (1) a biological escapement goal of 65,000 spawners, (2) a reasonable opportunity for inriver subsistence harvest and (3) a guideline sport harvest of 5,000 fish. The plan addresses poor run scenarios by specifying management actions to be taken in commercial, sport, and subsistence fisheries, depending on the severity of the conservation concern. Management decisions are heavily dependent upon the estimates of inriver Chinook salmon escapement provided by the sonar project located near Portage Creek on the lower Nushagak River.

Trends in age composition of Chinook spawning escapements in 1995 and 1996 raised concerns about the quality of Chinook escapements in the Nushagak River. The proportion of large (age-5 through age-7) fish was less than desired, and the age composition of the escapement during the first half of the run differed substantially from that of the escapement during the second half of the run. In the early portion of the run, male Chinook salmon of the younger age classes comprised the majority of the run, while the older age classes became prevalent in the latter portion of the run. Differences in age composition between escapement and total run, and between early and late-season escapement can result from size-selective harvests. To address this concern, ADF&G adopted a strategy of allowing unfished pulses of Chinook into the Nushagak River before opening a commercial period. Allowing untargeted fish into the river was intended to lessen the effects of selectivity in the commercial fishery while allowing fish with a natural age distribution to enter the river. In November, 1997, additional language directing the department to allow pulses of Chinook salmon into the Nushagak River that were not exposed to commercial fishing gear, was added to the NMCSMP.

ADF&G adjusts commercial fishing time and area to harvest Chinook salmon surplus to the inriver goal. Management decisions are based on the preseason forecast and inseason indicators of run strength, including commercial harvest performance, subsistence harvest rates and inriver passage rates estimated by the sonar project. During the last 4 years, managers have used directed Chinook openings early in June to harvest fish when a surplus appears to be available. Because these openings usually occur during the first third of the run, harvest can be directed toward more segments of the run at a low level. However, this strategy also has the potential for complicating management if the second half of the run is significantly weaker than the first half. When a surplus is forecasted, early commercial openings provide for more time between openings allowing unfished pulses of fish to move through the district, better quality of fish in the harvest, and harvest spread over a larger portion of the run.

The 2007 Nushagak District Chinook salmon forecast was 215,000 fish. With an inriver goal of 75,000 fish, and average sport and subsistence harvest of 6,000 fish below the counting station, 134,000 Chinook would potentially be available for commercial harvest. In 2003, a new strategy was adopted to address concerns about incidental Nushagak sockeye catch in directed Chinook

openings. This strategy focused on having directed Chinook openings as early and as often as escapement and the management plan would allow. In 2007, managers worked with the Nushagak Advisory Committee and other stakeholders to decide on the fishing schedule prior to the season. The preset schedule allowed stakeholders to plan ahead and provided more certainty for marketing purposes. The schedule could be suspended if escapement was less than expected. The preseason schedule allowed for 5 openings based on the preseason forecast and subsequent openings based on escapement.

The sonar project at Portage Creek was operational on June 4. Early daily Chinook counts were close to expectations and continued to be just slightly behind the historical average through June 15. Based on the agreed upon schedule, openings began on June 1. An 18-hour directed Chinook opening resulted in the harvest of 2 Chinook salmon from two deliveries (there were more fish caught, but most were not sold and not reported). In 2005, the Chinook fishery opened on June 1 and resulted in a harvest of 689 Chinook but the 2007 spring was much cooler and later than spring in 2005. The preseason plan set directed Chinook openings for June 1, 3, 6, 9, and 11. Openings after the 11th would be based on escapement and were likely to be on June 13, 15, and 18. Duration of openings was dependent on effort, harvest and subsistence information, but the first opening was set at 18 hours. Openings occurred as scheduled through June 13, but because escapement was less than desired, subsequent openings were not warranted. The directed Chinook harvest was approximately 2,100 fish.

The preseason forecast for the inshore sockeye run to the Nushagak District totaled 8.9 million fish (Table 1), 20% greater than the 20-year average run of 7.1 million sockeye (Appendix A16). Strength of the forecasted Wood River run (5.9 million) was 40% above the 1987–2006 average run, while the Nushagak River sockeye run (1.9 million) was expected to be 19% greater than the 20-year average actual run. The forecasted run to Igushik River (1.2 million) was the same as the 1987–2006 average run of 1.2 million (Appendix A16).

On the afternoon of June 23, with increasing sockeye escapement in the Wood River, an 8-hour set gillnet period was announced for the Nushagak Section from 8:30 a.m. until 4:30 p.m. on June 24 and the drift fleet was placed on short notice. This allowed managers to be able to respond in the event there was a large increase in escapement overnight. The opening allowed permit holders to select the mesh of their choice. The escapement did not increase in the Wood River overnight and no drift opening was warranted for June 24, but another set net opening was announced for the morning of June 25. All permit holders were advised that the next opening would be restricted to 5.5 inch mesh or smaller for the conservation of Chinook salmon.

The morning of June 25, sockeye escapement into the Wood River increased significantly with 16,000 fish between midnight and 6:00 a.m. and continuing strong counts. A 3-hour driftnet period was announced for the afternoon of June 25. The 10:00 a.m. count at Wood River was 34,000 fish; a rate of more than 4,000 fish per hour for the last 4 hours. With this information, the set net period in progress was extended for 24 hours and another drift opening of 4-hours was announced for the morning of the 26.

Fishing time increased over the next few days until escapement slowed down in the Wood River. There were two periods a day for several days, fishing up to 17 hours in a day with short breaks on the flood to allow fish to spread out in the district. Once the Wood River escapement slowed, drift fishing was reduced to two 5-hour periods a day with one tide off every 2 or 3 days. This allowed more fish in the district and increased the set gillnet harvest significantly. These breaks

in fishing allowed for harvest percentages to be brought more into line with allocation and allowed more escapement to get into both the Nushagak and Wood Rivers.

Due to processing capacity issues, the processors suspended buying on the night of July 5th or the morning of July 6. With the majority of the drift gillnet fleet and all set gillnets suspended for 12 hours or more on July 6, escapement increased and progress towards balancing the allocation reversed. Fishing reverted to two periods a day for 14-18 hours total in the Nushagak District. Set gillnet fishing was extended until further notice. The escapement in both the Wood and Nushagak Rivers increased with the peak occurring at the Wood River tower on July 6 with a daily estimate of 145,000 sockeye.

Fishing in the Nushagak went continuous on the afternoon of July 16. The number of permits had steadily decreased from a high of 741 on June 29 and 30 to 314 on July 15. Additionally, the Wood River escapement was approaching the upper end of the escapement range, warranting continuous fishing. The final escapement to the Nushagak River was 518,000 sockeye salmon and 60,000 Chinook salmon. Wood River sockeye escapement was 1,528,000.

Commercial fishing began in the Igushik Section of the Nushagak District on June 18, with set gillnets only. In recent years, with extended fishing time in the Nushagak Section, Igushik fish stocks have been subject to an uncertain degree of interception by Nushagak Section drift gillnet openings. This may have played a part in some recent years of poor escapement to the Igushik River. Therefore, a conservative approach to fishing in the Igushik Section has been employed. Fishing in the Igushik Section began with 8-hour per day set gillnet openings with increasing time as escapement and harvest information indicated. Drift gillnet fishing was allowed only after the escapement and harvest from the set gillnet periods were assessed.

In 2007, set gillnet fishing periods in the Igushik Section went from 8 hours a day on June 18 to 12 hours a day on July 1, with escapement at 31,000 after a daily escapement on June 30 of 14,000 sockeye. Fishing time increased to 24 hours a day on July 3. Fishing with drift gillnets began on July 6 after processors suspended buying for part of the day and continued with limits and suspensions for the next 10 days. The Igushik River escapement continued to be strong for the rest of the season and ended at 415,500.

The Nushagak Coho Salmon Management Plan (5 AAC 06.368) established spawning and inriver escapement goals and provides guidance to ADF&G in managing sport, subsistence, and commercial fisheries that harvest coho salmon. The plan directs the department to manage the commercial fishery in the Nushagak District to achieve an inriver escapement goal of 100,000 coho salmon in the Nushagak River. The inriver goal provides for a biological escapement goal of 90,000 spawners and 10,000 additional fish for upriver sport and subsistence harvests. The department no longer operates the sonar camp on the Nushagak River for coho salmon enumeration. Because there is no escapement information, a conservative schedule of 36 hours of fishing per week using three 12-hour periods was employed for the 2007 season. Coho harvest was 30,000, approximately 6% more than the average harvest over the last 20 years (Appendix A7).

Togiak District

The 2007 inshore sockeye run of approximately 1,069,000 fish was the fourth largest run to the Togiak District in the last 20 years (Appendix A17) and exceeded the preseason forecast by 45% (Table 1). District sockeye harvest was approximately 799,000 salmon, the third largest since

1987. Escapement into Togiak Lake was 269,646, just within the BEG range of 120,000-270,000 salmon.

The Togiak District is managed differently than other districts in Bristol Bay. This district uses a fixed fishing schedule of 3 days per week in the Kulukak Section, 4 days per week in Togiak River Section, and 5 days per week in the Osviak, Matogak, and Cape Peirce Sections. The Togiak District Salmon Management Plan (TDSMP) adopted by the Alaska Board of Fisheries in January, 1996 added 36 hours to the weekly schedule for the Togiak River Section between July 1 and July 16. This schedule is adjusted by emergency order, as necessary, to achieve desired escapement objectives. In addition, the TDSMP restricts the transfer into the Togiak District by prohibiting permit holders that fished in any other district from fishing in the Togiak District until July 24. Conversely, it prohibits permit holders that have fished in the Togiak District from fishing in any other Bristol Bay district until July 24.

The 2007 inshore run to the Togiak River was forecasted at 590,000 sockeye salmon (Table 1), of which 55% were projected to be 3-ocean fish and the remaining 45% were predicted to be 2-ocean fish (Table 2). With a management plan specified escapement goal of 150,000 sockeye for Togiak Lake, approximately 440,000 sockeye would potentially be available for harvest in the Togiak River Section. Smaller sockeye runs to other drainages in the district (primarily the Kulukak River) occur, but these are not included in the preseason forecast because age composition and escapement data are not complete. Unofficially, a contribution of 54,000 sockeye to the district harvest was projected from drainages other than the Togiak River.

A formal forecast is not issued for Chinook salmon in the Togiak District. Recently, Chinook run strengths district-wide have declined from a high of almost 52,000 in 1985, to a low of less than 18,000 in 2002 (Appendix A20). Chinook escapements in the Togiak River drainage fell short of the escapement goal (10,000) from 1986 through 1992. The Chinook escapement goal was reached from 1993 to 1995 with extensive commercial fishing closures and mesh size restrictions. In 1996, with only minor reductions in the weekly fishing schedule, Chinook escapement again fell short of the goal. The Chinook escapement goal in the Togiak River has been achieved consistently since that time. Reducing the weekly schedule to 48 hours per week in late June seems to provide a good balance between commercial fishing time and closures that allow Chinook escapement to be achieved.

Management strategy for Chinook salmon the last 9 years has been to reduce the weekly fishing schedule in sections of the Togiak District during the last 2 weeks of June. This year, the reduction was only necessary the last week of June because early season effort was so low. The weekly schedules in both the Kulukak and Togiak River Sections were reduced by 24 hours. The western sections, Cape Peirce, Osviak, and Matogak, remained open for the regularly scheduled periods.

Commercial fishing opened in the district with a regular weekly schedule on June 1. However, first landings of the 2007 season were made on June 18 (Table 14). Commercial harvest and effort for this week was far below average with 49 Chinook salmon.

The fishery was reopened on June 25 and was reduced by 24 hours for Chinook conservation. Cumulative catch after the last delivery on Thursday, June 28 was 1,392 Chinook salmon. Midnight June 30, marked the end of active management for Chinook salmon. When fishing reopened Monday, July 2 the focus was on sockeye salmon management.

Total Chinook harvest for the Togiak River Section was 7,127 fish (Table 14), with an additional 628 caught in the remainder of the Togiak District (Table 15). The total number of Chinook salmon caught in the Togiak District was 92% of the 10-year average. Unfortunately, weather, high water, and pilot availability issues prevented aerial surveys to assess escapement. Figures are not yet available for sport or subsistence harvests. District-wide escapement is not available due to partial escapement data (Appendix A20). Total run size cannot be determined in the absence of complete escapement data.

Commercial fishing for sockeye opened with regularly scheduled fishing periods on June 1. First deliveries of the season occurred on June 18. Although directed sockeye fishing does not begin until July 1, effort largely focuses on their harvest for the entire season. By the end of June, district sockeye harvest was 13,300 fish, significantly lower than expected levels. Effort was low, largely due to high fuel prices.

As mentioned above, the last weekly fishing period in June for the Togiak River and Kulukak Sections was reduced for Chinook conservation. This year ADF&G responded to local requests to keep the Kulukak Section open for an extra day the first week of July. In recent years, beginning July 1, reductions of 48 hours for conservation of Kulukak River Sockeye have become common practice. This was due to a shift in effort to the Kulukak Section and stock conservation concerns; however these reductions were deemed unnecessary as tender support was often not provided for more than 2 days a week.

Commercial fishing reopened on July 2 as scheduled. On July 3, permit holders were advised that the Togiak River Section and the Kulukak Sections would remain on their full schedules. Operation of the Togiak counting towers began on July 4 with a count of about 2,700 sockeye. Both cumulative catch and escapement were stronger than expected for this time. By the close of fishing in the Togiak River Section on July 7, 104,000 sockeye had been harvested for the week. At that time, cumulative escapement past the towers was 11,982 sockeye (Table 20). Cumulative harvest was 117,000 with the majority caught in the preceding week.

When fishing commenced on Monday July 9, the Kulukak Section was set to close on schedule and the Togiak Section was placed on “stand-by”. By the afternoon of July 11, escapement past the towers on the Togiak River was over 25,000 sockeye and cumulative catch was reported to be over 156,000 sockeye. This week’s decreased harvest compared with the previous week was largely due to capacity issues. With escapement ahead of schedule, the Togiak River Section was extended to 9:00 a.m. Monday, July 16 when the next week’s fishing schedule would begin.

For the week of July 16, the Kulukak Section was set to close on schedule and the Togiak Section was once again on “stand-by”. By July 18, escapement was well ahead of the expected cumulative escapement curve with a cumulative count of over 92,000 sockeye. Cumulative catch in the district was strong at almost 395,000 sockeye. With escapement guaranteed to fall within the BEG range, fishing was extended 48 hours and would close 9:00 a.m. Sunday, July 22, the maximum allowable extension.

Fishing reopened on July 23 in all sections and the Togiak Section was once again placed on “stand-by”. Although the schedule for the Kulukak River Section reverted to the full schedule for the remainder of the season, the last deliveries from the Kulukak Section were made July 25 due to lack of tender service in the area. The season total for the Kulukak Section was approximately 58,000 sockeye (Table 15). By Tuesday, July 24, escapement past the Togiak counting tower was over 150,000. With escapement at the management plan specified

escapement goal, the fishing period in the Togiak River Section was extended to 9:00 a.m. Sunday, July 29, the maximum allowable extension.

By regulation, the Togiak District opens to all Bristol Bay CFEC salmon permit holders on July 24. Although there seemed to be a lot of interest in fishing there, deliveries did not increase from previous levels except on July 25 when 258 deliveries occurred (compared with the previous high of 247 on July 13). There are no requirements for registration after July 24 so increased effort is difficult to assess. Additionally, some permit holders are finishing their season while others are still moving into the district.

For the week of July 30, the Togiak Section was once again extended to 9:00 a.m. Sunday, August 5, the maximum allowable extension. By August 1, escapement was over 250,000 sockeye. Catch in the district was strong at almost 730,000 sockeye. Counting towers ceased operations August 5 after counting a season total of 269,646 sockeye.

On Monday, August 6, the district opened on the full schedule that would be followed for the remainder of the season. The last deliveries were made on August 5. The 2007 sockeye harvest in the Togiak District was nearly 800,000, 182% of the expected preseason forecast harvest. The 2007 sockeye harvest in the Togiak District was the third highest in the past 20 years (Appendix A3); even without complete escapement information, the total sockeye salmon run also ranked 4th among the last 20 years (Appendix A17).

There was no directed coho fishery in the Togiak District this year. Final operations reports from processors indicated that there were 152 coho salmon caught by the last day of fishing, August 5 (Table 14). Due to poor survey conditions and flight availability problems, the Togiak District was not surveyed to assess coho escapement in 2007.

Commercial Chinook harvest was 84% of the 10-year average, while harvest of chum and coho were 184% and 2% respectively of the 10-year averages (Appendices A20, A21, and A22). Few aerial surveys to assess escapement in the Togiak District were performed, due to weather, high water, and pilot availability. No sockeye surveys were flown in the Togiak District, therefore total assessed escapement in the Togiak River was over 269,000 sockeye. Aerial spawning ground surveys for Chinook and chum salmon in the Togiak River drainage did not yield valid data.

2007 SUBSISTENCE SALMON FISHERY

Subsistence fishing for salmon and other fish species has taken place in the Bristol Bay area for thousands of years, and continues to be an important source of food for residents of local communities. Subsistence harvests still provide important nutritional, economic, social, and cultural benefits to most Bristol Bay households. All 5 species of salmon are utilized for subsistence purposes in Bristol Bay, but the most popular are sockeye, Chinook, and coho. Many residents continue to preserve large quantities of fish through traditional methods such as drying and smoking, and fish are also frozen, canned, salted, pickled, fermented, and eaten fresh.

Final information about subsistence salmon harvests for the Bristol Bay area for 2007 was not available when this report was published. This information will be included in future annual management reports. Tables in this report include final subsistence harvest data for 2006 that were not available for the 2006 annual management report.

REGULATIONS

Permits are required to harvest salmon for subsistence purposes in Bristol Bay. Since 1990, under state regulations, all Alaska State residents have been eligible to participate in subsistence salmon fishing in all Bristol Bay drainages, except the Lake Clark area. Prior to 2007, with a few exceptions, only gillnets were recognized as legal subsistence gear. In the Togiak District, spear fishing was also allowed. In portions of Naknek Lake in the Naknek District, spears and dipnets, in addition to gillnets, could be used during designated periods, primarily to harvest spawning sockeye salmon (“redfish”). In the Bristol Bay area, gillnet lengths were limited to 10 fathoms in the Naknek, Egegik, and Ugashik rivers, Dillingham beaches, and within the Nushagak commercial fishing district during openings regulated by EO. Up to 25 fathoms could be used in the remaining areas, except that nets were limited to 5 fathoms in the special “redfish” harvest areas in the Naknek District.

At its regulatory meeting in Dillingham in December 2006, the Alaska Board of Fisheries made three changes to the subsistence salmon fishing regulations that affected portions of the Bristol Bay area. The first change allowed salmon to be taken with a drift gillnet no more than 10 fathoms in length in the Togiak River between the mouth of the river and upstream approximately 2 miles. The second change allowed spears to be used to take salmon in Lake Clark. The third change allowed beach seines and gillnets to be used to take salmon in Iliamna Lake, Six Mile Lake, and Lake Clark.

In Nushagak, Togiak, Naknek, Egegik, and Ugashik Districts, subsistence fishing is permitted in all commercial districts during commercial openings. In addition, all commercial districts were open for subsistence fishing in May and October, from Monday to Friday. In the late 1990s and early 2000s, declining Chinook and coho stocks resulted in longer commercial closures and some residents had difficulty obtaining fish for home use. Recent years, beginning in 2004 have seen improvements in abundance of all species. The Nushagak commercial district, starting in 1988, has been opened for subsistence fishing by EO during extended commercial closures.

The Alaska Department of Fish and Game issues Bristol Bay subsistence salmon permits to any Alaska resident who requests one. In 2001, the superintendent of Lake Clark National Park and Preserve, announced that the National Park Service (NPS) was prohibiting subsistence fishing with nets in the park and preserve, including all of Lake Clark, except by federally qualified residents. This prohibition was a new enforcement action of a NPS regulation and applied to anyone who was not a permanent resident of Iliamna, Lime Village, Newhalen, Nondalton, Pedro Bay, or Port Alsworth, or who did not have a Section 13.44 subsistence use permit issued by the park superintendent. The department informs Bristol Bay subsistence salmon permit applicants that they need to take this NPS closure into account if they intend to subsistence fish in waters of the park and preserve.

For a list of list of emergency orders that pertained to in-season management of the Bristol Bay subsistence salmon fishery in 2007, see Table 7.

PERMIT SYSTEM AND ANNUAL SUBSISTENCE HARVEST

A permit system was gradually introduced throughout the Bristol Bay region in the late 1960s to document the harvest of salmon for subsistence. Much of the increase in the number of permits issued during these years reflects: 1) a greater compliance with the permitting and reporting requirements, 2) an increased level of effort expended by ADF&G in making permits available

(including a local system of vendors), contacting individuals, and reminding them to return the harvest forms, and 3) a growing regional population. Most fishermen are obtaining permits and reporting their catches, and overall permit returns have averaged between 85% and 90% annually. However, fish removed for home use from commercial catches are not included in most reported subsistence harvest totals. Also, fish caught later in the season, such as coho and spawning salmon are probably not documented as consistently as Chinook and sockeye.

Table 27 provides final data for Bristol Bay subsistence salmon harvests in 2006. As noted, final subsistence harvest estimates for 2007 were not available when this report was published. Appendix A27, A28, and A29 provide harvest estimates by district and species for the 20-year period from 1987 through 2006 plus the recent 5-year average harvests prior to 2007.

2007 BRISTOL BAY HERRING FISHERY

This report reviews stock assessment activities, provides an overview of the Togiak District herring fishery from 1978 to 2006 and summarizes the 2007 season.

The Bristol Bay area includes all waters south of a line, extending west from Cape Newenham, east of the International Date Line in the Bering Sea and north of a line extending west from Cape Menshikof. The Bristol Bay area is divided into three herring fishing districts. The Bay District; including all waters east of the longitude of Cape Constantine, the Togiak District; including all waters between the longitude of Cape Newenham and the longitude of Cape Constantine, and the General District; including all waters west of the longitude of Cape Newenham. Togiak District spans approximately 192 km (Figure 2). Togiak village lies at the center of the district, 108 km west of Dillingham.

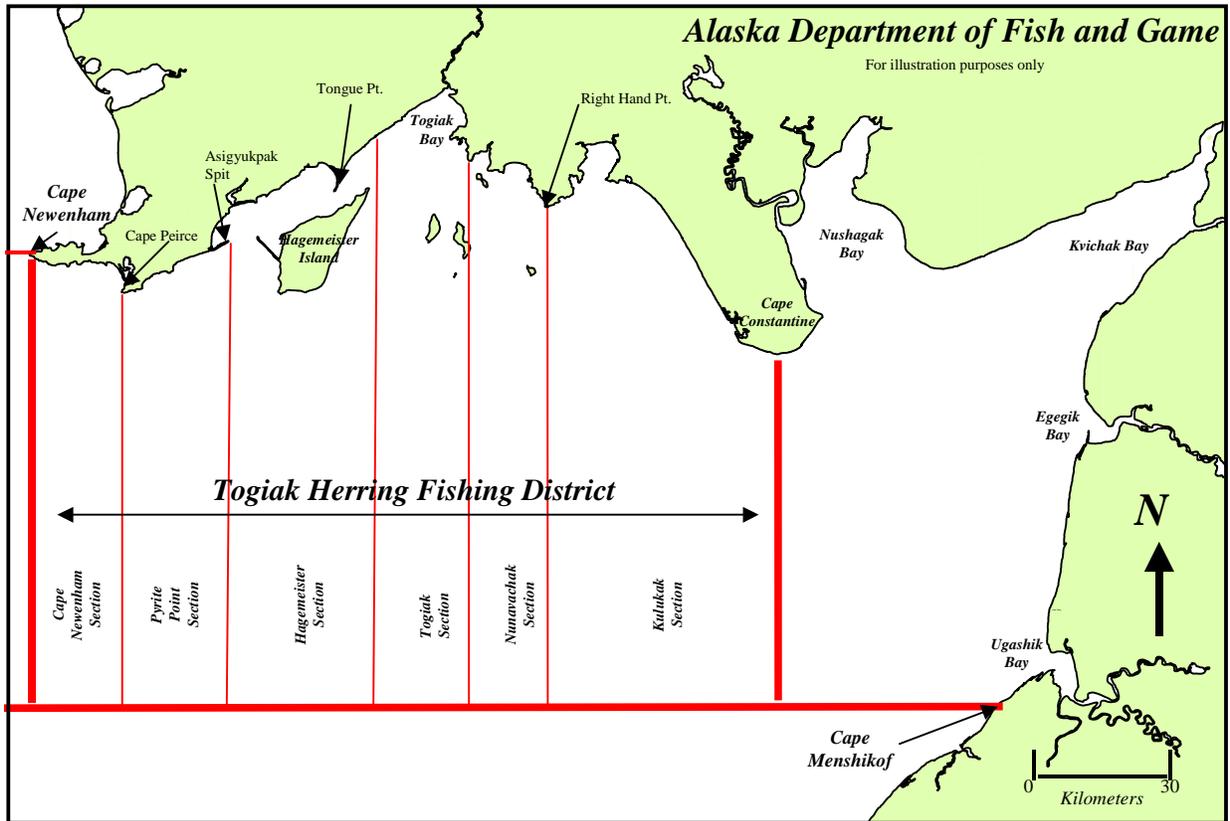


Figure 2.—Togiak Herring District, Bristol Bay.

Pacific herring (*Clupea pallasii*) have been documented throughout Bristol Bay, but the major concentration returns to the Togiak area each spring to spawn and is the focus of herring sac roe and spawn-on-kelp fisheries. In the Togiak District, herring are commercially harvested for sac roe using gillnets and purse seines while herring spawn on rockweed kelp (*Fucus spp.*) is harvested by hand.

The herring sac roe fishery began in the Togiak District in 1967, followed by the first fishery for spawn on kelp in 1968. Effort and harvest levels remained low for the first 10 years of the fishery. Increased interest, favorable market conditions, and additional incentives provided by the Fishery Conservation and Management Act of 1976 (the 200 mile limit) resulted in a rapid expansion of the Togiak herring fishery in 1977.

The Togiak herring fishery is the largest in Alaska. From 1987 to 2006, sac roe harvests averaged approximately 23,000 tons, worth an average of \$6.6 million annually (Appendices B2 and B6). Spawn-on-kelp harvests have occurred in only 4 of the last 10 years, it seems unlikely that there will be a market for spawn-on-kelp. The harvests and value of the past are no longer indicative of future harvest or value. In 2007, sac roe harvests brought \$1.87 million to permit holders, the lowest value since 1987. No spawn-on-kelp fishery occurred in 2007.

STOCK ASSESSMENT

Since 1978, ADF&G has conducted aerial surveys throughout the herring spawning migration to estimate abundance, timing and distribution of Pacific herring in the Togiak District. Surveys

are conducted regularly from mid-April through May each year. Once herring are observed, surveys are conducted daily, weather permitting, until commercial fishing is completed.

Fundamental aerial survey techniques used in Togiak have remained largely unchanged since 1978 and are described in Lebida and Whitmore (1985). Herring school surface area is estimated through a handheld tube with a measured grid and a known focal length from a known altitude. Standard conversion factors of 1.52 tons (water depths of 16 ft or less), 2.58 tons (water depths between 16 and 26 ft) and 2.83 tons (water depths greater than 26 ft) per 538 ft² of surface area is applied to herring school surface areas to estimate the total biomass observed during each flight. Over the last 3 years, ADF&G has been converting aerial survey data collection to use Geographic Information Systems (GIS) performing “real-time” data entry and analysis.

Volunteer test fisheries, originally implemented by ADF&G to estimate roe quality, provide samples for age, size, and sex composition analysis. Samples are also collected from commercial harvest for age composition and size analysis. After the season, results are sometimes used to revise biomass estimates.

The status of the Togiak herring population is considered relatively stable. Annual biomass estimates have ranged from 83,000 tons in 1991 to 193,800 tons estimated in 1993 (Appendix B5). Abundance was estimated to be high in the late 1970s, declined in mid 1980s and remained relatively low and stable through 1991. Biomass levels from 1992 to 1994 increased to levels between 150,000 and 200,000 tons and estimates since 1995 range from 121,000 to 157,000 tons estimated after the 1999 season.

From 1987 to 2007, herring were generally first observed in the district in late April or early May, but were observed entering near shore areas as early as April 19 and as late as June 3. Biomass typically increases rapidly and peaks within 1 to 7 days of the first observation. In recent years, it has been difficult to get good surveys during the peak of the harvest; in 2002, the peak survey occurred after the fishery was completed. The herring run appears to be more protracted with lower peak biomass estimates but with more herring present for a longer period. In general, spawn is first observed any time within 3 days of the first herring observation. Spawning trends differ slightly from those observed for biomass. Spawning in all but 2 years accelerated rapidly, peaked from 1 to 4 days after the first occurrence of spawn and generally continued for a month in less intense spot spawns. Small “spot” spawns have been observed as late as June 14.

Herring ages 2 through 20 have been observed in the Togiak District but herring generally recruit into the fishery at age 5. Herring abundance is related to year class survival. Two major recruitment events have occurred since the State began monitoring the biomass in 1978. The 1977 and 1978 year classes recruited into the fishery in 1982 and 1983 and comprised a substantial component of the biomass until the early 1990s. Other lesser recruitment events have occurred since that time with the most recent being in 1996 and 1997 appearing as age-10 and age-11 herring in the 2007 season.

SAC ROE HERRING FISHERY OVERVIEW

Fishing and Industry Participation

Unlike most herring fisheries in Alaska, the Togiak sac roe fishery is not a limited entry fishery. Gillnets, purse seines and hand purse seines are legal gear. Since fishing effort is not limited, effort levels can vary substantially each year. Herring market conditions are one of the leading

factors influencing effort in a given year, but other factors also influence fleet size. Since the majority of herring permit holders in Togiak participate in other fisheries like Bristol Bay salmon, the health of the salmon market and markets for other fish indirectly affect effort in the herring fishery. Herring prices paid to permit holders the prior year and run timing also affect effort. In the last 6 years, processors have developed cooperative fleets for the purse seine fishery. Processors in conjunction with the coop members exclude entrants into the fishery. This is beginning to happen in the gillnet fleet as well.

Fishing effort in the sac roe fishery increased through the late 1980s, decreased early in the 1990s, then increased again to a peak in 1996 and has declined since 1997 (Appendix B1). Gillnet effort increased to 320 vessels in 1989, declined to a low of 75 vessels in 1993, and then peaked in 1996 with 461 vessels and has since declined to a low in 2006 of 49. Purse seine effort increased steadily from 1978 through 1989, when 310 vessels were observed. From 1990 to 1997, the purse seine fleet has fluctuated between 200 and 300 vessels, and has declined to less than 100 vessels since 1998. In 2007, the total number of purse seines was 25, an all-time low.

Reduction in fleet size has led to the development of cooperative seine fisheries that focus on fish with high quality roe rather than on quantity. Reduced fleet size has led to changes in the way the fishery is managed; because fishing is less aggressive, managers can allow extended openings leading to increased selectivity and smaller sets.

Industry participation in the fishery peaked between 1979 and 1982, when 33 processors participated in the herring fishery. From 1987 through 1997, 16 to 22 companies have purchased herring or spawn-on-kelp in Togiak. Over the past 6 years, industry participation has steadily declined to a low in 2007 of 5 companies. Processing capacity on the grounds has also declined from a high of 4,850 tons per day in 1996 to a low in 2007 of 1,500 tons per day.

Gear Specifications

The Alaska Board of Fisheries has reduced gear to limit harvesting capacity and control problems with waste. Prior to 1989, gillnet length was restricted to 150 fathoms. Each permit holder was restricted to the use of one legal limit of gear, but up to 300 fathoms could be operated from a fishing vessel. Under these gear allowances, lost and abandoned nets accounted for substantial amounts of waste during some years. In 1989, the BOF reduced the legal compliment of gillnet gear to a maximum of 100 fathoms in length per permit holder, restricted the operation from one vessel to 100 fathoms, and granted ADF&G the authority to reduce length to 50 fathoms inseason. The BOF transposed this regulation in 1992 when it restricted herring gillnet length to 50 fathoms but granted ADF&G the ability to allow up to 100 fathoms of gear by emergency order. This change enabled ADF&G to maintain an orderly fishery, helping ensure roe quality and minimizing potential waste. Gillnet depth remains unrestricted.

In October of 1989, the BOF reduced purse seines to 100 fathoms in length and 16 fathoms in depth. In 1995, the BOF further restricted purse seine depth to 625 meshes, of which 600 could be no larger than 1.5 inches. Depth was reduced in 1995 to control harvesting capacity. Adjustments in allowable gear have appeared to control waste and preserve order in the fishery without a substantial reduction in harvesting capacity.

Harvest and Management Performance

The commercial sac roe and spawn-on-kelp harvests in the Togiak District have been regulated by emergency order since 1981. From 1981 through 1987, informal policies directed ADF&G to

ensure that minimum threshold biomass levels were observed before opening the herring fishery, and to manage the fishery so that exploitation did not exceed 20%. In 1988, the BOF incorporated the threshold and exploitation rate policies into the Bering Sea Herring Fishery Management Plan (5 AAC 27.060) for Togiak and other Bering Sea fisheries. Herring biomass in Togiak has been estimated at levels well above threshold requirements since 1981.

Average annual exploitation rates for the last 20 years was slightly under 20% but for the last 10 years has been 18.3% (Appendix B2). Annual exploitation ranged from 32% to 13.5% and has not exceeded 20% since 1998. Although the sac roe, spawn-on-kelp and Dutch Harbor food and bait fisheries take Togiak herring, only sac roe harvests were used in calculating exploitation rates from 1981 to 1983. Estimates of herring biomass equivalent to spawn-on-kelp harvests and harvests in the Dutch Harbor fishery were not included when calculating exploitation rates until 1984 and 1988.

Herring purse seine and gillnet sac roe harvests are managed for allocation guidelines set forth in the Bristol Bay Herring Management Plan (BBHMP) (5 AAC 27.865). This plan states that, before opening the sac roe fishery, 1,500 short tons must be set aside for the spawn-on-kelp fishery, and 7% of the remaining available harvest is allocated to the Dutch Harbor food and bait fishery. After the spawn-on-kelp and the Dutch Harbor harvests are subtracted, the remaining harvestable surplus is allocated to the Togiak sac roe fishery: 30% of the harvestable surplus to the gillnet fleet, and 70% to the purse seine fleet. From 1988 through 2000, these percentages were set at 25% gillnet, 75% purse seine. The BOF modified these allocation percentages to the current ratio in 2001. To achieve gillnet and purse seine ratios, ADF&G adjusts fishing time and area for each gear type.

The management plan was modified again by the BOF in December 2003. The BOF allowed the inseason allocation management to be uncoupled after each gear type had harvested 80% of its allocation. The other change allowed up to 50% of the spawn-on-kelp allocation to be reallocated to the sac roe fishery if it was not harvested in a spawn-on-kelp fishery. In 2006 the BOF again changed the management plan and allowed the inseason allocation management to be uncoupled when both gear types had harvested 50% of their respective quotas.

The BOF and the industry have directed ADF&G to give product quality and fishery value an equal priority with exploitation objectives. Management Guidelines for Commercial Herring Sac Roe Fisheries (5 AAC 27.059) state the department may manage sac roe fisheries to enhance product value by opening areas in which sampling has demonstrated high herring roe content and large herring size, and to minimize harvest of recruit size herring. The BBHMP also states that the primary objective in the sac roe fishery is to prosecute an orderly, manageable fishery while striving for the highest level of product quality and a minimum of waste. Given these regulations and comments from industry, the department considers maximizing quality and value primary objectives in the Togiak fishery.

In 1992, over 20,000 tons of herring were harvested by purse seines in one 20-minute period. This magnitude of harvest from a single opening, combined with a limited processing capacity, resulted in holding times up to 7 days, and large-scale deterioration of flesh and roe quality. The poor product quality resulting from the 1992 harvest and increasing market demands for high quality roe, compelled ADF&G to recognize quality problems associated with extended holding times of 3 days or longer. Limiting individual harvests to less than 3 days of processing capabilities became a management objective after 1992.

From 1992 until 2000, ADF&G limited harvests by carefully controlling the open area and duration of each purse seine opening. Since 2000, the fishery has been somewhat more self-regulating in that processors have smaller fleets and are more restrictive about how long they will hold herring before processing. The reduced processing capacity makes it impossible for the whole quota to be processed in less than 10 days.

Although controlling harvest used to be the major concern for managers, the last 6 years have been quite different from the derby style openings of the early 1990s. The seine fleet is now divided into processor controlled cooperative fleets that harvest just enough herring to keep the processing lines full from day to day. This has allowed managers to open large areas of the district for up to 72 hours at a time without concern over having more fish harvested than processing capacity can handle in a short time. This is true for most of the fishery, but as the quota is approached, managers do have to guard against a large grab. However in 2007, with the lowest processing capacity in recent history it was clear pre-season that there would be a significant portion of the quota left unharvested.

Cooperative seine fleets allow the participants to maximize the value of the fishery by reducing operating costs and allowing processors to control harvest, enforce a maximum set size and be highly selective in the fish they choose to harvest. This has led to higher in-season estimates of roe quality; post-season estimates have not necessarily increased however.

SPAWN-ON-KELP FISHERY OVERVIEW

Similar to the sac roe fishery, the spawn-on-kelp harvest in the Togiak District has been regulated by emergency order since 1981. Since 1984, the spawn-on-kelp fishery has been managed under guidelines provided in the Togiak District Herring Spawn on Kelp Management Plan (5 AAC 27.834). The plan essentially provides this fishery an allocation of 350,000 lbs. of product, roughly equivalent to 1,500 tons of herring. The plan also directs ADF&G to 1) rotate harvest areas (Figure 3) on a 2 to 3 year basis; 2) ensure product quality; and 3) include the herring equivalent to the spawn-on-kelp harvest when calculating exploitation.

Fishing effort in the spawn-on-kelp fishery increased steadily since its inception, and peaked at 532 participants in 1991 (Appendix B4). The fishery became limited to interim use and permanent permit holders in 1990. Following the 1991 season, the BOF limited the role of non-permit holders in the spawn-on-kelp fishery to assisting with transporting kelp after the period closure. By 1993, most permits issued for this fishery became permanent, stabilizing the number of permits at approximately 300.

From 1985 to 2006, the fishery was opened for all years except 1985, 1997, 1998, 2000, 2001, and 2004–2007. Actual harvests exceeded the 350,000 lb. guideline harvest level by more than 10% in 6 years and fell short by more than 10% in 4 years (Appendix B7). For the other years in which a fishery occurred, actual harvests were within 10% of the guideline. The 2 to 3 year rotation schedule for kelp harvest areas was adhered to in all years except 1987. In 1987, area K-9 was opened after harvest in area K-10 fell short of the harvest guideline. The western half of area K-9 was opened the previous year.

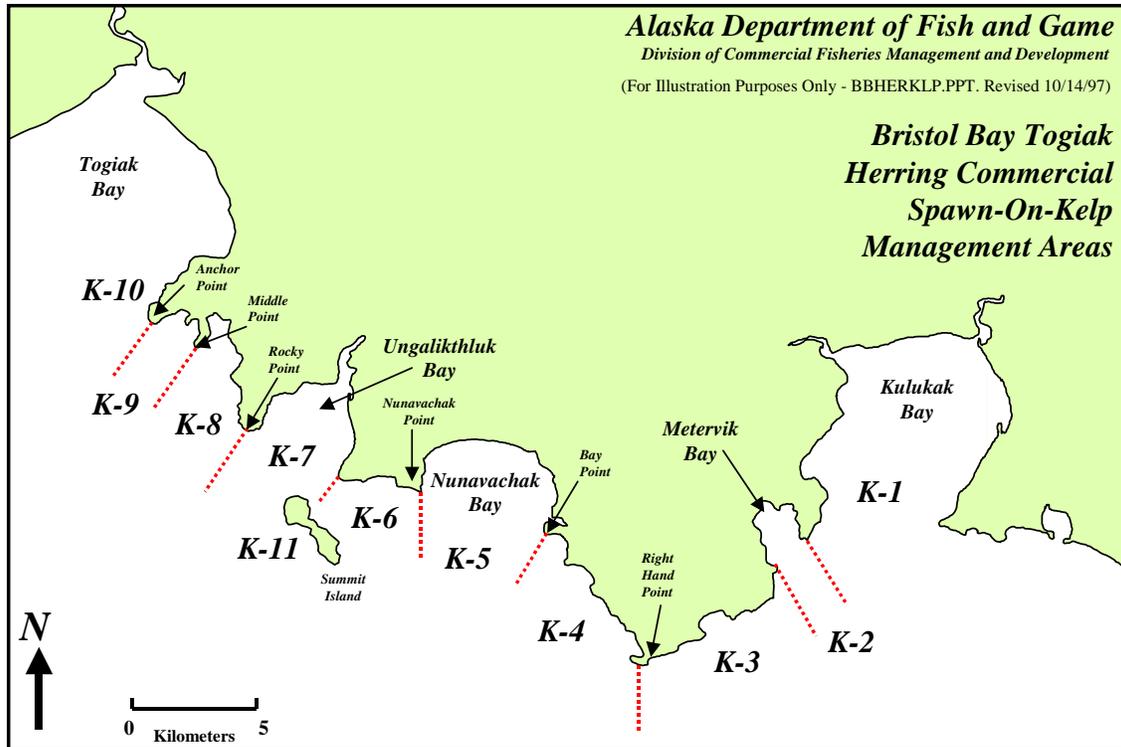


Figure 3.—Spawn-on-kelp management areas (K-1 through K-11), Togiak District, Bristol Bay.

To ensure product quality ADF&G, industry representatives and permit holders collect spawn-on-kelp samples to display at a public meeting each season, usually after the peak of herring spawning has occurred. Management decisions are based on comments from industry and users regarding sample quality.

2007 SEASON SUMMARY

Biomass Estimation

Aerial surveys of the Togiak District began April 27, 2007. Herring were first sighted in the district on the afternoon of May 6, during a survey by department staff. Reports of additional fish in other areas of the district were received May 8, and staff flew another survey May 9 documenting over 11,000 tons of herring. On May 10, under poor conditions due to low cloud cover, 18,000 tons of herring were documented in parts of Kulukak and Togiak Bay. With 18,000 tons of herring documented in just a small portion of the district, and with no way to fly additional surveys in the next few days, staff stipulated that the threshold biomass was present on the grounds. Department staff documented between 78,000 and 84,000 tons of herring on each of four surveys between May 13 and May 20. Survey conditions were generally fair. A postseason survey occurred on May 29 and documented 50,000 tons of herring, and again on June 4, 18,000 tons of herring were still on the grounds.

Age Composition

Approximately 3,000 herring were sampled for age, size and sex information from 11 May to 22 May 2007. Samples were collected from the commercial purse seine fishery, commercial gillnet

fishery, and test fishing. Length frequency analysis, based on the last 5 years of age at length information, was used to differentiate between age classes in season.

A sample size of 2,305 was collected from the commercial purse seine fishery. Age 4-5 herring comprised 12.0% of the sample, age 6-7 herring comprised 24.7% of the sample, age 8-9 comprised 30.8% of the sample and age 10+ fish comprised 32.5% of the sample. Samples collected from the commercial purse seine fishery averaged 381g. Sex composition was divided 49.4% male and 50.6% female.

A total of 405 fish were sampled from the commercial gillnet fishery. Age 6-7 herring comprised 4.7% of the sample, age 8-9 comprised 39.3% of the sample and age 10+ herring comprised 56.0% of the sample. Average weight of herring sampled from the commercial gillnet harvest was 437g. Sex composition was divided 49.1% male and 50.9% female.

A sample size of 290 fish was collected from test fishing after the commercial fishery closed. Age 4-5 herring comprised 16.2% of the sample, age 6-7 herring comprised 27.2% of the sample, age 8-9 comprised 30.3% of the sample and age 10+ fish comprised 26.2% of the sample. The average weight of herring collected from test fishing was not calculated as 98.8% of the sample was spawned out. The sex ratio was divided 50.3% male and 49.7% female.

During the commercial purse seine fishery ages 8, 9 and 10+ year old fish were the predominant age classes comprising 63.3% of the catch.

Fishery Overview

The Togiak District herring fisheries are managed in accordance with the Bristol Bay Herring Management Plan (5 AAC 27.865), which was modified by the Alaska Board of Fisheries in December 2003. The plan specifies a maximum allowable exploitation rate of 20% and allocates the harvestable surplus among all the fisheries harvesting the Togiak herring stock. The 2007 pre-season forecasted biomass was 134,566 tons. The projected harvest guideline for each fishery was as follows: 1,500 tons herring equivalent or 350,000 lbs. of product for the spawn-on-kelp fishery; 1,779 tons for the Dutch Harbor food and bait fishery; and the remaining 23,634 tons to the sac roe fishery. The management plan specifies that ADF&G will manage the sac roe fishery so that 70% of the removal is taken by purse seines (16,544 tons in 2007) and 30% of the removal is taken by gillnets (7,090 tons in 2007).

The Bristol Bay Herring Management Plan and other regulations direct ADF&G to conduct an orderly, manageable fishery and strive for the highest level of product quality with a minimum of waste. In recent years the seine fleet has been comprised of processor-organized cooperatives. For the 2007 season, management staff again planned to allow long-duration seine openings over a large area of the district and to let the processors limit harvest for their individual fleets based on processing capacity. Input from the fleet and industry indicated that this would slow the “race for fish” and allow for improved quality and value.

During the winter of 2006-2007, climatic conditions were colder than the recent average; there was a long cold spell in southwestern Alaska in February and March and the sea surface still had ice offshore of Cape Constantine through April. Water temperatures in the Bering Sea and in Togiak Bay were colder than recent history as well.

To predict spawning timing for Togiak herring, ADF&G used a temperature model based on sea surface temperatures from Unimak Pass. These temperatures predicted the first spawn would be

May 10, with the first harvest occurring May 11. Although air temperature was warmer in April than expected, sea surface temperatures remained cold. The temperature model proved to be fairly accurate.

Department staff polled processing companies preseason to assess processing capacity for the 2007 season and to inquire about additional concerns or issues. The poll indicated that two less companies would be participating in the 2007 Togiak herring fishery and two other companies would be reducing their processing capacity. The processing capacity for 2007 was estimated to be 1,490 tons per day. However, after registration the projected processing capacity was only 1,420 tons. Although there were no major concerns preseason, department staff held a teleconference on March 29 to discuss the upcoming season with processing companies and permit holders. There were some questions about the size of the gillnet fleet and allocation, but the conference took less than 15 minutes.

Purse Seine Summary

The Togiak purse seine fishery opened at 6:00 p.m. on May 10 with no prior test fishing. Because of the small number of boats and processors participating in the fishery, there was no need to have an official test fishery. Instead all participants could make sets and determine whether the fish were of marketable quality at their own pace and by their own standards.

The first purse seine opening was 76-hours. The first harvest did not occur until late on May 11. Fishing was extended in 24 or 48 hour blocks until May 19. Harvest during this time was orderly and uneventful. On May 19, fishing was extended for 16 hours until 2:00 p.m. on May 20. At this time there were some concerns of smaller fish being harvested. Fish size on May 18 was 335 grams. Although the fish size did increase for fish harvested on May 19, it was still small. Fish size on the morning of May 20, was still above 300 grams, but there were reports of released sets that had fish smaller than 300 grams. The fishery was extended until 10:00 p.m. on May 20, with a request for mid period reports by 8:00 p.m. for consideration of a possible extension. The mid-period reports indicated many sets were being made and released because of small fish size. Based on these reports the fishery was allowed to close as scheduled and remained closed for the rest of the season.

Gillnet Summary

The Togiak gillnet fishery began at 6:00 p.m., May 10 until further notice with no prior test fishing. The fleet size has decreased dramatically over the last several years. With fewer participants in the fishery it has become more difficult to get individuals willing to test fish and the whole fleet has benefited from the work of a few volunteers. Additionally, rising fuel prices have made it more costly to test fish. Because of these reasons the fishery was opened allowing individuals to work with their companies to determine when fish were of suitable quality. This was discussed preseason with several processors and they agreed it gave them more flexibility. The first harvest in the gillnet fishery was reported late on May 12. Harvest continued at a steady pace through May 21 when processors began to stop buying. Although the fishery remained open until June 1, there was no reported harvest after May 25.

Spawn on Kelp

No companies registered to buy herring spawn-on-kelp in 2007, therefore there were no openings and no commercial harvest.

EXPLOITATION

The 2007 herring fisheries were managed for a maximum exploitation rate of 20% of the preseason biomass estimate. Combining the sac roe harvest (16,183 tons with an average weight of 394 grams and an average roe percentage of 10.40%) and documented dead loss of 320 tons resulted in an exploitation of 16,503 tons. If the Dutch Harbor fishery harvest is equal to the quota of 1,779 tons, then the total harvest for 2007 will be estimated to be 18,282. Based on the preseason biomass estimate of 134,566 tons, the 2007 exploitation rate would be calculated at approximately 13.6%.

EXVESSEL VALUE

The projected exvessel value of the 2007 Togiak herring fishery is approximately \$1.6 million. This is based on grounds price estimate of \$100 per ton for seine caught fish and \$100 per ton for gillnet caught fish and does not include any post-season adjustments. A value of \$1.6 million is the lowest value since the inception of the Togiak herring fishery.

ACKNOWLEDGEMENTS

The authors gratefully acknowledge the Commercial and Subsistence Fisheries staff of the Dillingham, King Salmon, and Anchorage offices of the Alaska Department of Fish and Game for their contributions to this report.

Permanent Employees with the Division of Commercial Fisheries

West Side: Tim Sands, Nushagak Biologist; Charlotte Westing, Togiak Biologist; Phillip Carpenter, Facilities and Equipment Maintenance; Karen Brito, Program Technician.

East Side: Steve Morstad, Naknek/Kvichak Biologist; Carol Klutsch, Program Technician.

Anchorage: Paul Salomone, Egegik/Ugashik Biologist; Tim Baker, Area Research Biologist; Fred West, Research Biologist; Chuck Brazil, Research Biologist; Katie Sechrist, Information Officer.

Seasonal Employees with the Division of Commercial Fisheries

West Side: Susan Hansen, Seafood Industry Coordinator (Herring and Salmon); Eric Barnhill, Herring; Simon Prence, Herring, Field Camp Coordinator; Kiana Putman, Herring; James Isdell, Supply Technician; Jennifer Bennis, BBNA Intern; Aaron Thrasher, Wood River Tower; Graham Gablehouse, Wood River Tower; Stacy Haesaert, Wood River Tower; Trevor Bird, Igushik River Tower; Kelly Berg, Igushik River Tower; Stephanie Soiseth, Igushik River Tower; Jed Smith, Togiak River Tower; Bristol Whitmore, Togiak River Tower; Jon Barton, Togiak River Tower; Konrad Mittelstadt, Nushagak River Sonar; Aaron Tiern, Nushagak River Sonar; Jeanette LeClair, Nushagak River Sonar; Lucas Hegg, Nushagak River Sonar; Colton Lipka, Nushagak River Sonar; Heidi Isernhagen, Nushagak River Sonar.

East Side: Mary Emery, Seafood Industry Coordinator/Office Manager; Alesha Weiland, Night Office Staff; Fred Tilly, Kvichak Smolt/ Field Camp Coordinator; Karen Saunders, Fish Ticket Editor; Cathy Tilly, Scale Reader; Sally Hamm, District Test Fish; Marna McMurry, Camp Supply Coordinator; Susan Klock, Naknek Tower; Nick Butryn, Naknek River Tower; Adam Kogle, Naknek River Tower; Kelsey Romig, Kvichak River Test Fish; Dawson Marchant Kvichak River Test Fish; Brad Russell, Egegik River Test Fish; Dirk Middleton, Egegik River Test Fish; Jordan Macrander, Ugashik River Test Fish; Nicole Swenson, Ugashik River Test Fish; Matt Dobbs, Kvichak River Tower; Rob Regnart, Kvichak River Tower; Casey Jacobs, Kvichak River Tower; , Taylor Ritter, Alagnak River Tower; Derek Frohbieter Alagnak River Tower; Bruce Short, Alagnak River Tower; Justin Macrander, Ugashik River Tower; Patrick McCormick, Ugashik River Tower; Jared Van Kirk, Ugashik River Tower; Chris Sewright, Egegik River Tower; Ian Fo, Egegik River Tower; Derek Mosely, Egegik River Tower.

Permanent Employees with the Division of Subsistence

James Fall, Subsistence Resource Program Manager; Ted Krieg, Subsistence Resource Specialist; Eunice Dyasuk, Program Technician; Dave Caylor Analyst/Programmer.

REFERENCE CITED

Lebida, R. C. and D. C. Whitmore. 1985. Bering Sea herring aerial survey manual. Alaska Department of Fish and Game, Division of Commercial Fisheries Management and Development, Bristol Bay Data Report 85-2, Anchorage.

TABLES

Table 1.—Comparison of inshore sockeye salmon actual versus forecast inshore run, actual escapements versus escapement goals, and actual versus projected commercial harvest, by river system and district, in thousands of fish, Bristol Bay, 2007.

| District and River System ^a | Inshore Run | | | Escapement | | Inshore Catch | | |
|--|---------------|---------------|--------------------------------|---------------------|---------------|-------------------|---------------|--------------------------------|
| | Forecast | Actual | Percent Deviation ^b | Range | Actual | Projected Harvest | Actual | Percent Deviation ^b |
| NAKNEK-KVICHAK DISTRICT | | | | | | | | |
| Kvichak River | 3,880 | 4,281 | 9 | 2,000-10,000 | 2,810 | 1,880 | 1,470 | -28 |
| Alagnak (Branch) River | 2,030 | 4,323 | 53 | 170-200 | 2,466 | 1,030 | 1,857 | 45 |
| Naknek River | 5,640 | 8,640 | 35 | 800-1,400 | 2,945 | 4,540 | 5,694 | 20 |
| Total | 11,550 | 17,244 | 33 | 6,970-11,600 | 8,221 | 7,450 | 9,021 | 17 |
| EGEGIK DISTRICT | | | | | | | | |
| | 9,200 | 7,926 | -16 | 800-1,400 | 1,433 | 8,100 | 6,494 | -25 |
| UGASHIK DISTRICT | | | | | | | | |
| | 4,180 | 7,607 | 45 | 500-1,200 | 2,599 | 3,330 | 5,008 | 34 |
| NUSHAGAK DISTRICT | | | | | | | | |
| Wood River | 5,850 | 6,364 | 8 | 700-1,500 | 1,528 | 4,750 | 4,836 | 2 |
| Igushik River | 1,200 | 1,721 | 30 | 150-300 | 415 | 970 | 1,305 | 26 |
| Nushagak-Mulchatna | 1,870 | 2,520 | 26 | 340-760 | 518 | 1,320 | 2,002 | 34 |
| Total | 8,920 | 10,605 | 16 | 1,190-2,560 | 2,461 | 7,040 | 8,143 | 14 |
| TOGIAK DISTRICT | | | | | | | | |
| | 590 | 1,069 | 45 | 120-270 | 270 | 440 | 799 | 45 |
| TOTAL BRISTOL BAY | 34,440 | 44,451 | 23 | 9,560-16,960 | 14,820 | 26,360 | 29,465 | 11 |

^a The Bristol Bay inshore forecast does not include several minor river systems, including the Snake River drainage in Nushagak District, and the Kulukak, Osviak, Matogak and Slug River system in Togiak District. Harvests, escapements, and total runs for these smaller systems are not included in this table so that forecast efficacy may be gauged. Totals may not equal column sums due to rounding.

^b Percent deviation = (actual - forecast)/actual. Note: this is a change from previous years.

Table 2.—Inshore forecast of sockeye salmon returns by age class, river system and district, in thousands of fish, Bristol Bay, 2007.

| District and River System | 2-Ocean | | | 3-Ocean | | | Total |
|--------------------------------------|--------------|--------------|--------|---------------|--------------|---------------|---------------|
| | 1.2 (2003) | 2.2 (2002) | Total | 1.3 (2002) | 2.3 (2001) | Total | |
| NAKNEK-KVICHAK DISTRICT | | | | | | | |
| Kvichak River | 1,276 | 951 | 2,227 | 1,393 | 256 | 1,649 | 3,876 |
| Branch River | 402 | 127 | 529 | 1,434 | 62 | 1,496 | 2,025 |
| Naknek River | 964 | 614 | 1,578 | 3,375 | 684 | 4,059 | 5,637 |
| Total | 2,642 | 1,692 | 4,334 | 6,202 | 1,002 | 7,204 | 11,538 |
| EGEGIK DISTRICT | | | | | | | |
| | 2,291 | 2,888 | 5,179 | 2,471 | 1,553 | 4,024 | 9,203 |
| UGASHIK DISTRICT | | | | | | | |
| | 2,185 | 705 | 2,890 | 1,006 | 283 | 1,289 | 4,179 |
| NUSHAGAK DISTRICT | | | | | | | |
| Wood River | 2,184 | 41 | 2,225 | 3,416 | 206 | 3,622 | 5,847 |
| Igushik River | 168 | 12 | 180 | 985 | 31 | 1,016 | 1,196 |
| Nushagak River | 289 | 27 | 316 | 1,232 | 22 | 1,254 | 1,570 |
| Total | 2,641 | 80 | 2,721 | 5,633 | 259 | 5,892 | 8,613 |
| TOGIAK DISTRICT | | | | | | | |
| | 99 | 60 | 159 | 335 | 94 | 429 | 588 |
| TOTAL BRISTOL BAY^a | | | | | | | |
| Number | 9,858 | 5,425 | 15,283 | 15,647 | 3,191 | 18,838 | 34,121 |
| Percent | 29 | 16 | 45 | 46 | 9 | 55 | 100 |

^a Sockeye salmon of several minor age classes are expected to contribute an additional 1–2% to the total return.

Table 3.—Inshore run of sockeye salmon by age class, river system and district, in thousands of fish, Bristol Bay, 2007.

| District and River System^a | | 1.2 | 2.2 | 2-Ocean | 1.3 | 2.3 | 3-Ocean | 1.4 | Total^b |
|--|----------------|---------------|--------------|----------------|---------------|--------------|----------------|------------|--------------------------|
| NAKNEK-KVICHAK DISTRICT | | | | | | | | | |
| Kvichak River | | | | | | | | | |
| | Number | 2,684 | 136 | 2,820 | 759 | 680 | 1,439 | 3 | 4,281 |
| | Percent | 62.7 | 3.2 | 65.9 | 17.7 | 15.9 | 33.6 | 0.1 | 99.5 |
| Alagnak (Branch) River | | | | | | | | | |
| | Number | 2,584 | 69 | 2,653 | 1,604 | 49 | 1,653 | 14 | 4,323 |
| | Percent | 59.8 | 1.6 | 61.4 | 37.1 | 1.1 | 38.2 | 0.2 | 99.6 |
| Naknek River | | | | | | | | | |
| | Number | 3,761 | 256 | 4,017 | 3,730 | 841 | 4,571 | 51 | 8,640 |
| | Percent | 43.5 | 3.0 | 46.5 | 43.2 | 9.7 | 52.9 | 0.6 | 99.4 |
| Total | Number | 9,029 | 461 | 9,490 | 6,093 | 1,570 | 7,663 | 68 | 17,244 |
| | Percent | 52.4 | 2.7 | 55.0 | 35.3 | 9.1 | 44.4 | 0.4 | 99.9 |
| EGEGIK DISTRICT | | | | | | | | | |
| | Number | 2,636 | 1,303 | 3,939 | 2,124 | 1,759 | 3,883 | 7 | 7,926 |
| | Percent | 33.3 | 16.4 | 49.7 | 26.8 | 22.2 | 49.0 | 0.1 | 98.7 |
| UGASHIK DISTRICT | | | | | | | | | |
| | Number | 4,479 | 473 | 4,952 | 2,236 | 342 | 2,578 | 54 | 7,607 |
| | Percent | 58.9 | 6.2 | 65.1 | 29.4 | 4.5 | 33.9 | 0.7 | 99.7 |
| NUSHAGAK DISTRICT | | | | | | | | | |
| Wood River | | | | | | | | | |
| | Number | 4,331 | 241 | 4,572 | 1,715 | 47 | 1,762 | 20 | 6,364 |
| | Percent | 68.1 | 3.8 | 71.8 | 26.9 | 0.7 | 27.7 | 0.3 | 99.5 |
| Igushik River | | | | | | | | | |
| | Number | 1,193 | 34 | 1,227 | 450 | 35 | 485 | 9 | 1,721 |
| | Percent | 69.3 | 2.0 | 71.3 | 26.1 | 2.0 | 28.2 | 0.5 | 99.5 |
| Nushagak River | | | | | | | | | |
| | Number | 390 | 36 | 426 | 1,750 | 41 | 1,791 | 257 | 2,520 |
| | Percent | 15.5 | 1.4 | 16.9 | 69.4 | 1.6 | 71.1 | 10.2 | 88.0 |
| Total | Number | 5,914 | 311 | 6,225 | 3,915 | 123 | 4,038 | 286 | 10,605 |
| | Percent | 55.8 | 2.9 | 58.7 | 36.9 | 1.2 | 38.1 | 2.7 | 96.8 |
| TOGIK DISTRICT^c | | | | | | | | | |
| | Number | 242 | 25 | 267 | 732 | 62 | 794 | 5 | 1,069 |
| | Percent | 22.6 | 2.3 | 25.0 | 68.5 | 5.8 | 74.3 | 0.5 | 99.3 |
| TOTAL BRISTOL BAY^d | | | | | | | | | |
| | Number | 22,300 | 2,573 | 24,873 | 15,100 | 3,856 | 18,956 | 420 | 44,451 |
| | Percent | 50.2 | 5.8 | 56.0 | 34.0 | 8.7 | 42.6 | 0.9 | 98.6 |

^a The inshore run data does not include the South Peninsula catch of Bristol Bay sockeye or immature high seas by-catch.

^b Totals include minor age classes not listed in this table however, minor rivers and creeks are not included.

^c Does not include rivers other than Togiak River.

^d Totals may not equal column sums due to rounding.

Table 4.—Inshore commercial catch and escapement of sockeye salmon, in numbers of fish, Bristol Bay, 2007.

| District and River System | Catch | Escapement | Total Run |
|----------------------------------|-------------------|------------------------|-------------------|
| NAKNEK-KVICHAK DISTRICT | | | |
| Kvichak River | 1,470,358 | 2,810,208 | 4,280,566 |
| Alagnak (Branch) River | 1,856,986 | 2,466,414 | 4,323,400 |
| Naknek River | 5,694,394 | 2,945,304 | 8,639,698 |
| Total | 9,021,738 | 8,221,926 | 17,243,664 |
| EGEGIK DISTRICT | 6,493,655 | 1,432,500 | 7,926,155 |
| UGASHIK DISTRICT | 5,007,572 | 2,599,186 ^a | 7,606,758 |
| NUSHAGAK DISTRICT | | | |
| Wood River | 4,835,519 | 1,528,086 | 6,363,605 |
| Igushik River | 1,305,338 | 415,452 | 1,720,790 |
| Nushagak-Mulchatna | 2,001,747 | 518,041 | 2,519,788 |
| Total | 8,142,604 | 2,461,579 | 10,604,183 |
| TOGIAK DISTRICT | | | |
| Togiak Lake | | 269,646 | 269,646 |
| Togiak River/Tributaries | 741,562 | ^c | 741,562 |
| Kulukak System | 57,848 | ^c | 57,848 |
| Other Systems ^b | 0 | ^c | 0 |
| Total | 799,410 | 269,646 | 1,069,056 |
| TOTAL BRISTOL BAY | 29,464,979 | 14,984,837 | 44,449,816 |

^a Includes Ugashik River Tower and aerial survey estimates from King Salmon and Dog Salmon rivers.

^b Other Systems escapement includes Negukthlik, Ungalikthluk, Osviak, Matogak, Quigmy, and Slug Rivers.

^c Weather and high water prevented any aerial surveys for sockeye this year.

Table 5.—Summary of sockeye salmon test fishing indices in the Naknek/Kvichak District, by index area and date, Bristol Bay, 2007.

| Date | Naknek R. Mouth | Pederson Point | Cutbank & Graveyard | Gravel Spit | Half Moon Bay | Middle Naknek | Johnston Hill | Division Buoy | Ships Anchorage | Deadmans Sands |
|-------------|----------------------------|---------------------------|------------------------------------|------------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------------------|---------------------------|
| 6/30 | 7 | 260 | | | | 64 | 254 | | 128 | |
| 7/03 | | 173 | 619 | 114 | 322 | | | | | |
| 7/05 | 104 | | 297 | 3 | | | | | 196 | |
| 7/07 | 49 | | | 691 | 305 | | 442 | 63 | | 193 |

Note: All indices expressed in numbers of fish/100 fathoms/hour to the nearest index point. Blank cells represent no data.

Table 6.—Summary of sockeye salmon test fishing indices in the Nushagak District, by index area and date, Bristol Bay, 2007.

| Date | Hanson Point | Across Hanson Pt | Tule Point | Picnic Point | Grassy Island | Bradford Point | One Bend up From Hansen |
|-------------|---------------------|-------------------------|-------------------|---------------------|----------------------|-----------------------|--------------------------------|
| 6/18 | 440 | 191 | 0 | 0 | 0 | 0 | |
| | 211 | 427 | 0 | | | | |
| 6/19 | 612 | 0 | 0 | 0 | 0 | | |
| | 0 | 0 | 0 | 0 | 0 | | |
| 6/20 | 177 | 0 | 0 | 0 | 0 | | |
| | 0 | 0 | 0 | 0 | 0 | | |
| 6/21 | 534 | 346 | 184 | 0 | 0 | | |
| | 800 | 197 | 0 | 0 | 0 | | |
| 6/22 | 2,922 | 584 | 4,091 | 659 | 1,484 | | |
| | 1,377 | 355 | 2,991 | | | | |
| 6/22 | 2,063 | 1,505 | 1,911 | 0 | 0 | | |
| | 2,043 | 732 | 1,029 | | | | |
| 6/23 | 2,264 | 2,948 | 3,476 | 233 | 612 | | |
| | 2,378 | 3,293 | 2,703 | | | | |
| 6/24 | 1,472 | 3,101 | 1,579 | 0 | 168 | | |
| | 541 | 3,063 | 470 | | | | |
| 6/24 | 755 | 1,270 | 3,980 | 4,277 | 596 | | |
| | 1,677 | 1,829 | 3,557 | | | | |
| 6/25 | 2,438 | 1,026 | 3,323 | 2,051 | 2,108 | | |
| | 2,382 | 1,034 | 6,613 | | | | |
| 6/25 | 1,985 | 313 | 8,743 | 822 | 5,176 | | |
| | 674 | 2,763 | 4,904 | | | | |
| 6/26 | 4,399 | 1,700 | 7,149 | 0 | 175 | | |
| | 2,743 | 1,062 | 5,129 | | | | |
| 6/26 | 1,622 | 4,657 | 2,072 | 1,057 | 1,490 | | |
| | 721 | 2,637 | 3,176 | | | | |
| 6/27 | 1,116 | 159 | 1,333 | 0 | 0 | | 375 |
| | 1,172 | 337 | 784 | | | | |
| 6/27 | 175 | 482 | 813 | 0 | 771 | | |
| | 342 | 472 | 157 | | | | |
| 6/28 | 1,370 | 163 | 3,509 | 0 | 927 | | |
| | 2,526 | 935 | 4,226 | | | | |
| 6/28 | 337 | 110 | 1,289 | 2,416 | 5,444 | | |
| | 478 | 464 | 1,286 | | | | |
| 6/29 | 2,893 | 492 | 2,612 | 1,147 | 1,173 | | |
| | 4,490 | 798 | 4,245 | | | | |
| 6/29 | 707 | 720 | 3,930 | 2,377 | 2,366 | | |
| | 436 | 1,487 | 1,657 | | | | |
| 6/30 | 4,200 | 1,723 | 2,235 | 0 | 183 | | |
| | 3,094 | 1,038 | 1,370 | | | | |
| 6/30 | 1,938 | 1,838 | 2,227 | 421 | 1,774 | | |
| | 763 | 1,108 | 2,577 | | | | |

-continued-

Table 6.–Page 2 of 2.

| Date | Hanson Point | Across Hanson Pt. | Tule Point | Picnic Point | Grassy Island | Bradford Point | One Bend up From Hansen |
|-------------|---------------------|--------------------------|-------------------|---------------------|----------------------|-----------------------|--------------------------------|
| 7/01 | 2,259 | 1,029 | 1,934 | 136 | 2,890 | | |
| | 3,057 | 1,180 | 2,807 | | | | |
| 7/01 | 3,081 | 3,363 | 5,031 | 1,361 | 719 | | |
| | 3,138 | 4,530 | 3,231 | | | | |
| 7/02 | 1,789 | 1,223 | 1,997 | 335 | 5,286 | | |
| | 2,544 | 1,808 | 1,047 | | | | |
| 7/02 | 1,511 | 1,321 | 2,468 | 1,643 | 518 | | |
| | 1,138 | 1,067 | 3,174 | | | | |
| 7/03 | 1,983 | 1,024 | 629 | 0 | 0 | | |
| | 2,177 | 1,581 | 884 | | | | |
| 7/04 | 4,443 | 1,258 | 2,193 | 210 | 4,841 | | |
| | 4,331 | 1,733 | 2,422 | | | | |
| 7/05 | 3,509 | 730 | 4,889 | 1,930 | 3,938 | | |
| | 2,939 | 1,776 | 3,168 | | | | |
| 7/06 | 5,566 | 3,728 | 3,964 | 0 | 0 | | |
| | 3,588 | 2,378 | 2,089 | | | | |

Note: All indices expressed in number of fish/100 fathoms-hours to the nearest full index point. Indices listed first for each station were recorded using 5 1/8 inch mesh gear, second with 4 3/4 inch gear. Blank cells represent no data.

Table 7.—Commercial fishing emergency orders, by district and stat area, Bristol Bay, 2007.

| Number ^a | Start Date | Start Time | | End Date | End Time | Effective time | |
|--|------------|------------|----|----------|------------|----------------|----------------|
| Naknek/Kvichak District | | | | | | | |
| Drift Net | | | | | | | |
| AKN.49 | July 09 | 8:30 p.m. | to | July 10 | 5:00 a.m. | 8.5-hours | |
| AKN.54 | July 10 | 9:30 p.m. | to | July 11 | 6:30 a.m. | 9.0-hours | |
| AKN.54 | July 11 | 8:30 a.m. | to | July 11 | 5:00 p.m. | 8.5-hours | |
| AKN.56 | July 11 | 8:00 p.m. | to | July 12 | 7:30 a.m. | 11.5-hours | |
| AKN.56 | July 12 | 9:30 a.m. | to | July 12 | 6:00 p.m. | 8.5-hours | |
| AKN.59 | July 12 | 9:00 p.m. | to | July 13 | 8:30 a.m. | 11.5-hours | |
| AKN.59 | July 13 | 10:0 a.m. | to | July 13 | 7:00 p.m. | 9.0-hours | |
| AKN.62 | July 13 | 9:30 p.m. | to | July 14 | 9:00 a.m. | 11.5-hours | |
| AKN.62 | July 14 | 12:00 p.m. | to | July 14 | 7:00 p.m. | 7.0-hours | |
| AKN.66 | July 14 | 10:00 p.m. | to | July 15 | 10:00 a.m. | 12.0-hours | |
| AKN.66 | July 15 | 1:00 p.m. | to | July 15 | 9:00 p.m. | 8.0-hours | |
| AKN.69 | July 16 | 2:00 a.m. | to | July 16 | 11:00 a.m. | 9.0-hours | |
| AKN.69 | July 16 | 2:00 p.m. | to | July 16 | 10:00 p.m. | 8.0-hours | |
| AKN.69 | July 17 | 3:00 a.m. | to | July 27 | 9:00 a.m. | 246.0-hours | ^b |
| Set Net | | | | | | | |
| AKN.01 | June 1 | 9:00 a.m. | to | July 22 | 9:00 a.m. | | ^{b,c} |
| AKN.12 | June 25 | 7:30 a.m. | to | June 25 | 3:30 p.m. | 8.0-hours | |
| AKN.15 | June 25 | 9:30 p.m. | to | June 26 | 1:30 a.m. | 4.0-hours | |
| AKN.15 | June 26 | 7:30 a.m. | to | June 25 | 1:00 p.m. | 5.5-hours | |
| AKN.17 | June 26 | 10:30 p.m. | to | June 27 | 2:30 a.m. | 4.0-hours | |
| AKN.17 | June 27 | 8:30 a.m. | to | June 25 | 1:30 p.m. | 5.0-hours | |
| AKN.19 | June 27 | 11:00 p.m. | to | June 28 | 4:00 a.m. | 5.0-hours | |
| AKN.47 | July 09 | 6:30 a.m. | to | July 09 | 2:30 p.m. | 8.0-hours | |
| AKN.49 | July 09 | 2:30 p.m. | to | July 27 | 9:00 a.m. | 427.5-hours | ^b |
| AKN.50 | | | | | | | |
| Naknek Section | | | | | | | |
| Drift Net | | | | | | | |
| AKN.01 | June 1 | 9:00 a.m. | to | July 22 | 9:00 a.m. | | ^{b,c} |
| AKN.12 | June 25 | 8:30 a.m. | to | June 25 | 3:30 p.m. | 7.0-hours | |
| AKN.15 | June 25 | 9:30 p.m. | to | June 26 | 1:30 a.m. | 4.0-hours | |
| AKN.15 | June 26 | 7:30 a.m. | to | June 25 | 1:00 p.m. | 5.5-hours | |
| AKN.17 | June 26 | 10:30 p.m. | to | June 27 | 2:30 a.m. | 4.0-hours | |
| AKN.17 | June 27 | 8:30 a.m. | to | June 25 | 1:30 p.m. | 5.0-hours | |
| AKN.19 | June 27 | 11:00 p.m. | to | June 28 | 4:00 a.m. | 5.0-hours | |
| AKN.47 | July 09 | 7:00 a.m. | to | July 09 | 2:30 p.m. | 7.5-hours | |
| AKN.49 | July 10 | 7:30 a.m. | to | July 10 | 3:00 p.m. | 7.5-hours | |
| Naknek River Special Harvest Area | | | | | | | |
| Drift Net | | | | | | | |
| AKN.19 | June 28 | 11:00 a.m. | to | June 28 | 4:00 p.m. | 5.0-hours | |
| AKN.19 | June 29 | 12:30 a.m. | to | June 29 | 7:30 a.m. | 7.0-hours | |
| AKN.23 | June 29 | 12:00 p.m. | to | June 29 | 5:00 p.m. | 5.0-hours | |
| AKN.23 | June 30 | 1:00 p.m. | to | June 30 | 5:30 p.m. | 4.5-hours | |
| AKN.26 | June 30 | 5:30 p.m. | to | June 30 | 7:00 p.m. | 1.5-hours | ^d |
| AKN.26 | July 01 | 1:30 a.m. | to | July 01 | 11:00 a.m. | 9.5-hours | |

-continued-

Table 7.–Page 2 of 9.

| Number ^a | Start Date | Start Time | | End Date | End Time | Effective time |
|---|------------|------------|----|----------|------------|-------------------------|
| Naknek River Special Harvest Area | | | | | | |
| AKN.26 | July 02 | 2:00 a.m. | to | July 02 | 11:30 a.m. | 9.5-hours |
| AKN.29 | July 02 | 1:30 p.m. | to | July 02 | 8:30 p.m. | 7.0-hours |
| AKN.29 | July 03 | 2:30 a.m. | to | July 03 | 12:00 p.m. | 9.5-hours |
| AKN.34 | July 04 | 3:00 a.m. | to | July 04 | 1:30 p.m. | 10.5-hours |
| AKN.34 | July 04 | 3:30 p.m. | to | July 04 | 11:30 p.m. | 7.5-hours |
| AKN.37 | July 05 | 4:00 p.m. | to | July 06 | 12:30 a.m. | 8.5-hours |
| AKN.37 | July 06 | 4:30 a.m. | to | July 06 | 2:00 p.m. | 9.5-hours |
| AKN.37 | July 06 | 5:30 p.m. | to | July 07 | 2:00 a.m. | 8.5-hours |
| AKN.41 | July 07 | 6:30 p.m. | to | July 08 | 2:30 a.m. | 8.0-hours |
| AKN.41 | July 08 | 6:00 a.m. | to | July 08 | 2:30 p.m. | 8.5-hours |
| AKN.43 | July 09 | 6:30 a.m. | to | July 09 | 2:30 p.m. | 8.0-hours ^c |
| AKN.43 | July 09 | 8:30 p.m. | to | July 10 | 4:30 a.m. | 8.0-hours ^c |
| AKN.50 | July 10 | 12:30 a.m. | to | July 10 | 8:30 a.m. | 8.0-hours |
| Set Net | | | | | | |
| AKN.23 | June 30 | 1:00 a.m. | to | June 30 | 10:00 a.m. | 4.5-hours |
| AKN.23 | June 29 | 4:30 p.m. | to | June 29 | 11:30 p.m. | 7.0-hours |
| AKN.26 | July 01 | 1:00 p.m. | to | July 01 | 8:00 p.m. | 7.0-hours |
| AKN.29 | July 03 | 2:30 p.m. | to | July 03 | 10:00 p.m. | 7.5-hours |
| AKN.34 | July 03 | 10:00 p.m. | to | July 04 | 12:00 a.m. | 2.0-hours ^d |
| AKN.34 | July 05 | 3:30 a.m. | to | July 05 | 3:00 p.m. | 11.5-hours |
| AKN.41 | July 07 | 4:30 a.m. | to | July 07 | 3:00 p.m. | 10.5-hours |
| AKN.43 | July 08 | 7:30 p.m. | to | July 08 | 4:30 a.m. | 9.0-hours |
| AKN.47 | July 08 | 4:30 a.m. | to | July 08 | 2:30 p.m. | 10.0-hours ^d |
| Alagnak River Special Harvest Area | | | | | | |
| Drift Net | | | | | | |
| AKN.30 | July 02 | 4:00 p.m. | to | July 02 | 8:00 p.m. | 4.0-hours |
| AKN.30 | July 03 | 4:30 a.m. | to | July 03 | 11:00 a.m. | 6.5-hours |
| Alagnak River Special Harvest Area | | | | | | |
| Set Net | | | | | | |
| AKN.30 | July 03 | 5:00 p.m. | to | July 03 | 9:00 p.m. | 4.0-hours |
| AKN.30 | July 04 | 5:00 a.m. | to | July 04 | 12:00 p.m. | 7.0-hours |
| AKN.34 | July 04 | 5:30 p.m. | to | July 04 | 10:00 p.m. | 4.5-hours |
| AKN.34 | July 05 | 6:00 a.m. | to | July 05 | 12:30 p.m. | 6.5-hours |
| AKN.37 | July 05 | 6:30 p.m. | to | July 05 | 11:00 p.m. | 4.5-hours |
| AKN.37 | July 06 | 7:00 a.m. | to | July 06 | 12:30 p.m. | 5.5-hours |
| AKN.41 | July 06 | 7:30 p.m. | to | July 07 | 12:30 a.m. | 5.0-hours |
| AKN.41 | July 07 | 7:30 a.m. | to | July 07 | 1:00 p.m. | 5.5-hours |
| AKN.43 | July 07 | 8:30 p.m. | to | July 08 | 1:30 a.m. | 5.0-hours |
| AKN.43 | July 08 | 8:30 a.m. | to | July 08 | 2:00 p.m. | 5.5-hours |
| AKN.47 | July 08 | 9:30 p.m. | to | July 09 | 2:30 a.m. | 5.0-hours |

-continued-

Table 7.–Page 3 of 9.

| Number ^a | Start Date | Start Time | | End Date | End Time | Effective time |
|------------------------------------|------------|------------|----|----------|------------|--------------------------|
| Egegik District | | | | | | |
| Drift Net | | | | | | |
| AKN.02 | June 01 | 12:00 a.m. | to | June 16 | 9:00 a.m. | f |
| AKN.06 | June 18 | 2:15 p.m. | to | June 18 | 11:15 a.m. | 9.0-hours |
| AKN.08 | June 20 | 4:15 p.m. | to | June 21 | 1:15 a.m. | 9.0-hours |
| AKN.09 | June 22 | 4:45 a.m. | to | June 22 | 10:45 a.m. | 6.0-hours |
| AKN.11 | June 23 | 5:30 a.m. | to | June 23 | 10:00 a.m. | 4.5-hours |
| AKN.14 | June 25 | 7:30 a.m. | to | June 25 | 1:30 p.m. | 6.0-hours |
| AKN.16 | June 26 | 8:00 p.m. | to | June 26 | 11:59 p.m. | 4.0-hours |
| AKN.16 | June 27 | 8:30 a.m. | to | June 27 | 12:30 p.m. | 4.0-hours |
| AKN.48 | July 09 | 6:30 a.m. | to | July 09 | 11:30 a.m. | 5.0-hours |
| AKN.50 | July 09 | 8:00 p.m. | to | July 10 | 12:00 a.m. | 4.0-hours ^g |
| AKN.50 | July 10 | 8:00 a.m. | to | July 10 | 12:00 p.m. | 4.0-hours |
| AKN.53 | July 10 | 10:00 p.m. | to | July 11 | 4:00 a.m. | 6.0-hours |
| AKN.53 | July 11 | 8:00 a.m. | to | July 11 | 1:00 p.m. | 5.0-hours |
| AKN.57 | July 11 | 10:00 p.m. | to | July 12 | 4:00 a.m. | 6.0-hours |
| AKN.60 | July 13 | 4:00 a.m. | to | July 13 | 7:00 a.m. | 3.0-hours |
| AKN.60 | July 13 | 10:30 a.m. | to | July 13 | 2:30 p.m. | 4.0-hours |
| AKN.63 | July 13 | 10:30 p.m. | to | July 14 | 4:00 a.m. | 5.5-hours |
| AKN.63 | July 14 | 10:30 a.m. | to | July 14 | 4:30 p.m. | 6.0-hours |
| AKN.67 | July 15 | 1:00 a.m. | to | July 15 | 6:00 a.m. | 5.0-hours |
| AKN.67 | July 15 | 11:30 a.m. | to | July 15 | 8:30 p.m. | 9.0-hours |
| AKN.70 | July 15 | 8:30 p.m. | to | July 27 | 9:00 a.m. | 276.5-hours ^b |
| Set Net | | | | | | |
| AKN.02 | June 01 | 12:00 a.m. | to | June 16 | 9:00 a.m. | f |
| AKN.06 | June 18 | 2:15 p.m. | to | June 18 | 11:15 a.m. | 9.0-hours |
| AKN.08 | June 20 | 4:15 p.m. | to | June 21 | 1:15 a.m. | 9.0-hours |
| AKN.09 | June 22 | 4:45 a.m. | to | June 22 | 12:45 p.m. | 8.0-hours |
| AKN.11 | June 23 | 5:30 a.m. | to | June 23 | 1:30 p.m. | 8.0-hours |
| AKN.14 | June 25 | 7:00 a.m. | to | June 25 | 3:00 p.m. | 8.0-hours |
| AKN.16 | June 27 | 8:30 a.m. | to | June 27 | 4:30 p.m. | 8.0-hours |
| AKN.50 | July 10 | 6:30 a.m. | to | July 10 | 2:30 p.m. | 8.0-hours |
| AKN.53 | July 11 | 7:00 a.m. | to | July 11 | 4:00 p.m. | 9.0-hours |
| AKN.57 | July 11 | 9:00 p.m. | to | July 12 | 5:00 p.m. | 20.0-hours |
| AKN.60 | July 13 | 9:30 a.m. | to | July 13 | 5:30 p.m. | 8.0-hours |
| AKN.63 | July 14 | 10:30 a.m. | to | July 14 | 7:30 p.m. | 9.0-hours |
| AKN.67 | July 15 | 11:30 a.m. | to | July 15 | 8:30 p.m. | 9.0-hours |
| AKN.70 | July 15 | 8:30 p.m. | to | July 27 | 9:00 a.m. | 276.5-hours ^b |
| Egegik Special Harvest Area | | | | | | |
| Drift Net | | | | | | |
| AKN.21 | June 28 | 10:30 a.m. | to | June 28 | 2:30 p.m. | 4.0-hours |
| AKN.25 | June 29 | 10:30 a.m. | to | June 29 | 4:30 p.m. | 6.0-hours |
| AKN.25 | June 30 | 12:30 p.m. | to | June 30 | 5:00 p.m. | 4.5-hours |
| AKN.27 | July 01 | 12:30 p.m. | to | July 01 | 4:30 a.m. | 4.0-hours |
| AKN.31 | July 02 | 1:00 p.m. | to | July 02 | 4:00 p.m. | 3.0-hours |

-continued-

Table 7.–Page 4 of 9.

| Number ^a | Start Date | Start Time | | End Date | End Time | Effective time |
|------------------------------------|------------|------------|----|----------|------------|----------------|
| AKN.32 | July 03 | 1:00 p.m. | to | July 03 | 7:00 p.m. | 6.0-hours |
| AKN.35 | July 04 | 2:00 p.m. | to | July 04 | 7:00 p.m. | 5.0-hours |
| AKN.35 | July 05 | 4:00 p.m. | to | July 05 | 9:00 p.m. | 5.0-hours |
| AKN.38 | July 06 | 6:00 a.m. | to | July 06 | 9:00 a.m. | 3.0-hours |
| AKN.38 | July 06 | 5:00 p.m. | to | July 06 | 10:00 p.m. | 5.0-hours |
| AKN.39 | July 07 | 7:00 a.m. | to | July 07 | 10:00 a.m. | 4.0-hours |
| AKN.39 | July 07 | 6:00 p.m. | to | July 07 | 11:00 p.m. | 5.0-hours |
| AKN.44 | July 08 | 5:00 a.m. | to | July 08 | 11:00 a.m. | 6.0-hours |
| AKN.45 | July 08 | 7:00 p.m. | to | July 09 | 12:00 a.m. | 5.0-hours |
| AKN.38 | July 06 | 8:00 a.m. | to | July 06 | 2:00 p.m. | 6.0-hours |
| AKN.42 | July 06 | 7:30 p.m. | to | July 07 | 2:00 a.m. | 6.5-hours |
| AKN.42 | July 07 | 8:30 a.m. | to | July 07 | 2:30 p.m. | 6.0-hours |
| AKN.46 | July 07 | 8:30 p.m. | to | July 08 | 2:30 a.m. | 6.0-hours |
| AKN.46 | July 08 | 9:00 a.m. | to | July 08 | 3:00 p.m. | 6.0-hours |
| AKN.52 | July 08 | 10:00 p.m. | to | July 09 | 3:00 a.m. | 5.0-hours |
| AKN.52 | July 09 | 10:30 a.m. | to | July 09 | 3:30 p.m. | 5.0-hours |
| AKN.54 | July 09 | 9:30 p.m. | to | July 10 | 4:00 a.m. | 6.5-hours |
| Egegik Special Harvest Area | | | | | | |
| Set Net | | | | | | |
| AKN.21 | June 28 | 9:30 a.m. | to | June 28 | 5:30 p.m. | 8.0-hours |
| AKN.25 | June 29 | 10:30 a.m. | to | June 29 | 6:30 p.m. | 8.0-hours |
| AKN.25 | June 30 | 11:30 a.m. | to | June 30 | 7:30 p.m. | 8.0-hours |
| AKN.27 | July 01 | 11:30 a.m. | to | July 01 | 7:30 a.m. | 8.0-hours |
| AKN.32 | July 03 | 1:00 p.m. | to | July 03 | 11:00 p.m. | 10.0-hours |
| AKN.35 | July 04 | 2:00 p.m. | to | July 05 | 12:00 a.m. | 10.0-hours |
| AKN.35 | July 05 | 3:00 p.m. | to | July 06 | 1:00 a.m. | 10.0-hours |
| AKN.38 | July 06 | 4:00 p.m. | to | July 07 | 12:00 a.m. | 8.0-hours |
| AKN.39 | July 07 | 4:00 a.m. | to | July 07 | 4:00 p.m. | 12.0-hours |
| AKN.44 | July 08 | 5:00 a.m. | to | July 08 | 1:00 p.m. | 8.0-hours |
| AKN.45 | July 09 | 6:00 a.m. | to | July 09 | 4:00 p.m. | 10.0-hours |
| AKN.35 | July 10 | 5:00 a.m. | to | July 05 | 1:00 p.m. | 8.0-hours |
| AKN.38 | July 06 | 6:45 a.m. | to | July 06 | 2:45 p.m. | 8.0-hours |
| AKN.42 | July 07 | 7:30 a.m. | to | July 07 | 3:30 p.m. | 8.0-hours |
| AKN.52 | July 08 | 9:30 p.m. | to | July 09 | 5:30 a.m. | 8.0-hours |
| AKN.52 | July 09 | 9:30 a.m. | to | July 09 | 5:30 p.m. | 8.0-hours |
| Ugashik District | | | | | | |
| Drift Net | | | | | | |
| AKN.03 | June 01 | 12:00 a.m. | to | June 22 | 9:00 a.m. | |
| AKN.13 | June 24 | 3:30 a.m. | to | June 25 | 3:30 a.m. | 24.0-hours |
| AKN.22 | June 29 | 9:00 a.m. | to | June 29 | 3:00 p.m. | 12.0-hours |
| AKN.28 | July 01 | 10:30 a.m. | to | July 01 | 4:30 p.m. | 6.0-hours |
| AKN.33 | July 03 | 1:00 p.m. | to | July 04 | 12:00 a.m. | 11.0-hours |
| AKN.36 | July 04 | 1:30 p.m. | to | July 04 | 11:30 p.m. | 10.0-hours |
| AKN.40 | July 06 | 2:00 p.m. | to | July 07 | 12:00 a.m. | 10.0-hours |

-continued-

Table 7.–Page 5 of 9.

| Number^a | Start Date | Start Time | | End Date | End Time | Effective time |
|---|-------------------|-------------------|----|-----------------|-----------------|-----------------------|
| AKN.40 | July 07 | 3:00 a.m. | to | July 07 | 1:00 p.m. | 10.0-hours |
| AKN.42 | July 07 | 4:00 p.m. | to | July 07 | 10:00 p.m. | 6.0-hours |
| AKN.42 | July 08 | 4:00 a.m. | to | July 08 | 10:00a.m. | 6.0-hours |
| AKN.46 | July 08 | 4:00 p.m. | to | July 08 | 10:00 p.m. | 6.0-hours |
| AKN.46 | July 09 | 5:00 a.m. | to | July 09 | 11:00 a.m. | 6.0-hours |
| AKN.52 | July 10 | 10:00 a.m. | to | July 10 | 4:00 p.m. | 6.0-hours |
| AKN.52 | July 10 | 9:00 p.m. | to | July 11 | 3:00 a.m. | 6.0-hours |
| AKN.52 | July 11 | 8:00 a.m. | to | July 11 | 2:00 p.m. | 6.0-hours |
| AKN.58 | July 11 | 6:00 p.m. | to | July 12 | 6:00 p.m. | 24.0-hours |
| AKN.61 | July 13 | 4:00 a.m. | to | July 13 | 2:00 p.m. | 8.0-hours |
| AKN.64 | July 14 | 7:00 a.m. | to | July 14 | 5:00 p.m. | 10.0-hours |
| AKN.68 | July 15 | 10:00 a.m. | to | July 15 | 10:00 p.m. | 12.0-hours |
| AKN.71 | July 15 | 10:00 p.m. | to | July 27 | 9:00 a.m. | 275.0-hours |
| Set Net | | | | | | |
| AKN.03 | June 01 | 12:00 a.m. | to | June 22 | 9:00 a.m. | |
| AKN.13 | June 24 | 3:30 a.m. | to | June 25 | 3:30 a.m. | 24.0-hours |
| AKN.22 | June 29 | 9:00 a.m. | to | June30 | 9:00 a.m. | 24.0-hours |
| AKN.33 | July 03 | 12:00 p.m. | to | July 04 | 12:00 p.m. | 24.0-hours |
| AKN.40 | July 06 | 2:00 p.m. | to | July 07 | 12:00 a.m. | 10.0-hours |
| AKN.42 | July 07 | 3:00 p.m. | to | July 01 | 1:00 a.m. | 10.0-hours |
| AKN.46 | July 08 | 4:00 p.m. | to | July 09 | 2:00 a.m. | 10.0-hours |
| AKN.51 | July 10 | 5:00 a.m. | to | July 10 | 3:00 p.m. | 10.0-hours |
| AKN.52 | July 11 | 6:00 a.m. | to | July 11 | 4:00 p.m. | 10.0-hours |
| AKN.58 | July 11 | 6:00 p.m. | to | July 12 | 6:00 p.m. | 24.0-hours |
| AKN.61 | July 13 | 4:00 a.m. | to | July 14 | 4:00 a.m. | 24.0-hours |
| AKN.65 | July 14 | 8:00 a.m. | to | | | |
| AKN.71 | | | to | July 27 | 9:00 a.m. | 313.0-hours |
| Ugashik River Special Harvest Area | | | | | | |
| Drift Net | | | | | | |
| AKN.02 | June 19 | 3:30 a.m. | to | June 19 | 3:30 p.m. | 12.0-hours |
| AKN.02 | June 20 | 4:30 a.m. | to | June 20 | 4:30 p.m. | 12.0-hours |
| AKN.02 | June 21 | 5:00 a.m. | to | June 21 | 5:00 p.m. | 12.0-hours |
| AKN.02 | June 22 | 5:30 a.m. | to | June 22 | 5:30 a.m. | 12.0-hours |
| AKN.60 | July 11 | 12:30 p.m. | to | July 11 | 8:00 p.m. | 7.5-hours |
| AKN.60 | July 12 | 11:30 a.m. | to | July 12 | 7:30 p.m. | 8.0-hours |
| AKN.67 | July 12 | 7:30 p.m. | to | July 12 | 10:30 p.m. | 3.0-hours |
| AKN.67 | July 13 | 12:30 p.m. | to | July 13 | 10:30 p.m. | 10.0-hours |
| AKN.70 | July 14 | 1:30 p.m. | to | July 14 | 9:30 p.m. | 8.0-hours |
| Ugashik River Special Harvest Area | | | | | | |
| Set Net | | | | | | |
| AKN.02 | June 01 | 12:00 a.m. | to | June 16 | 12:00 a.m. | weekly schedule |
| AKN.02 | June 19 | 3:30 a.m. | to | June 19 | 3:30 p.m. | 12.0-hours |
| AKN.02 | June 20 | 4:30 a.m. | to | June 20 | 4:30 p.m. | 12.0-hours |
| AKN.02 | June 21 | 5:00 a.m. | to | June 21 | 5:00 p.m. | 12.0-hours |
| AKN.02 | June 22 | 5:30 a.m. | to | June 22 | 5:30 a.m. | 12.0-hours |
| AKN.60 | July 11 | 12:30 p.m. | to | July 12 | 9:30 p.m. | 33.5-hours |
| AKN.60 | July 12 | 11:30 a.m. | | July 12 | 9:30 p.m. | 10.0-hours |
| AKN.67 | July 13 | 12:30 p.m. | to | July 13 | 10:30 p.m. | 10.0-hours |
| AKN.70 | July 14 | 1:30 p.m. | to | July 14 | 9:30 p.m. | 8.0-hours |

-continued-

Table 7.–Page 6 of 9.

| Number ^a | Start Date | Start Time | | End Date | End Time | Effective time | |
|--------------------------|------------|------------|----|----------|------------|----------------|-----|
| Nushagak District | | | | | | | |
| Nushagak Section | | | | | | | |
| Drift Net | | | | | | | |
| DLG.01 | June 01 | 10:00 a.m. | to | June 02 | 4:00 a.m. | 18.0-hours | h,i |
| DLG.02 | June 03 | 8:00 p.m. | to | June 04 | 2:00 p.m. | 18.0-hours | h,i |
| DLG.03 | June 06 | 7:00 p.m. | to | June 07 | 7:00 a.m. | 12.0-hours | h,i |
| DLG.05 | June 09 | 4:00 a.m. | to | June 09 | 4:00 p.m. | 12.0-hours | h,i |
| DLG.07 | June 11 | 3:00 a.m. | to | June 11 | 11:00 a.m. | 8.0-hours | h,i |
| DLG.11 | June 13 | 6:00 a.m. | to | June 13 | 12:00 p.m. | 6.0-hours | h,i |
| DLG.26 | June 25 | 3:00 p.m. | to | June 25 | 6:00 p.m. | 3.0-hours | c |
| DLG.27 | June 26 | 3:00 a.m. | to | June 26 | 7:00 a.m. | 4.0-hours | |
| DLG.30 | June 26 | 1:30 p.m. | to | June 26 | 9:30 p.m. | 8.0-hours | |
| DLG.30 | June 27 | 2:00 a.m. | to | June 27 | 10:00 a.m. | 8.0-hours | |
| DLG.31 | June 27 | 2:00 p.m. | to | June 27 | 11:00 p.m. | 9.0-hours | |
| DLG.31 | June 28 | 3:00 a.m. | to | June 28 | 11:00 a.m. | 8.0-hours | |
| DLG.32 | June 28 | 3:00 p.m. | to | June 28 | 8:00 p.m. | 5.0-hours | |
| DLG.32 | June 29 | 3:00 p.m. | to | June 29 | 8:00 p.m. | 5.0-hours | |
| DLG.33 | June 30 | 3:30 p.m. | to | June 30 | 10:30 a.m. | 7.0-hours | |
| DLG.33 | June 30 | 2:00 p.m. | to | June 30 | 10:00 p.m. | 8.0-hours | |
| DLG.34 | July 1 | 4:00 a.m. | to | July 1 | 11:00 a.m. | 7.0-hours | |
| DLG.34 | July 1 | 4:00 a.m. | to | July 1 | 11:00 p.m. | 8.0-hours | |
| DLG.35 | July 2 | 6:00 a.m. | to | July 2 | 12:00 p.m. | 6.0-hours | |
| DLG.36 | July 03 | 7:00 a.m. | to | July 03 | 12:00 p.m. | 5.0-hours | |
| DLG.37 | July 03 | 7:00 p.m. | to | July 04 | 12:00 a.m. | 5.0-hours | |
| DLG.37 | July 04 | 8:00 a.m. | to | July 04 | 1:00 p.m. | 5.0-hours | |
| DLG.38 | July 04 | 8:00 p.m. | to | July 04 | 11:00 p.m. | 3.0-hours | |
| DLG.39 | July 05 | 8:30 p.m. | to | July 06 | 1:30 a.m. | 5.0-hours | |
| DLG.39 | July 06 | 9:00 a.m. | to | July 06 | 3:00 p.m. | 6.0-hours | |
| DLG.40 | July 06 | 8:00 p.m. | to | July 07 | 3:00 a.m. | 7.0-hours | |
| DLG.40 | July 07 | 8:00 a.m. | to | July 07 | 3:30 p.m. | 7.5-hours | |
| DLG.41 | July 07 | 9:00 p.m. | to | July 08 | 4:00 a.m. | 7.0-hours | |
| DLG.41 | July 08 | 8:00 a.m. | to | July 08 | 3:30 p.m. | 7.5-hours | |
| DLG.42 | July 8 | 8:00 p.m. | to | July 9 | 4:00 a.m. | 8.0-hours | |
| DLG.42 | July 9 | 8:00 a.m. | to | July 9 | 4:30 p.m. | 8.0-hours | |
| DLG.43 | July 9 | 10:00 p.m. | to | July 10 | 7:00 a.m. | 9.0-hours | |
| DLG.43 | July 10 | 10:00 a.m. | to | July 10 | 6:00 p.m. | 8.0-hours | |
| DLG.44 | July 10 | 10:00 p.m. | to | July 11 | 7:00 a.m. | 9.0-hours | |
| DLG.44 | July 11 | 10:00 a.m. | to | July 11 | 7:00 p.m. | 9.0-hours | |
| DLG.45 | July 12 | 12:00 a.m. | to | July 12 | 8:00 a.m. | 8.0-hours | |
| DLG.45 | July 12 | 11:00 a.m. | to | July 12 | 8:00 p.m. | 9.0-hours | |
| DLG.47 | July 13 | 1:00 a.m. | to | July 13 | 9:00 a.m. | 8.0-hours | |
| DLG.47 | July 13 | 12:00 p.m. | to | July 13 | 9:00 p.m. | 9.0-hours | |
| DLG.48 | July 14 | 2:00 a.m. | to | July 14 | 10:00 a.m. | 8.0-hours | |
| DLG.48 | July 14 | 1:00 p.m. | to | July 14 | 10:00 p.m. | 9.0-hours | |
| DLG.49 | July 15 | 3:00 a.m. | to | July 15 | 11:00 a.m. | 8.0-hours | |
| DLG.49 | July 15 | 2:00 p.m. | to | July 15 | 10:00 p.m. | 8.0-hours | |
| DLG.50 | July 15 | 10:00 p.m. | to | | | | d |
| DLG.52 | | | to | July 24 | 8:00 p.m. | | e |
| DLG.52 | July 27 | 8:30 a.m. | to | July 27 | 8:30 p.m. | 12.0-hours | |

-continued-

Table 7.–Page 7 of 9.

| Number ^a | Start Date | Start Time | | End Date | End Time | Effective time | |
|------------------------|------------|------------|----|-----------|------------|----------------|-----|
| DLG.52 | July 27 | 8:30 a.m. | to | July 27 | 8:30 p.m. | 12.0-hours | |
| DLG.52 | July 29 | 10:00 a.m. | to | July 29 | 10:00 p.m. | 12.0-hours | |
| DLG.54 | August 1 | 12:00 a.m. | to | August 1 | 12:00 p.m. | 12.0-hours | |
| DLG.54 | August 3 | 1:00 a.m. | to | August 3 | 1:00 p.m. | 12.0-hours | |
| DLG.54 | August 5 | 3:00 a.m. | to | August 5 | 3:00 p.m. | 12.0-hours | |
| DLG.57 | August 8 | 6:00 a.m. | to | August 8 | 6:00 p.m. | 12.0-hours | |
| DLG.57 | August 10 | 8:00 a.m. | to | August 10 | 8:00 p.m. | 12.0-hours | |
| DLG.57 | August 12 | 10:00 a.m. | to | August 12 | 10:00 p.m. | 12.0-hours | |
| Set Net | | | | | | | |
| DLG.01 | June 01 | 1:30 a.m. | to | June 01 | 7:30 p.m. | 18.0-hours | h,i |
| DLG.02 | June 03 | 2:00 p.m. | to | June 04 | 8:00 a.m. | 18.0-hours | h,i |
| DLG.03 | June 06 | 4:30 p.m. | to | June 07 | 4:30 a.m. | 12.0-hours | h,i |
| DLG.05 | June 09 | 6:30 a.m. | to | June 09 | 6:30 p.m. | 12.0-hours | h,i |
| DLG.07 | June 11 | 8:30 a.m. | to | June 11 | 4:30 p.m. | 8.0-hours | h,i |
| DLG.11 | June 13 | 10:30 a.m. | to | June 13 | 4:30 p.m. | 6.0-hours | h,i |
| DLG.24 | June 24 | 8:30 a.m. | to | June 24 | 4:30 p.m. | 8.0-hours | |
| DLG.25 | June 25 | 9:30 a.m. | to | June 25 | 2:30 p.m. | 5.0-hours | b |
| DLG.27 | June 25 | 2:30 p.m. | to | June 26 | 2:30 p.m. | 24.0-hours | d |
| DLG.30 | June 26 | 2:30 p.m. | to | June 27 | 2:30 p.m. | 24.0-hours | d |
| DLG.31 | June 27 | 2:30 p.m. | to | June 28 | 2:30 p.m. | 24.0-hours | d |
| DLG.32 | June 28 | 2:30 p.m. | to | June 28 | 9:00 p.m. | 6.5-hours | d |
| DLG.32 | June 29 | 12:30 a.m. | to | June 29 | 8:30 p.m. | 20.0-hours | |
| DLG.33 | June 29 | 8:30 p.m. | to | June 30 | 8:30 p.m. | 24.0-hours | |
| DLG.34 | June 30 | 8:30 p.m. | to | July 1 | 8:30 p.m. | 24.0-hours | d |
| DLG.35 | July 1 | 8:30 p.m. | to | July 2 | 8:30 p.m. | 24.0-hours | d |
| DLG.36 | July 2 | 8:30 p.m. | to | July 3 | 12:00 p.m. | 15.5-hours | d |
| DLG.36 | July 3 | 3:00 p.m. | to | July 4 | 4:00 p.m. | 25.0-hours | |
| DLG.38 | July 4 | 4:00 p.m. | to | July 5 | 12:00 p.m. | 20.0-hours | d |
| DLG.39 | July 5 | 5:00 p.m. | to | July 6 | 6:00 p.m. | 25.0-hours | |
| DLG.40 | July 6 | 6:00 p.m. | to | | | | j |
| DLG.54 | August 1 | 12:00 a.m. | to | August 1 | 12:00 p.m. | 12.0-hours | |
| DLG.54 | August 3 | 1:00 a.m. | to | August 3 | 1:00 p.m. | 12.0-hours | |
| DLG.54 | August 5 | 3:00 a.m. | to | August 5 | 3:00 p.m. | 12.0-hours | |
| DLG.57 | August 8 | 6:00 a.m. | to | August 8 | 6:00 p.m. | 12.0-hours | |
| DLG.57 | August 10 | 8:00 a.m. | to | August 10 | 8:00 p.m. | 12.0-hours | |
| DLG.57 | August 12 | 10:00 a.m. | to | August 12 | 10:00 p.m. | 12.0-hours | |
| Igushik Section | | | | | | | |
| Drift Net | | | | | | | |
| DLG.01 | June 01 | 10:00 a.m. | to | June 02 | 4:00 a.m. | 18.0-hours | h,i |
| DLG.02 | June 03 | 8:00 p.m. | to | June 04 | 2:00 p.m. | 18.0-hours | h,i |
| DLG.03 | June 06 | 7:00 p.m. | to | June 07 | 7:00 a.m. | 12.0-hours | h,i |
| DLG.05 | June 09 | 4:00 a.m. | to | June 09 | 4:00 p.m. | 12.0-hours | h,i |
| DLG.07 | June 11 | 3:00 a.m. | to | June 11 | 11:00 a.m. | 8.0-hours | h,i |
| DLG.11 | June 13 | 6:00 a.m. | to | June 13 | 12:00 p.m. | 6.0-hours | h,i |
| DLG.41 | July 07 | 9:00 p.m. | to | July 08 | 4:00 a.m. | 7.0-hours | c |
| DLG.41 | July 08 | 8:00 a.m. | to | July 08 | 3:30 p.m. | 7.5-hours | |
| DLG.42 | July 8 | 8:00 p.m. | to | July 9 | 4:00 a.m. | 8.0-hours | |
| DLG.42 | July 9 | 8:00 a.m. | to | July 9 | 4:00 p.m. | 8.0-hours | |

-continued-

Table 7.–Page 8 of 9.

| Number ^a | Start Date | Start Time | | End Date | End Time | Effective time |
|------------------------|------------|------------|----|-----------|------------|---------------------------|
| DLG.43 | July 9 | 10:00 p.m. | to | July 10 | 7:00 a.m. | 9.0-hours |
| DLG.43 | July 10 | 10:00 a.m. | to | July 10 | 6:00 p.m. | 8.0-hours |
| DLG.44 | July 10 | 10:00 p.m. | to | July 11 | 7:00 a.m. | 9.0-hours |
| DLG.44 | July 11 | 10:00 a.m. | to | July 11 | 7:00 p.m. | 9.0-hours |
| DLG.45 | July 12 | 12:00 a.m. | to | July 12 | 8:00 a.m. | 8.0-hours |
| DLG.45 | July 12 | 11:00 a.m. | to | July 12 | 8:00 p.m. | 9.0-hours |
| DLG.47 | July 13 | 1:00 a.m. | to | July 13 | 9:00 a.m. | 8.0-hours |
| DLG.47 | July 13 | 12:00 p.m. | to | July 13 | 9:00 p.m. | 9.0-hours |
| DLG.48 | July 14 | 2:00 a.m. | to | July 14 | 10:00 a.m. | 8.0-hours |
| DLG.48 | July 14 | 1:00 p.m. | to | July 14 | 10:00 p.m. | 9.0-hours |
| DLG.49 | July 15 | 3:00 a.m. | to | July 15 | 11:00 a.m. | 8.0-hours |
| DLG.49 | July 15 | 2:00 p.m. | to | July 15 | 10:00 p.m. | 8.0-hours ^d |
| DLG.50 | July 15 | 10:00 p.m. | to | | | |
| DLG.52 | | | to | July 24 | 8:00 p.m. | |
| DLG.52 | July 27 | 8:30 a.m. | to | July 27 | 8:30 p.m. | 12.0-hours ^e |
| DLG.52 | July 29 | 10:00 a.m. | to | July 29 | 10:00 p.m. | 12.0-hours |
| DLG.54 | August 1 | 12:00 a.m. | to | August 1 | 12:00 p.m. | 12.0-hours |
| DLG.54 | August 3 | 1:00 a.m. | to | August 3 | 1:00 p.m. | 12.0-hours |
| DLG.54 | August 5 | 3:00 a.m. | to | August 5 | 3:00 p.m. | 12.0-hours |
| DLG.57 | August 8 | 6:00 a.m. | to | August 8 | 6:00 p.m. | 12.0-hours |
| DLG.57 | August 10 | 8:00 a.m. | to | August 10 | 8:00 p.m. | 12.0-hours |
| DLG.57 | August 12 | 10:00 a.m. | to | August 12 | 10:00 p.m. | 12.0-hours |
| Igushik Section | | | | | | |
| Set Net | | | | | | |
| DLG.01 | June 01 | 10:00 a.m. | to | June 02 | 4:00 a.m. | 18.0-hours ^{h,i} |
| DLG.02 | June 03 | 8:00 p.m. | to | June 04 | 2:00 p.m. | 18.0-hours ^{h,i} |
| DLG.03 | June 06 | 7:00 p.m. | to | June 07 | 7:00 a.m. | 12.0-hours ^{h,i} |
| DLG.05 | June 09 | 4:00 a.m. | to | June 09 | 4:00 p.m. | 12.0-hours ^{h,i} |
| DLG.07 | June 11 | 3:00 a.m. | to | June 11 | 11:00 a.m. | 8.0-hours ^{h,i} |
| DLG.11 | June 13 | 6:00 a.m. | to | June 13 | 12:00 p.m. | 6.0-hours ^{h,i} |
| DLG.15 | June 18 | 4:00 p.m. | to | June 19 | 12:00 a.m. | 8.0-hours ^c |
| DLG.15 | June 19 | 5:00 p.m. | to | June 20 | 1:00 a.m. | 8.0-hours |
| DLG.18 | June 20 | 6:00 p.m. | to | June 21 | 2:00 a.m. | 8.0-hours |
| DLG.19 | June 21 | 7:00 p.m. | to | June 22 | 3:00 a.m. | 8.0-hours |
| DLG.21 | June 22 | 8:00 p.m. | to | June 23 | 4:00 a.m. | 8.0-hours |
| DLG.22 | June 23 | 9:00 p.m. | to | June 24 | 5:00 a.m. | 8.0-hours |
| DLG.23 | June 24 | 8:30 a.m. | to | June 24 | 4:30 p.m. | 8.0-hours |
| DLG.25 | June 25 | 9:30 a.m. | to | June 25 | 5:30 p.m. | 8.0-hours |
| DLG.27 | June 26 | 10:00 a.m. | to | June 26 | 6:00 p.m. | 8.0-hours |
| DLG.30 | June 27 | 10:30 a.m. | to | June 27 | 6:30 p.m. | 8.0-hours |
| DLG.31 | June 28 | 11:00 a.m. | to | June 28 | 7:00 p.m. | 8.0-hours |
| DLG.32 | June 29 | 12:00 p.m. | to | June 29 | 8:00 p.m. | 8.0-hours |
| DLG.33 | June 30 | 12:30 p.m. | to | June 30 | 8:30 p.m. | 8.0-hours |
| DLG.34 | July 1 | 1:30 p.m. | to | July 01 | 9:30 p.m. | 8.0-hours |
| DLG.35 | July 01 | 9:30 p.m. | to | July 2 | 1:30 a.m. | 4.0-hours ^d |
| DLG.35 | July 02 | 2:00 p.m. | to | July 3 | 2:00 a.m. | 12.0-hours |
| DLG.36 | July 03 | 3:00 p.m. | to | July 04 | 4:00 p.m. | 25.0-hours ^d |
| DLG.38 | July 04 | 4:00 p.m. | to | July 05 | 5:00 p.m. | 25.0-hours ^d |
| DLG.39 | July 05 | 5:00 p.m. | to | July 06 | 6:00 p.m. | 25.0-hours ^d |

-continued-

Table 7.–Page 9 of 9.

| Number ^a | Start Date | Start Time | | End Date | End Time | Effective time | |
|------------------------|------------|------------|----|-----------|------------|----------------|--------------|
| DLG.40 | July 06 | 6:00 p.m. | to | | | | ^j |
| DLG.54 | August 1 | 12:00 a.m. | to | August 1 | 12:00 p.m. | 12.0-hours | |
| DLG.54 | August 3 | 1:00 a.m. | to | August 3 | 1:00 p.m. | 12.0-hours | |
| DLG.54 | August 5 | 3:00 a.m. | to | August 5 | 3:00 p.m. | 12.0-hours | |
| DLG.57 | August 8 | 6:00 a.m. | to | August 8 | 6:00 p.m. | 12.0-hours | |
| DLG.57 | August 10 | 8:00 a.m. | to | August 10 | 8:00 p.m. | 12.0-hours | |
| DLG.57 | August 12 | 10:00 a.m. | to | August 12 | 10:00 p.m. | 12.0-hours | |
| Togiak District | | | | | | | |
| Drift and Set Net | | | | | | | |
| DLG.28 | June 25 | 9:00 a.m. | to | June 27 | 9:00 a.m. | 48.0-hours | ^k |
| DLG.28 | June 25 | 9:00 a.m. | to | June 28 | 9:00 a.m. | 72.0-hours | ^k |
| DLG.46 | July 14 | 9:00 p.m. | to | July 16 | 9:00 a.m. | 60.0-hours | ^d |
| DLG.51 | July 20 | 9:00 a.m. | to | July 22 | 9:00 a.m. | 48.0-hours | ^d |
| DLG.53 | July 27 | 9:00 a.m. | to | July 29 | 9:00 a.m. | 48.0-hours | ^d |
| DLG.56 | August 03 | 9:00 a.m. | to | August 05 | 9:00 a.m. | 48.0-hours | ^d |

^a Prefix code on emergency orders indicate where the announcement originated. (“AKN” for King Salmon field office and “DLG” for the Dillingham field office).

^b Gillnet mesh size is restricted to 5.5 inches or less.

^c The 48 hour waiting period waived effective 9:00 a.m. July 12.

^d Weekly schedule 9:00 a.m. Monday until 9:00 a.m. Friday.

^e Extends current fishing period.

^f Removal of running lines not required.

^g The 48-hour waiting period waved effective 10:30 a.m. July 10.

^h gillnet mesh is restricted to 7.5 inches or larger.

ⁱ Includes the Chinook area.

^j Opens commercial fishing until further notice.

^k Supersedes EO 2F-T-49-06.

Table 8.–Daily district registration of drift gillnet permit holders by district, Bristol Bay, 2007.

| Date | Naknek-Kvichak | Egegik | Ugashik | Nushagak | Togiak | Total |
|-------------------|-----------------------|---------------|----------------|-----------------|---------------|--------------|
| 6/19 | 117 | 140 | 36 | 292 | 16 | 601 |
| 6/20 | 136 | 190 | 33 | 292 | 18 | 669 |
| 6/21 | 154 | 255 | 29 | 292 | 23 | 753 |
| 6/22 | 167 | 367 | 17 | 294 | 25 | 870 |
| 6/23 | 178 | 389 | 306 | 13 | 28 | 914 |
| 6/24 | 197 | 374 | 25 | 400 | 28 | 1,024 |
| 6/25 | 264 | 376 | 26 | 484 | 28 | 1,178 |
| 6/26 | 281 | 361 | 33 | 613 | 33 | 1,321 |
| 6/27 ^a | | | | | | |
| 6/28 | 291 | 364 | 46 | 714 | 40 | 1,455 |
| 6/29 | 303 | 368 | 68 | 721 | 40 | 1,500 |
| 6/30 | 324 | 366 | 75 | 741 | 41 | 1,547 |
| 7/01 | 327 | 355 | 88 | 741 | 41 | 1,552 |
| 7/02 | 327 | 357 | 93 | 739 | 41 | 1,557 |
| 7/03 | 331 | 354 | 107 | 712 | 44 | 1,548 |
| 7/04 | 329 | 357 | 118 | 692 | 46 | 1,542 |
| 7/05 | 335 | 359 | 142 | 652 | 46 | 1,534 |
| 7/06 | 337 | 361 | 162 | 615 | 47 | 1,522 |
| 7/07 | 353 | 362 | 189 | 554 | 50 | 1,508 |
| 7/08 | 383 | 353 | 200 | 516 | 50 | 1,502 |
| 7/09 | 415 | 357 | 217 | 495 | 50 | 1,534 |
| 7/10 | 441 | 354 | 232 | 257 | 50 | 1,334 |
| 7/11 | 459 | 388 | 238 | 436 | 51 | 1,572 |
| 7/12 | 490 | 364 | 284 | 384 | 51 | 1,573 |
| 7/13 | 497 | 322 | 317 | 368 | 51 | 1,555 |
| 7/14 | 539 | 264 | 340 | 331 | 51 | 1,525 |
| 7/15 | 568 | 241 | 388 | 317 | 51 | 1,565 |
| 7/16 | 599 | 222 | 428 | 314 | 51 | 1,614 |
| 7/17 | 597 | 220 | 440 | 313 | 51 | 1,621 |
| Average | 348 | 326 | 167 | 475 | 41 | 1,357 |

^a Registration information not available.

Table 9.—Commercial salmon catch by date and species, in numbers of fish, Naknek-Kvichak District, Bristol Bay, 2007.

| Date | Hours fished | | Deliveries | | Sockeye | Chinook | Chum | Pink | Coho | Total |
|------|----------------------------|--------------|------------|-----|---------|---------|--------|------|------|---------|
| | Drift | Set | Drift | Set | | | | | | |
| 6/12 | ^a 24.0 | 24.0 | | 1 | | | | | | |
| 6/13 | ^a 24.0 | 24.0 | | 1 | | | | | | |
| 6/18 | 15.0 | 15.0 | 52 | 20 | 10,247 | 24 | 407 | | | 10,678 |
| 6/19 | 24.0 | 24.0 | 61 | 46 | 6,432 | 34 | 178 | | | 6,644 |
| 6/20 | 24.0 | 24.0 | 72 | 76 | 14,186 | 115 | 412 | 0 | 0 | 14,713 |
| 6/21 | 24.0 | 24.0 | 103 | 81 | 30,480 | 81 | 1,290 | 0 | 0 | 31,851 |
| 6/22 | 9.0 | 9.0 | 41 | 50 | 26,438 | 17 | 894 | 0 | 0 | 27,349 |
| 6/25 | 7.0 | 8.0 | 219 | 128 | 81,245 | 12 | 1,523 | 0 | 0 | 82,780 |
| 6/26 | 4.0/5.5 | 4.0/5.5 | 315 | 198 | 60,934 | 9 | 1,594 | 0 | 0 | 62,537 |
| 6/27 | 4.0/5.0 | 4.0/5.0 | 360 | 209 | 120,049 | 20 | 2,363 | 0 | 0 | 122,432 |
| 6/28 | ^b 5.0/5.0 | 5.0 | 433 | 134 | 202,623 | 20 | 3,777 | 0 | 0 | 206,420 |
| 6/29 | ^b 7.0/5.0 | | 516 | | 235,731 | 20 | 3,226 | 0 | 0 | 238,977 |
| 6/30 | ^{b,c} 6.0 | 9.0 | 302 | 225 | 246,955 | 9 | 2,142 | 0 | 0 | 249,106 |
| 7/01 | ^b 9.5 | 7.0 | 274 | 376 | 140,914 | 11 | 1,308 | 0 | 0 | 142,233 |
| 7/02 | ^{b,d} 9.5/7.0/4.0 | | 590 | | 351,048 | 15 | 3,331 | 0 | 0 | 354,394 |
| 7/03 | ^{b,c,d} 6.5/9.5 | 4.0/9.5 | 323 | 559 | 567,310 | 20 | 2,418 | 0 | 0 | 569,748 |
| 7/04 | ^{b,c,d} 10.5/7.5 | 7.0/4.5 | 620 | 10 | 599,832 | 23 | 3,742 | 0 | 0 | 603,597 |
| 7/05 | ^{b,d} 8.5 | 11.5/6.5/5.0 | 359 | 430 | 611,016 | 10 | 2,888 | 0 | 0 | 613,914 |
| 7/06 | ^{b,d} 9.5/8.5 | 5.5/5.0 | 308 | 2 | 299,342 | 13 | 2,573 | 0 | 0 | 301,928 |
| 7/07 | ^{b,d} 8.0 | 10.5/5.5/5.0 | 298 | 324 | 300,787 | 14 | 2,090 | 0 | 0 | 302,891 |
| 7/08 | ^{b,c,d} 8.5 | 4.5/5.0/5.0 | 480 | 195 | 366,641 | 26 | 3,853 | 0 | 0 | 370,520 |
| 7/09 | ^{b,c} 7.5 | 24.0 | 387 | 569 | 443,183 | 28 | 5,156 | 0 | 0 | 448,367 |
| 7/10 | 8.5/7.5 | 24.0 | 730 | 398 | 547,809 | 67 | 12,495 | 0 | 0 | 560,371 |
| 7/11 | 9.0/8.5 | 24.0 | 669 | 491 | 824,562 | 76 | 25,502 | 0 | 1 | 850,141 |
| 7/12 | 11.0/8.5 | 24.0 | 695 | 392 | 612,112 | 84 | 23,782 | 0 | 0 | 635,978 |
| 7/13 | 11.5/9.0 | 24.0 | 787 | 389 | 634,207 | 85 | 25,944 | 0 | 2 | 660,238 |
| 7/14 | 9.0/7.0 | 24.0 | 759 | 307 | 341,956 | 83 | 16,076 | 0 | 0 | 358,115 |
| 7/15 | 12.0/8.0 | 24.0 | 734 | 337 | 407,152 | 98 | 20,259 | 0 | 0 | 427,509 |
| 7/16 | 9.0/8.0 | 24.0 | 704 | 323 | 357,375 | 95 | 27,769 | 0 | 2 | 385,241 |
| 7/17 | 21.0 | 24.0 | 396 | 267 | 141,627 | 91 | 14,780 | 0 | 2 | 156,500 |
| 7/18 | 24.0 | 24.0 | 353 | 222 | 108,631 | 53 | 20,723 | 0 | 5 | 129,412 |
| 7/19 | 24.0 | 24.0 | 305 | 170 | 114,921 | 79 | 25,707 | 0 | 3 | 140,710 |
| 7/20 | 24.0 | 24.0 | 219 | 122 | 74,419 | 76 | 34,732 | 0 | 5 | 109,232 |
| 7/21 | 24.0 | 9.0 | 148 | 113 | 53,025 | 64 | 20,601 | 1 | 29 | 73,720 |
| 7/22 | 24.0 | 24.0 | 105 | 89 | 31,347 | 28 | 20,067 | 2 | 73 | 51,517 |

-continued-

Table 9.—Page 2 of 2.

| Date | Hours fished | | Deliveries | | Sockeye | Chinook | Chum | Pink | Coho | Total |
|--------------|---------------------|------------|-------------------|------------|------------------|----------------|----------------|-------------|--------------|------------------|
| | Drift | Set | Drift | Set | | | | | | |
| 7/23 | 24.0 | 24.0 | 94 | 85 | 20,901 | 23 | 13,987 | 0 | 60 | 34,971 |
| 7/24 | 24.0 | 15.0 | 68 | 69 | 12,125 | 11 | 9,523 | 1 | 9 | 21,669 |
| 7/25 | 24.0 | 24.0 | 21 | 50 | 8,664 | 23 | 4,581 | 0 | 39 | 13,307 |
| 7/26 | 24.0 | 24.0 | 19 | 39 | 7,857 | 7 | 8,238 | 0 | 37 | 16,139 |
| 7/27 | 9.0 | 9.0 | 5 | 12 | 2,030 | 4 | 1,891 | 0 | 6 | 3,931 |
| 7/30 | 15.0 | 15.0 | 2 | 13 | 1,078 | 1 | 2,458 | 0 | 204 | 3,741 |
| 7/31 | 24.0 | 24.0 | 10 | 28 | 1,797 | 3 | 4,457 | 0 | 513 | 6,770 |
| 8/01 | 24.0 | 24.0 | 3 | 10 | 485 | 1 | 197 | 0 | 61 | 744 |
| 8/02 | 24.0 | 24.0 | 3 | 4 | 652 | 0 | 303 | 0 | 89 | 1,044 |
| 8/03 | 9.0 | 9.0 | 2 | 6 | 413 | 0 | 1 | 0 | 20 | 434 |
| 8/06 | ^a 15.0 | 15.0 | 1 | 2 | | | | | | 178 |
| 8/07 | 24.0 | 24.0 | 2 | 5 | 169 | 2 | 229 | 2 | 164 | 566 |
| 8/08 | 24.0 | 24.0 | 1 | 7 | 142 | 1 | 100 | 0 | 79 | 322 |
| 8/09 | 24.0 | 24.0 | 0 | 8 | 131 | 0 | 18 | 0 | 138 | 287 |
| 8/10 | ^a 9.0 | 9.0 | 0 | 2 | | | | | | 253 |
| 8/13 | 15.0 | 15.0 | 0 | 7 | 213 | 0 | 15 | 2 | 292 | 522 |
| 8/14 | 24.0 | 24.0 | 0 | 7 | 126 | 0 | 8 | 1 | 64 | 199 |
| 8/15 | ^a 24.0 | 24.0 | 0 | 2 | | | | | | 86 |
| 8/21 | ^a 24.0 | 24.0 | 0 | 1 | | | | | | 198 |
| Total | | | | | 9,021,738 | 1,579 | 379,651 | 9 | 2,162 | 9,405,139 |

Note: Blank cells represent days with no data.

- ^a Less than four permit holders fished, harvest confidential.
- ^b Fishery was open in the Naknek River Special Harvest Area (NRSHA).
- ^c District test fish.
- ^d Fishery was open in the Alagnak River Special Harvest Area and NRSHA.

Table 10.—Commercial salmon catch by date and species, in numbers of fish, Egegik District, Bristol Bay, 2007.

| Date | Hours fished | | Deliveries | | Sockeye | Chinook | Chum | Pink | Coho | Total |
|------|-------------------|------|------------|-----|---------|---------|--------|------|------|---------|
| | Drift | Set | Drift | Set | | | | | | |
| 6/12 | 24 | 24 | 1 | 3 | 356 | | 2 | 0 | | 358 |
| 6/13 | ^a 9 | 9 | | | | | | | | |
| 6/14 | 15 | 15 | 8 | 29 | 4,933 | 2 | 255 | 0 | | 5,190 |
| 6/15 | 9 | 9 | 3 | 17 | 1,827 | 3 | 109 | 0 | | 1,939 |
| 6/16 | | | | | | | | | | - |
| 6/17 | | | | | | | | | | - |
| 6/18 | 9 | 9 | 74 | 96 | 23,028 | 12 | 1,035 | 0 | | 24,075 |
| 6/19 | | | | | | | | | | - |
| 6/20 | ^b 7.75 | 7.75 | 159 | 114 | 75,273 | 31 | 3,438 | 0 | | 78,742 |
| 6/21 | 1.25 | 1.25 | | | | | | | | |
| 6/22 | 6 | 8 | 231 | 127 | 70,333 | 10 | 2,602 | 0 | | 72,945 |
| 6/23 | 4.5 | 8 | 256 | 118 | 45,869 | 5 | 1,423 | 0 | | 47,297 |
| 6/24 | | | | | | | | | | - |
| 6/25 | 6 | 8 | 298 | 111 | 56,776 | 18 | 1,224 | 0 | | 57,335 |
| 6/26 | 4 | | 131 | | 33,645 | 11 | 799 | 0 | | 35,138 |
| 6/27 | 4 | 8 | 479 | 97 | 163,590 | 21 | 3,629 | 0 | | 167,240 |
| 6/28 | 4 | 8 | 295 | 158 | 79,713 | 55 | 3,521 | 0 | | 83,289 |
| 6/29 | 6 | 8 | 292 | 118 | 53,320 | 36 | 2,832 | 0 | | 56,188 |
| 6/30 | 4.5 | 8 | 286 | 104 | 60,109 | 45 | 1,054 | 0 | | 61,208 |
| 7/1 | 4 | 8 | 296 | 173 | 308,772 | 45 | 3,050 | 0 | | 311,867 |
| 7/2 | 3 | | 315 | | 215,503 | 7 | 2,706 | 0 | | 218,216 |
| 7/3 | 6 | 10 | 312 | 275 | 518,186 | 13 | 4,463 | 0 | | 522,662 |
| 7/4 | 5 | 10 | 322 | 259 | 400,060 | 22 | 3,373 | 0 | | 403,455 |
| 7/5 | 5 | 9 | 309 | 294 | 532,617 | 15 | 4,274 | 0 | | 536,906 |
| 7/6 | 5 | 9 | 390 | 286 | 427,871 | 25 | 3,746 | 0 | | 431,642 |
| 7/7 | 8 | 12 | 495 | 98 | 313,937 | 5 | 2,774 | 0 | | 316,716 |
| 7/8 | 11 | 8 | 616 | 169 | 442,083 | 14 | 5,959 | 0 | | 448,056 |
| 7/9 | 6 | 10 | 522 | 203 | 467,489 | 11 | 8,336 | 0 | | 475,836 |
| 7/10 | 6 | 8 | 512 | 260 | 412,671 | 12 | 9,905 | 0 | | 422,588 |
| 7/11 | 11 | 11 | 565 | 249 | 371,403 | 9 | 9,789 | 0 | | 381,201 |
| 7/12 | 9 | 17 | 555 | 365 | 413,963 | 15 | 8,707 | 0 | | 422,685 |
| 7/13 | 8.5 | 8 | 375 | 196 | 167,969 | 6 | 3,863 | 0 | | 171,838 |
| 7/14 | 10 | 9 | 382 | 145 | 130,211 | 8 | 3,569 | 0 | | 133,788 |
| 7/15 | 17.5 | 12.5 | 250 | 154 | 126,838 | 13 | 4,668 | 0 | | 131,519 |
| 7/16 | 24 | 24 | 219 | 191 | 166,166 | 13 | 6,366 | 0 | | 172,545 |
| 7/17 | 24 | 24 | 242 | 196 | 147,146 | 13 | 10,790 | 0 | | 157,949 |
| 7/18 | 24 | 24 | 202 | 130 | 62,606 | 12 | 7,621 | 0 | | 70,239 |
| 7/19 | 24 | 24 | 131 | 115 | 45,801 | 4 | 5,706 | 0 | | 51,511 |
| 7/20 | 24 | 24 | 110 | 78 | 42,463 | 3 | 7,589 | 0 | | 50,055 |
| 7/21 | 24 | 24 | 70 | 34 | 21,594 | 3 | 9,573 | 0 | | 31,170 |
| 7/22 | 24 | 24 | 73 | 34 | 27,316 | 3 | 5,114 | 0 | 9 | 32,442 |
| 7/23 | 24 | 24 | 65 | 38 | 17,855 | 4 | 4,048 | 0 | 15 | 21,922 |
| 7/24 | 24 | 24 | 40 | 28 | 9,743 | 3 | 2,698 | 0 | 0 | 12,444 |
| 7/25 | 24 | 24 | 21 | 19 | 8,370 | 1 | 544 | 0 | 18 | 8,933 |
| 7/26 | 24 | 24 | 15 | 11 | 5,231 | 0 | 310 | 0 | 0 | 5,541 |

-continued-

Table 10.—Page 2 of 2.

| Date | Hours fished | | Deliveries | | Sockeye | Chinook | Chum | Pink | Coho | Total |
|-------------------|--------------|-----|------------|-----|------------------|------------|----------------|----------|---------------|------------------|
| | Drift | Set | Drift | Set | | | | | | |
| 7/27 | 9 | 9 | 3 | 4 | 1,037 | 0 | - | 0 | 0 | 1,037 |
| 7/28 | | | | | | | | | | - |
| 7/29 | | | | | | | | | | - |
| 7/30 | 15 | 15 | 13 | 6 | 5,044 | 2 | 518 | - | 542 | 6,106 |
| 7/31 | 24 | 24 | 12 | 9 | 4,852 | 2 | 1,182 | 0 | 2324 | 8,360 |
| 8/1 | 24 | 24 | 1 | 6 | 351 | 0 | 107 | 0 | 136 | 594 |
| 8/2 | 24 | 24 | 13 | 1 | 3,173 | 0 | 613 | 0 | 1440 | 5,226 |
| 8/3 | 9 | 9 | | | | | | | | - |
| 8/4 | | | | | | | | | | - |
| 8/5 | | | | | | | | | | - |
| 8/6 | 15 | 15 | 5 | 6 | 762 | 0 | 555 | 0 | 930 | 2,247 |
| 8/7 | 24 | 24 | 8 | 7 | 1,428 | 3 | 574 | 0 | 2,087 | 4,092 |
| 8/8 | 24 | 24 | 10 | 6 | 2,566 | 1 | 632 | 0 | 2,116 | 5,315 |
| 8/9 | 24 | 24 | 12 | | 1,155 | 0 | 287 | 0 | 2,421 | 3,863 |
| 8/10 | 9 | 9 | | | | | | | | - |
| 8/11 | | | | | | | | | | - |
| 8/12 | | | | | | | | | | - |
| 8/13 | 15 | 15 | 11 | 2 | 292 | 4 | 594 | 0 | 2,759 | 3,649 |
| 8/14 ^a | 24 | 24 | | 1 | 29 | | 0 | 0 | 353 | 382 |
| 8/15 ^a | 24 | 24 | | 2 | 25 | 1 | 0 | 0 | 268 | 294 |
| 8/16 ^a | 24 | 24 | | 1 | 102 | | 0 | 0 | 563 | 665 |
| 8/17 | 9 | 9 | | | | | | | | - |
| 8/18 | | | | | | | | | | - |
| 8/19 | | | | | | | | | | - |
| 8/20 ^a | 15 | 15 | | 1 | 19 | | | | 406 | 425 |
| 8/21 ^a | 24 | 24 | | 2 | 38 | | | | 416 | 454 |
| 8/22 ^a | 24 | 24 | | 1 | 11 | | | | 93 | 104 |
| 8/23 ^a | 24 | 24 | | 1 | 38 | | | | 577 | 615 |
| 8/24 | 9 | 9 | | | | | | | | - |
| 8/25 | | | | | | | | | | - |
| 8/26 | | | | | | | | | | - |
| 8/27 ^a | 15 | 15 | | 1 | 3 | | | | 256 | 259 |
| 8/28 ^a | 24 | 24 | | 1 | 16 | | | | 282 | 298 |
| 8/29 ^a | 24 | 24 | | 1 | 12 | | | | 64 | 76 |
| 8/30 ^a | 24 | 24 | | 1 | 7 | | | | 54 | 61 |
| TOTAL | | | | | 6,493,654 | 541 | 166,528 | 0 | 18,129 | 6,678,852 |

Note: Blank cells represent days with no data.

^a Less than four permits; records are confidential.

^b Period extended past midnight; all catch reported on 6/20.

Table 11.—Commercial salmon catch by date and species, in numbers of fish, Ugashik District, Bristol Bay, 2007.

| Date | Hours fished | | Deliveries | | Sockeye | Chinook | Chum | Pink | Coho | Total |
|-------------------|--------------|------|------------|-----|---------|---------|--------|------|------|---------|
| | Drift | Set | Drift | Set | | | | | | |
| 6/11 | 15 | 15 | | | | | | | | |
| 6/12 ^a | 24 | 24 | | | | | | | | |
| 6/13 | 9 | 9 | | | | | | | | - |
| 6/14 | 15 | 15 | 4 | | 450 | 1 | 0 | | | 451 |
| 6/15 | 9 | 9 | | | | | | | | - |
| 6/16 | | | | | | | | | | - |
| 6/17 | | | | | | | | | | - |
| 6/18 | 15 | 15 | 15 | | 2,875 | 8 | 113 | | | 2,996 |
| 6/19 | 24 | 24 | 19 | | 4,528 | 7 | 405 | | | 4,940 |
| 6/20 | 24 | 24 | 18 | 1 | 7,662 | 10 | 285 | | | 7,957 |
| 6/21 | 24 | 24 | 9 | | 3,241 | 10 | 113 | | | 3,364 |
| 6/22 | 9 | 9 | 10 | | 6,542 | 3 | 230 | | | 6,775 |
| 6/23 | | | | | | | | | | - |
| 6/24 ^b | 21.5 | 21.5 | 31 | 7 | 30,086 | 9 | 1,752 | | | 31,847 |
| 6/25 | 3.5 | 3.5 | | | | | | | | - |
| 6/26 | | | | | | | | | | - |
| 6/27 | | | | | | | | | | - |
| 6/28 | | | | | | | | | | - |
| 6/29 | 6 | 15 | 58 | 68 | 124,914 | 12 | 4,276 | | | 129,202 |
| 6/30 | | 9 | 1 | 26 | 16,607 | 8 | 194 | | | 16,809 |
| 7/1 | 6 | | 76 | 3 | 149,615 | 16 | 3,628 | | | 153,259 |
| 7/2 | | | | | | | | | | - |
| 7/3 | 11 | 12 | 67 | 81 | 183,949 | 23 | 8,502 | | | 192,474 |
| 7/4 | 11 | 12 | 167 | 26 | 385,317 | 33 | 8,859 | | | 394,209 |
| 7/5 | | | | | | | | | | - |
| 7/6 | 10 | 10 | 126 | 55 | 243,184 | 100 | 5,470 | | | 248,754 |
| 7/7 | 6 | 9 | 252 | 75 | 447,198 | 66 | 9,276 | | | 456,540 |
| 7/8 | 6 | 9 | 301 | 50 | 413,426 | 48 | 8,696 | | | 422,170 |
| 7/9 | 6 | 2 | 188 | 20 | 172,916 | 31 | 7,680 | | | 180,627 |
| 7/10 | 9 | | 236 | 55 | 325,135 | 98 | 10,049 | | | 335,282 |
| 7/11 | 15 | 19 | 295 | 23 | 249,664 | 16 | 8,525 | | | 258,205 |
| 7/12 | 12 | 12 | 320 | 71 | 369,013 | 142 | 14,876 | | | 384,031 |
| 7/13 | 10 | 16 | 231 | 40 | 127,299 | 124 | 5,456 | 1 | 2 | 132,882 |
| 7/14 | 10 | 24 | 285 | 71 | 259,355 | 152 | 10,938 | | | 270,445 |
| 7/15 | 14 | 24 | 287 | 66 | 404,690 | 83 | 14,215 | | | 418,988 |
| 7/16 | 24 | 24 | 470 | 56 | 475,039 | 74 | 19,467 | | | 494,580 |
| 7/17 | 24 | 24 | 393 | 49 | 134,579 | 53 | 12,803 | | | 147,435 |
| 7/18 | 24 | 24 | 276 | 38 | 76,686 | 49 | 13,829 | | 1 | 90,565 |
| 7/19 | 24 | 24 | 218 | 29 | 111,353 | 31 | 18,544 | | 1 | 129,929 |
| 7/20 | 24 | 24 | 233 | 29 | 115,770 | 45 | 21,815 | | | 137,630 |
| 7/21 | 24 | 24 | 189 | 24 | 59,326 | 49 | 10,727 | | 3 | 70,105 |
| 7/22 | 24 | 24 | 107 | 16 | 29,039 | 31 | 6,768 | | 3 | 35,841 |
| 7/23 | 24 | 24 | 95 | 12 | 29,354 | 24 | 9,778 | | 5 | 39,161 |
| 7/24 | 24 | 24 | 83 | 15 | 18,857 | 20 | 7,550 | 2 | 9 | 26,438 |
| 7/25 | 24 | 24 | 56 | 12 | 11,232 | 15 | 4,698 | | | 15,945 |

-continued-

Table 11.—Page 2 of 2.

| Date | Hours fished | | Deliveries | | Sockeye | Chinook | Chum | Pink | Coho | Total |
|--------------|-----------------|-----|------------|-----|------------------|--------------|----------------|----------|--------------|------------------|
| | Drift | Set | Drift | Set | | | | | | |
| 7/26 | 24 | 24 | 20 | 21 | 9,355 | 41 | 1,472 | | 25 | 10,893 |
| 7/27 | 9 | 9 | 5 | 6 | 3,125 | 4 | 466 | | | 3,595 |
| 7/28 | | | | | | | | | | - |
| 7/29 | | | | | | | | | | - |
| 7/30 | 15 | 15 | 2 | 3 | 921 | | 0 | | 20 | 941 |
| 7/31 | 24 | 24 | 2 | 6 | 1,199 | | 0 | | 49 | 1,248 |
| 8/1 | 24 | 24 | 2 | 3 | 1,055 | 1 | 0 | | 49 | 1,105 |
| 8/2 | 24 | 24 | | 3 | 496 | 1 | 0 | | 8 | 505 |
| 8/3 | ^a 9 | 9 | | | | | | | | |
| 8/4 | | | | | | | | | | |
| 8/5 | | | | | | | | | | |
| 8/6 | ^a 15 | 15 | | | | | | | | |
| 8/7 | 24 | 24 | | | | | | | | |
| 8/8 | ^a 24 | 24 | | | | | | | | |
| 8/9 | ^a 24 | 24 | | | | | | | | |
| 8/10 | ^a 9 | 9 | | | | | | | | |
| 8/11 | | | | | | | | | | |
| 8/12 | | | | | | | | | | |
| 8/13 | ^a 15 | 15 | | | | | | | | |
| 8/14 | ^a 24 | 24 | | | | | | | | |
| 8/15 | ^a 24 | 24 | | | | | | | | |
| 8/16 | ^a 24 | 24 | | | | | | | | |
| 8/17 | ^a 9 | 9 | | | | | | | | |
| 8/18 | | | | | | | | | | |
| 8/19 | | | | | | | | | | |
| 8/20 | ^a 15 | 15 | | | | | | | | |
| 8/21 | ^a 24 | 24 | | | | | | | | |
| 8/22 | 24 | 24 | | | | | | | | |
| 8/23 | 24 | 24 | | | | | | | | |
| 8/24 | 9 | 9 | | | | | | | | |
| 8/25 | | | | | | | | | | |
| 8/26 | | | | | | | | | | |
| 8/27 | ^a 15 | 15 | | | | | | | | |
| 8/28 | ^a 24 | 24 | | | | | | | | |
| 8/29 | 24 | 24 | | | | | | | | |
| 8/30 | 24 | 24 | | | | | | | | |
| 8/31 | 9 | 9 | | | | | | | | |
| 9/1 | | | | | | | | | | |
| 9/2 | 15 | 15 | | | | | | | | |
| 9/3 | 24 | 24 | | | | | | | | |
| 9/4 | ^a 24 | 24 | | | | | | | | |
| 9/5 | 24 | 24 | | | | | | | | |
| 9/6 | ^a 9 | 9 | | | | | | | | |
| Total | | | | | 5,007,574 | 1,445 | 251,457 | 3 | 1,935 | 5,262,400 |

Note: Blank cells represent days with no data.
^a Less than 4 permits, records are confidential.
^b period extended past midnight; all catch reported 6/24.

Table 12.—Commercial salmon catch by date and species, in numbers of fish, Nushagak District, Bristol Bay, 2007.

| Date | Hours fished | | Deliveries | | Sockeye | Chinook | Chum | Pink | Coho | Total |
|------|--------------|---------|------------|-----|---------|---------|---------|------|-------|---------|
| | Nushagak | Igushik | Drift | Set | | | | | | |
| 6/1 | 14/18 | 14/18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6/2 | 4/0 | 4/0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6/3 | 4/10 | 4/10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6/4 | 14/8 | 14/8 | 2 | 0 | | | | | | |
| 6/6 | 5/7.5 | 5/7.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6/7 | 7/4.5 | 7/4.5 | 9 | 0 | 0 | 50 | 1 | 0 | 0 | 51 |
| 6/9 | 12/12 | 12/12 | 10 | 0 | 0 | 40 | 0 | 0 | 0 | 40 |
| 6/11 | 8/8 | 8/8 | 62 | 1 | 2 | 1,758 | 53 | 0 | 0 | 1,813 |
| 6/13 | 6/6 | 6/6 | 42 | 1 | 15 | 201 | 14 | 0 | 0 | 230 |
| 6/18 | 0/0 | 0/8 | 0 | 12 | 437 | 154 | 4 | 0 | 0 | 595 |
| 6/19 | 0/0 | 0/7 | 0 | 8 | 179 | 105 | 2 | 0 | 0 | 286 |
| 6/20 | 0/0 | 0/7 | 0 | 5 | 88 | 69 | 1 | 0 | 0 | 158 |
| 6/21 | 0/0 | 0/7 | 0 | 4 | 340 | 138 | 4 | 0 | 0 | 482 |
| 6/22 | 0/0 | 0/7 | 0 | 14 | 931 | 227 | 12 | 0 | 0 | 1,170 |
| 6/23 | 0/0 | 0/7 | 0 | 30 | 2,318 | 229 | 21 | 0 | 0 | 2,568 |
| 6/24 | 0/8 | 0/13 | 0 | 201 | 45,405 | 449 | 2,456 | 0 | 1 | 48,311 |
| 6/25 | 3/14.5 | 0/8 | 418 | 239 | 216,797 | 4,754 | 88,344 | 0 | 0 | 309,895 |
| 6/26 | 12/24 | 0/8 | 835 | 301 | 308,609 | 8,973 | 105,082 | 1 | 0 | 422,665 |
| 6/27 | 17/24 | 0/8 | 844 | 293 | 482,876 | 6,893 | 84,768 | 0 | 0 | 574,537 |
| 6/28 | 13/21 | 0/8 | 982 | 351 | 408,632 | 3,522 | 57,319 | 2 | 0 | 469,475 |
| 6/29 | 5/23.5 | 0/8 | 416 | 416 | 335,804 | 1,134 | 42,553 | 0 | 0 | 379,491 |
| 6/30 | 15/24 | 0/8 | 987 | 303 | 589,709 | 2,072 | 64,799 | 2 | 0 | 656,582 |
| 7/1 | 15/24 | 0/10.5 | 969 | 383 | 639,423 | 1,495 | 74,111 | 3 | 1 | 715,033 |
| 7/2 | 6/21.5 | 0/11.5 | 597 | 375 | 207,570 | 1,613 | 21,048 | 8 | 0 | 230,239 |
| 7/3 | 10/21 | 0/11 | 806 | 630 | 655,512 | 2,227 | 57,848 | 14 | 0 | 715,601 |
| 7/4 | 8/24 | 0/24 | 1,118 | 461 | 710,104 | 2,900 | 67,041 | 10 | 0 | 780,055 |
| 7/5 | 3.5/19 | 0/24 | 259 | 510 | 251,009 | 959 | 19,136 | 5 | 0 | 271,109 |
| 7/6 | 10/24 | 0/24 | 643 | 222 | 480,218 | 837 | 50,329 | 6 | 1 | 531,391 |
| 7/7 | 13.5/24 | 3/24 | 727 | 307 | 417,887 | 2,004 | 36,196 | 15 | 8 | 456,110 |
| 7/8 | 15.5/24 | 15.5/24 | 687 | 321 | 427,992 | 1,378 | 41,424 | 19 | 3 | 470,816 |
| 7/9 | 14/24 | 14/24 | 692 | 330 | 370,025 | 1,597 | 38,915 | 15 | 2 | 410,554 |
| 7/10 | 17/24 | 17/24 | 675 | 311 | 392,008 | 1,160 | 35,629 | 28 | 12 | 428,837 |
| 7/11 | 16/24 | 16/24 | 617 | 395 | 333,485 | 1,072 | 29,236 | 18 | 24 | 363,835 |
| 7/12 | 17/24 | 17/24 | 459 | 307 | 250,001 | 727 | 25,364 | 47 | 51 | 276,190 |
| 7/13 | 17/24 | 17/24 | 412 | 331 | 128,916 | 411 | 13,097 | 38 | 29 | 142,491 |
| 7/14 | 17/24 | 17/24 | 257 | 252 | 113,349 | 436 | 12,521 | 26 | 146 | 126,478 |
| 7/15 | 18/24 | 18/24 | 263 | 270 | 103,053 | 381 | 12,699 | 29 | 827 | 116,989 |
| 7/16 | 24/24 | 24/24 | 263 | 247 | 105,670 | 390 | 14,126 | 34 | 1,540 | 121,760 |
| 7/17 | 24/24 | 24/24 | 206 | 195 | 51,530 | 254 | 7,560 | 33 | 950 | 60,327 |

-continued-

Table 12.—Page 2 of 2.

| Date | Hours fished | | Deliveries | | Sockeye | Chinook | Chum | Pink | Coho | Total |
|--------------|-----------------|----------------|---------------|--------------|------------------|---------------|------------------|------------|---------------|------------------|
| | Nushagak | Igushik | Drift | Set | | | | | | |
| 7/18 | 24/24 | 24/24 | 164 | 131 | 39,899 | 237 | 7,020 | 14 | 1,544 | 48,714 |
| 7/19 | 24/24 | 24/24 | 135 | 82 | 21,243 | 162 | 4,629 | 16 | 1,797 | 27,847 |
| 7/20 | 24/24 | 24/24 | 73 | 75 | 18,932 | 139 | 4,103 | 12 | 1,964 | 25,150 |
| 7/21 | 24/24 | 24/24 | 23 | 74 | 11,965 | 66 | 1,199 | 1 | 5,300 | 18,531 |
| 7/22 | 24/24 | 24/24 | 20 | 61 | 6,682 | 31 | 540 | 4 | 2,097 | 9,354 |
| 7/23 | 24/24 | 24/24 | 26 | 59 | 6,151 | 32 | 473 | 5 | 2,303 | 8,964 |
| 7/24 | 20/24 | 20/24 | 15 | 16 | 2,818 | 7 | 267 | 10 | 847 | 3,949 |
| 7/27 | 12/24 | 12/24 | 22 | 18 | 2,356 | 52 | 348 | 9 | 1,053 | 3,818 |
| 7/29 | 12/24 | 12/24 | 3 | 13 | 797 | 2 | 97 | 6 | 493 | 1,395 |
| 7/30 | 0/24 | 0/24 | 19 | 0 | 455 | 0 | 516 | 0 | 1,860 | 2,831 |
| 8/1 | 12/12 | 12/12 | 18 | 8 | 893 | 4 | 413 | 3 | 3,013 | 4,326 |
| 8/3 | 12/12 | 12/12 | 20 | 4 | 273 | 1 | 61 | 2 | 910 | 1,247 |
| 8/5 | 12/12 | 12/12 | 10 | 0 | 23 | 0 | 33 | 0 | 2,058 | 2,114 |
| 8/8 | 12/12 | 12/12 | 6 | 2 | 101 | 1 | 16 | 0 | 70 | 188 |
| 8/10 | 12/12 | 12/12 | 6 | 2 | 122 | 0 | 8 | 0 | 661 | 791 |
| 8/12 | 12/12 | 12/12 | 1 | 0 | ^a | | | | | |
| Total | 926/1031 | 599/952 | 14,818 | 8,571 | 8,142,604 | 51,350 | 1,021,453 | 435 | 29,649 | 9,245,491 |

Note: Blank cells represent days with no data.

^a Less than 4 permits, records are confidential.

Table 13.—Commercial salmon catch by date and species, in numbers of fish, Togiak District, Bristol Bay, 2007.

| Date^a | Sockeye | Chinook | Chum | Pink | Coho | Total |
|-------------------------|----------------|----------------|----------------|-------------|-------------|------------------|
| 6/18 ^b | | | | | | |
| 6/19 | 159 | 1 | 62 | 0 | 0 | 222 |
| 6/20 | 255 | 7 | 152 | 0 | 0 | 414 |
| 6/21 | 188 | 29 | 249 | 0 | 0 | 466 |
| 6/22 | 170 | 11 | 61 | 0 | 0 | 242 |
| 6/25 | 5,173 | 453 | 1,826 | 5 | 0 | 7,457 |
| 6/26 | 7,654 | 807 | 4,086 | 3 | 0 | 12,550 |
| 6/27 | 4,784 | 345 | 3,355 | 5 | 0 | 8,489 |
| 6/28 | 846 | 155 | 711 | 1 | 0 | 1,713 |
| 7/2 | 17,316 | 740 | 8,618 | 27 | 0 | 26,701 |
| 7/3 | 23,158 | 788 | 15,364 | 30 | 0 | 39,340 |
| 7/4 | 17,976 | 474 | 10,901 | 18 | 0 | 29,369 |
| 7/5 | 23,515 | 484 | 8,827 | 15 | 1 | 32,842 |
| 7/6 | 25,013 | 411 | 7,647 | 36 | 1 | 33,108 |
| 7/7 | 16,443 | 247 | 3,780 | 11 | 0 | 20,481 |
| 7/9 | 27,295 | 345 | 11,089 | 22 | 0 | 38,751 |
| 7/10 | 29,793 | 271 | 6,824 | 19 | 0 | 36,907 |
| 7/13 | 52,495 | 300 | 13,697 | 46 | 1 | 66,539 |
| 7/14 | 43,793 | 190 | 9,518 | 28 | 1 | 53,530 |
| 7/15 | 27,026 | 182 | 6,711 | 12 | 0 | 33,931 |
| 7/16 | 39,792 | 237 | 8,862 | 27 | 0 | 48,918 |
| 7/17 | 34,978 | 203 | 8,643 | 16 | 0 | 43,840 |
| 7/18 | 36,653 | 124 | 5,781 | 11 | 0 | 42,569 |
| 7/19 | 42,097 | 140 | 6,299 | 22 | 0 | 48,558 |
| 7/20 | 28,737 | 121 | 3,775 | 15 | 3 | 32,651 |
| 7/21 | 1,413 | 4 | 109 | 0 | 0 | 1,526 |
| 7/23 | 30,338 | 76 | 6,896 | 23 | 2 | 37,335 |
| 7/24 | 46,303 | 121 | 12,544 | 25 | 3 | 58,996 |
| 7/25 | 43,900 | 146 | 16,430 | 33 | 2 | 60,511 |
| 7/26 | 27,203 | 76 | 9,603 | 17 | 4 | 36,903 |
| 7/27 | 28,081 | 71 | 6,642 | 14 | 3 | 34,811 |
| 7/28 | 26,744 | 54 | 3,397 | 10 | 0 | 30,205 |
| 7/29 | 12,459 | 15 | 2,355 | 12 | 0 | 14,841 |
| 7/30 | 23,560 | 27 | 4,072 | 9 | 12 | 27,680 |
| 7/31 | 21,509 | 22 | 4,176 | 9 | 11 | 25,727 |
| 8/1 | 12,851 | 23 | 1,284 | 7 | 9 | 14,174 |
| 8/2 | 8,896 | 25 | 2,382 | 8 | 25 | 11,336 |
| 8/3 | 6,979 | 24 | 2,590 | 7 | 54 | 9,654 |
| 8/4 | 3,804 | 6 | 1,303 | 2 | 20 | 5,135 |
| 8/5 ^b | | | | | | |
| Total | 799,410 | 7,755 | 220,633 | 545 | 152 | 1,028,495 |

^a See Table 7 for inseason adjustments to the regular weekly fishing schedule.

^b Information confidential, less than 4 permit holders involved in fishery.

Table 14.—Commercial salmon catch by date and species, in numbers of fish, Togiak Section Bristol Bay, 2007.

| Date | Deliveries | | Sockeye | Chinook | Chum | Pink | Coho | Total |
|-------------------|--------------|--------------|----------------|--------------|----------------|------------|------------|----------------|
| | Drift | Set | | | | | | |
| 6/18 ^a | | | | | | | | |
| 6/19 | | 4 | 159 | 1 | 62 | 0 | 0 | 222 |
| 6/20 | 1 | 4 | 255 | 7 | 152 | 0 | 0 | 414 |
| 6/21 | 3 | 5 | 188 | 29 | 249 | 0 | 0 | 466 |
| 6/22 | | 4 | 170 | 11 | 61 | 0 | 0 | 242 |
| 6/25 | 22 | 34 | 3,724 | 399 | 1,492 | 3 | 0 | 5,618 |
| 6/26 | 48 | 46 | 4,638 | 645 | 3,399 | 2 | 0 | 8,684 |
| 6/27 | 33 | 51 | 3,329 | 323 | 3,129 | 5 | 0 | 6,786 |
| 6/28 | 4 | 23 | 846 | 155 | 711 | 1 | 0 | 1,713 |
| 7/2 | 47 | 72 | 12,262 | 648 | 6,465 | 26 | 0 | 19,401 |
| 7/3 | 65 | 105 | 14,397 | 682 | 12,066 | 19 | 0 | 27,164 |
| 7/4 | 55 | 105 | 12,240 | 419 | 9,045 | 18 | 0 | 21,722 |
| 7/5 | 83 | 126 | 23,515 | 484 | 8,827 | 15 | 1 | 32,842 |
| 7/6 | 74 | 137 | 25,013 | 411 | 7,647 | 36 | 1 | 33,108 |
| 7/7 | 30 | 77 | 16,443 | 247 | 3,780 | 11 | 0 | 20,481 |
| 7/9 | 62 | 94 | 19,724 | 272 | 8,559 | 6 | 0 | 28,561 |
| 7/10 | 39 | 80 | 20,175 | 234 | 6,143 | 12 | 0 | 26,564 |
| 7/13 | 91 | 156 | 52,495 | 300 | 13,697 | 46 | 1 | 66,539 |
| 7/14 | 85 | 136 | 43,793 | 190 | 9,518 | 28 | 1 | 53,530 |
| 7/15 | 43 | 93 | 27,026 | 182 | 6,711 | 12 | 0 | 33,931 |
| 7/16 | 74 | 132 | 34,546 | 228 | 8,564 | 27 | 0 | 43,365 |
| 7/17 | 78 | 129 | 34,978 | 203 | 8,643 | 16 | 0 | 43,840 |
| 7/18 | 59 | 103 | 31,536 | 121 | 5,612 | 11 | 0 | 37,280 |
| 7/19 | 70 | 142 | 42,097 | 140 | 6,299 | 22 | 0 | 48,558 |
| 7/20 | 55 | 115 | 28,737 | 121 | 3,775 | 15 | 3 | 32,651 |
| 7/21 | 2 | 6 | 1,413 | 4 | 109 | 0 | 0 | 1,526 |
| 7/23 | 54 | 103 | 27,538 | 69 | 6,222 | 18 | 2 | 33,849 |
| 7/24 | 100 | 123 | 45,154 | 117 | 12,307 | 25 | 3 | 57,606 |
| 7/25 | 131 | 128 | 43,024 | 142 | 16,387 | 33 | 2 | 59,588 |
| 7/26 | 93 | 91 | 27,203 | 76 | 9,603 | 17 | 4 | 36,903 |
| 7/27 | 88 | 80 | 28,081 | 71 | 6,642 | 14 | 3 | 34,811 |
| 7/28 | 75 | 35 | 26,744 | 54 | 3,397 | 10 | 0 | 30,205 |
| 7/29 | 31 | 13 | 12,459 | 15 | 2,355 | 12 | 0 | 14,841 |
| 7/30 | 66 | 60 | 23,560 | 27 | 4,072 | 9 | 12 | 27,680 |
| 7/31 | 69 | 59 | 21,509 | 22 | 4,176 | 9 | 11 | 25,727 |
| 8/1 | 434 | 25 | 12,851 | 23 | 1,284 | 7 | 9 | 14,174 |
| 8/2 | 21 | 28 | 8,896 | 25 | 2,382 | 8 | 25 | 11,336 |
| 8/3 | 28 | 31 | 6,979 | 24 | 2,590 | 7 | 54 | 9,654 |
| 8/4 | 16 | 22 | 3,804 | 6 | 1,303 | 2 | 20 | 5,135 |
| 8/5 ^a | | | | | | | | |
| Total | 2,330 | 2,777 | 741,562 | 7,127 | 207,447 | 502 | 152 | 956,790 |

^a Less than 4 permits, records are confidential.

Table 15.—Commercial salmon catch by date and species, in numbers of fish, Kulukak Section, Bristol Bay, 2007.

| Deliveries | | | | | | | | |
|-------------------------|--------------|------------|----------------|----------------|---------------|-------------|-------------|---------------|
| Date^a | Drift | Set | Sockeye | Chinook | Chum | Pink | Coho | Total |
| 6/25 | 2 | 18 | 1,449 | 54 | 334 | 2 | 0 | 1,839 |
| 6/26 | 4 | 33 | 3,016 | 162 | 687 | 1 | 0 | 3,866 |
| 6/27 | 2 | 11 | 1,455 | 22 | 226 | 0 | 0 | 1,703 |
| 7/2 | 11 | 31 | 5,054 | 92 | 2,153 | 1 | 0 | 7,300 |
| 7/3 | 22 | 40 | 8,761 | 106 | 3,298 | 11 | 0 | 12,176 |
| 7/4 | 15 | 29 | 5,736 | 55 | 1,856 | 0 | 0 | 7,647 |
| 7/9 | 9 | 32 | 7,571 | 73 | 2,530 | 16 | 0 | 10,190 |
| 7/10 | 14 | 32 | 9,618 | 37 | 681 | 7 | 0 | 10,343 |
| 7/16 | 4 | 8 | 5,246 | 9 | 298 | 0 | 0 | 5,553 |
| 7/18 | 3 | 2 | 5,117 | 3 | 169 | 0 | 0 | 5,289 |
| 7/23 | 6 | 13 | 2,800 | 7 | 674 | 5 | 0 | 3,486 |
| 7/24 | 1 | 8 | 1,149 | 4 | 237 | 0 | 0 | 1,390 |
| 7/25 ^b | | | | | | | | |
| Total | 93 | 259 | 57,848 | 628 | 13,186 | 43 | 0 | 71,705 |

^a Kulukak Section is open 3 days per week by regulation. See Table 7 for inseason adjustments to the weekly fishing schedule.

^b Less than 4 permits, records are confidential.

Table 16.—Commercial salmon catch by date and species, in numbers of fish, Matogak Section, Bristol Bay, 2007.

| Date^a | Sockeye | Chinook | Chum | Pink | Coho | Total |
|---------------------------------------|----------------|----------------|-------------|-------------|-------------|--------------|
| No Commercial Fishing Effort Occurred | | | | | | |
| Total | | | | | | |

^a Matogak Section is open 5 days per week by regulation. See Table 7 for inseason adjustments to the weekly fishing schedule.

Table 17.—Commercial salmon catch by date and species, in numbers of fish, Osviak Section, Bristol Bay, 2007.

| Date^a | Sockeye | Chinook | Chum | Pink | Coho | Total |
|---------------------------------------|----------------|----------------|-------------|-------------|-------------|--------------|
| No Commercial Fishing Effort Occurred | | | | | | |
| Total | | | | | | |

^a Osviak Section is open 5 days per week by regulation. See Table 7 for inseason adjustments to the weekly fishing schedule.

Table 18.—Commercial salmon catch by district and species, in number of fish, Bristol Bay, 2007.

| District and River System | Sockeye | Chinook | Chum | Pink | Coho | Total |
|----------------------------------|-------------------|----------------|------------------|---------------|---------------|-------------------|
| NAKNEK-KVICHAK DISTRICT | | | | | | |
| Kvichak River | 1,470,358 | | | | | |
| Alagnak River | 1,856,986 | | | | | |
| Naknek River | 5,694,394 | | | | | |
| Total | 9,021,738 | 2,294 | 395,341 | 24,127 | 4,753 | 9,448,253 |
| EGEGIK DISTRICT | 6,493,655 | 541 | 82,036 | 0 | 18,129 | 6,594,361 |
| UGASHIK DISTRICT | 5,007,572 | 1,445 | 215,047 | 3 | 1,961 | 5,226,028 |
| NUSHAGAK DISTRICT | | | | | | |
| Wood River | 4,835,519 | | | | | |
| Igushik River | 1,305,338 | | | | | |
| Nushagak River | 2,001,747 | | | | | |
| Total | 8,142,604 | 51,350 | 1,021,453 | 435 | 29,649 | 9,245,491 |
| TOGIAK DISTRICT | | | | | | |
| Togiak Section | 741,562 | 7,127 | 207,447 | 502 | 152 | 956,790 |
| Kulukak Section | 57,848 | 628 | 13,186 | 43 | 0 | 71,705 |
| Matogak Section | 0 | 0 | 0 | 0 | 0 | 0 |
| Osviak Section | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 799,410 | 7,755 | 220,633 | 545 | 152 | 1,028,495 |
| TOTAL BRISTOL BAY | 29,464,979 | 63,385 | 1,934,510 | 25,110 | 54,644 | 31,542,628 |

Note: Species other than sockeye are not apportioned to individual rivers.

Table 19.—Daily sockeye salmon escapement tower counts by river system, east side Bristol Bay, 2007.

| Date | Kvichak River | | Naknek River | | Alagnak River | | Egegik River | | Ugashik River | |
|------|---------------|-----------|--------------|-----------|---------------|-----------|--------------|-----------|---------------|-----------|
| | Daily | Cum. | Daily | Cum. | Daily | Cum. | Daily | Cum. | Daily | Cum. |
| 6/19 | | | 966 | 966 | | | 1,122 | 1,122 | | |
| 6/20 | | | 1,002 | 1,968 | | | 11,412 | 12,534 | | |
| 6/21 | 60 | 60 | 2,118 | 4,086 | | | 636 | 13,170 | | |
| 6/22 | 144 | 204 | 7,944 | 12,030 | | | 25,830 | 39,000 | | |
| 6/23 | 150 | 354 | 63,162 | 75,192 | | | 41,784 | 80,784 | | |
| 6/24 | 312 | 666 | 14,160 | 89,352 | | | 19,914 | 100,698 | | |
| 6/25 | 2,730 | 3,396 | 39,198 | 128,550 | | | 6,258 | 106,956 | | |
| 6/26 | 2,430 | 5,826 | 37,566 | 166,116 | 468 | 468 | 19,830 | 126,786 | | |
| 6/27 | 2,400 | 8,226 | 42,990 | 209,106 | 912 | 1,380 | 15,588 | 142,374 | | |
| 6/28 | 834 | 9,060 | 196,146 | 405,252 | 426 | 1,806 | 5,796 | 148,170 | | |
| 6/29 | 1,272 | 10,332 | 191,382 | 596,634 | 2,856 | 4,662 | 25,086 | 173,256 | | |
| 6/30 | 42,192 | 52,524 | 100,674 | 697,308 | 66,180 | 70,842 | 3,906 | 177,162 | 4,080 | 4,080 |
| 7/01 | 97,446 | 149,970 | 77,526 | 774,834 | 81,270 | 152,112 | 6,396 | 183,558 | 22,470 | 26,550 |
| 7/02 | 130,824 | 280,794 | 121,482 | 896,316 | 83,964 | 236,076 | 4,974 | 188,532 | 41,856 | 68,406 |
| 7/03 | 105,774 | 386,568 | 61,668 | 957,984 | 59,100 | 295,176 | 53,700 | 242,232 | 5,532 | 73,938 |
| 7/04 | 102,468 | 489,036 | 215,310 | 1,173,294 | 91,002 | 386,178 | 59,310 | 301,542 | 1,584 | 75,522 |
| 7/05 | 197,742 | 686,778 | 116,586 | 1,289,880 | 154,620 | 540,798 | 288,078 | 589,620 | 17,448 | 92,970 |
| 7/06 | 302,940 | 989,718 | 147,330 | 1,437,210 | 221,442 | 762,240 | 310,608 | 900,228 | 87,582 | 180,552 |
| 7/07 | 220,026 | 1,209,744 | 110,022 | 1,547,232 | 165,282 | 927,522 | 134,820 | 1,035,048 | 209,832 | 390,384 |
| 7/08 | 253,944 | 1,463,688 | 50,790 | 1,598,022 | 141,828 | 1,069,350 | 71,502 | 1,106,550 | 411,930 | 802,314 |
| 7/09 | 139,596 | 1,603,284 | 405,168 | 2,003,190 | 122,340 | 1,191,690 | 48,492 | 1,155,042 | 247,812 | 1,050,126 |
| 7/10 | 220,386 | 1,823,670 | 216,192 | 2,219,382 | 273,942 | 1,465,632 | 91,734 | 1,246,776 | 221,820 | 1,271,946 |
| 7/11 | 249,066 | 2,072,736 | 306,480 | 2,525,862 | 232,680 | 1,698,312 | 49,752 | 1,296,528 | 23,316 | 1,295,262 |
| 7/12 | 155,388 | 2,228,124 | 176,460 | 2,702,322 | 181,218 | 1,879,530 | 46,740 | 1,343,268 | 21,120 | 1,316,382 |
| 7/13 | 196,422 | 2,424,546 | 88,998 | 2,791,320 | 226,398 | 2,105,928 | 34,962 | 1,378,230 | 114,438 | 1,430,820 |
| 7/14 | 123,432 | 2,547,978 | 40,176 | 2,831,496 | 86,442 | 2,192,370 | 42,276 | 1,420,506 | 269,538 | 1,700,358 |
| 7/15 | 74,844 | 2,622,822 | 31,740 | 2,863,236 | 66,516 | 2,258,886 | 4,656 | 1,425,162 | 407,712 | 2,108,070 |
| 7/16 | 38,706 | 2,661,528 | 28,740 | 2,891,976 | 44,772 | 2,303,658 | 2,298 | 1,427,460 | 122,994 | 2,231,064 |
| 7/17 | 35,592 | 2,697,120 | 39,978 | 2,931,954 | 58,272 | 2,361,930 | 5,040 | 1,432,500 | 116,016 | 2,347,080 |
| 7/18 | 42,996 | 2,740,116 | 13,350 | 2,945,304 | 45,648 | 2,407,578 | | | 35,136 | 2,382,216 |
| 7/19 | 33,006 | 2,773,122 | | | 19,278 | 2,426,856 | | | 23,820 | 2,406,036 |
| 7/20 | 15,240 | 2,788,362 | | | 15,996 | 2,442,852 | | | 12,756 | 2,418,792 |
| 7/21 | 8,472 | 2,796,834 | | | 12,528 | 2,455,380 | | | 7,926 | 2,426,718 |
| 7/22 | 11,028 | 2,807,862 | | | 6,888 | 2,462,268 | | | 16,812 | 2,443,530 |
| 7/23 | 2,346 | 2,810,208 | | | 4,146 | 2,466,414 | | | 30,216 | 2,473,746 |

Note: Blank cells represent days when no data was collected.

Table 20.—Daily sockeye salmon escapement tower counts by river system, west side Bristol Bay, 2007.

| Date | Wood River | | Igushik River | | Togiak River | |
|------|--------------------|-----------|---------------------|---------|--------------|---------|
| | Daily | Cum. | Daily | Cum. | Daily | Cum. |
| 6/19 | 306 | 306 | | | | |
| 6/20 | 534 | 840 | | | | |
| 6/21 | 1,110 | 1,950 | | 0 | | |
| 6/22 | 21,216 | 23,166 | | 0 | | |
| 6/23 | 23,346 | 46,512 | | 0 | | |
| 6/24 | 22,110 | 68,622 | 144 | 144 | | |
| 6/25 | 82,380 | 151,002 | 762 | 906 | | |
| 6/26 | 102,036 | 253,038 | 4,410 | 5,316 | | |
| 6/27 | 75,414 | 328,452 | 1,398 | 6,714 | | |
| 6/28 | 70,734 | 399,186 | 1,800 | 8,514 | | |
| 6/29 | 72,996 | 472,182 | 7,902 | 16,416 | | |
| 6/30 | 62,970 | 535,152 | 14,718 | 31,134 | | |
| 7/01 | 38,712 | 573,864 | 21,294 | 52,428 | | |
| 7/02 | 39,690 | 613,554 | 10,506 | 62,934 | | |
| 7/03 | 43,200 | 656,754 | 13,878 | 76,812 | 2,748 | 2,748 |
| 7/04 | 55,716 | 712,470 | 9,870 | 86,682 | 4,062 | 6,810 |
| 7/05 | 86,154 | 798,624 | 11,874 | 98,556 | 3,276 | 10,086 |
| 7/06 | 145,596 | 944,220 | 9,732 | 108,288 | 1,896 | 11,982 |
| 7/07 | 95,682 | 1,039,902 | 19,806 | 128,094 | 3,468 | 15,450 |
| 7/08 | 87,402 | 1,127,304 | 19,824 | 147,918 | 2,904 | 18,354 |
| 7/09 | 76,356 | 1,203,660 | 14,346 | 162,264 | 4,764 | 23,118 |
| 7/10 | 77,988 | 1,281,648 | 15,438 | 177,702 | 6,450 | 29,568 |
| 7/11 | 45,792 | 1,327,440 | 14,076 | 191,778 | 6,546 | 36,114 |
| 7/12 | 50,070 | 1,377,510 | 20,952 | 212,730 | 5,070 | 41,184 |
| 7/13 | 45,984 | 1,423,494 | 19,524 | 232,254 | 6,912 | 48,096 |
| 7/14 | 27,102 | 1,450,596 | 22,800 | 255,054 | 11,904 | 60,000 |
| 7/15 | 25,422 | 1,476,018 | 21,540 | 276,594 | 19,134 | 79,134 |
| 7/16 | 20,268 | 1,496,286 | 22,824 | 299,418 | 13,242 | 92,376 |
| 7/17 | 14,076 | 1,510,362 | 22,734 | 322,152 | 11,868 | 104,244 |
| 7/18 | 10,386 | 1,520,748 | 21,060 | 343,212 | 9,174 | 113,418 |
| 7/19 | ^a 7,338 | 1,528,086 | 8,856 | 352,068 | 7,788 | 121,206 |
| 7/20 | | | ^a 10,356 | 362,424 | 8,076 | 129,282 |
| 7/21 | | | 8,790 | 371,424 | 10,284 | 139,566 |
| 7/22 | | | 11,436 | 382,650 | 8,874 | 148,440 |
| 7/23 | | | 9,918 | 392,568 | 10,746 | 159,186 |
| 7/24 | | | 9,078 | 401,646 | 20,904 | 180,090 |
| 7/25 | | | 5,916 | 407,562 | 31,038 | 211,128 |
| 7/26 | | | 3,882 | 411,444 | 18,222 | 229,350 |
| 7/27 | | | 1,998 | 413,442 | 11,868 | 241,218 |
| 7/28 | | | 2,010 | 415,452 | 7,452 | 248,670 |
| 7/29 | | | | | 6,300 | 254,970 |
| 7/30 | | | | | 3,828 | 258,798 |
| 7/31 | | | | | 2,640 | 261,438 |
| 8/01 | | | | | 2,454 | 263,892 |
| 8/02 | | | | | 3,786 | 267,678 |
| 8/03 | | | | | 1,122 | 268,800 |
| 8/04 | | | | | 846 | 269,646 |
| 8/05 | | | | | | 269,646 |

Note: Blank cells represent days when no data was collected.

^a Denotes a partial count.

Table 21.—Final daily and cumulative escapement estimates by species, Nushagak River sonar project, Bristol Bay, 2007.

| Date | Sockeye | | Chinook | | Chum | | Pink | | Coho | | Total | |
|------|---------|---------|---------|--------|--------|---------|-------|------|-------|------|--------|---------|
| | Daily | Cum. | Daily | Cum. | Daily | Cum. | Daily | Cum. | Daily | Cum. | Daily | Cum. |
| 6/4 | 0 | 0 | 5 | 5 | 1 | 1 | 0 | 0 | 0 | 0 | 6 | 6 |
| 6/5 | 0 | 0 | 353 | 358 | 96 | 97 | 0 | 0 | 0 | 0 | 449 | 455 |
| 6/6 | 0 | 0 | 144 | 502 | 61 | 158 | 0 | 0 | 0 | 0 | 205 | 660 |
| 6/7 | 0 | 0 | 273 | 775 | 68 | 226 | 0 | 0 | 0 | 0 | 341 | 1,001 |
| 6/8 | 0 | 0 | 373 | 1,148 | 96 | 322 | 0 | 0 | 0 | 0 | 469 | 1,470 |
| 6/9 | 0 | 0 | 393 | 1,541 | 105 | 427 | 0 | 0 | 0 | 0 | 498 | 1,968 |
| 6/10 | 0 | 0 | 496 | 2,037 | 140 | 567 | 0 | 0 | 0 | 0 | 636 | 2,604 |
| 6/11 | 0 | 0 | 862 | 2,899 | 631 | 1,198 | 0 | 0 | 0 | 0 | 1,493 | 4,097 |
| 6/12 | 35 | 35 | 502 | 3,401 | 336 | 1,534 | 0 | 0 | 0 | 0 | 873 | 4,970 |
| 6/13 | 24 | 59 | 407 | 3,808 | 304 | 1,838 | 0 | 0 | 0 | 0 | 735 | 5,705 |
| 6/14 | 16 | 75 | 530 | 4,338 | 369 | 2,207 | 0 | 0 | 0 | 0 | 915 | 6,620 |
| 6/15 | 37 | 112 | 787 | 5,125 | 111 | 2,318 | 0 | 0 | 0 | 0 | 935 | 7,555 |
| 6/16 | 132 | 244 | 539 | 5,664 | 168 | 2,486 | 0 | 0 | 0 | 0 | 839 | 8,394 |
| 6/17 | 463 | 707 | 1,286 | 6,950 | 288 | 2,774 | 0 | 0 | 0 | 0 | 2,037 | 10,431 |
| 6/18 | 1,571 | 2,278 | 2,713 | 9,663 | 1,810 | 4,584 | 0 | 0 | 0 | 0 | 6,094 | 16,525 |
| 6/19 | 747 | 3,025 | 424 | 10,087 | 2,293 | 6,877 | 0 | 0 | 0 | 0 | 3,464 | 19,989 |
| 6/20 | 449 | 3,474 | 249 | 10,336 | 1,070 | 7,947 | 0 | 0 | 0 | 0 | 1,768 | 21,757 |
| 6/21 | 1,104 | 4,578 | 65 | 10,401 | 281 | 8,228 | 0 | 0 | 0 | 0 | 1,450 | 23,207 |
| 6/22 | 5,857 | 10,435 | 3,154 | 13,555 | 4,790 | 13,018 | 0 | 0 | 0 | 0 | 13,801 | 37,008 |
| 6/23 | 51,189 | 61,624 | 8,943 | 22,498 | 28,257 | 41,275 | 0 | 0 | 0 | 0 | 88,389 | 125,397 |
| 6/24 | 20,526 | 82,150 | 2,422 | 24,920 | 15,847 | 57,122 | 0 | 0 | 0 | 0 | 38,795 | 164,192 |
| 6/25 | 30,225 | 112,375 | 990 | 25,910 | 8,646 | 65,768 | 0 | 0 | 0 | 0 | 39,861 | 204,053 |
| 6/26 | 33,790 | 146,165 | 1,906 | 27,816 | 12,807 | 78,575 | 0 | 0 | 0 | 0 | 48,503 | 252,556 |
| 6/27 | 25,725 | 171,890 | 1,084 | 28,900 | 5,258 | 83,833 | 0 | 0 | 0 | 0 | 32,067 | 284,623 |
| 6/28 | 14,651 | 186,541 | 4,402 | 33,302 | 10,329 | 94,162 | 0 | 0 | 0 | 0 | 29,382 | 314,005 |
| 6/29 | 21,443 | 207,984 | 3,559 | 36,861 | 10,761 | 104,923 | 0 | 0 | 0 | 0 | 35,763 | 349,768 |

-continued-

Table 21.—Page 2 of 2.

| Date | Sockeye | | Chinook | | Chum | | Pink | | Coho | | Total | |
|------|---------|---------|---------|--------|-------|---------|-------|------|-------|------|--------|---------|
| | Daily | Cum. | Daily | Cum. | Daily | Cum. | Daily | Cum. | Daily | Cum. | Daily | Cum. |
| 6/30 | 15,292 | 223,276 | 3,073 | 39,934 | 7,773 | 112,696 | 0 | 0 | 0 | 0 | 26,138 | 375,906 |
| 7/1 | 16,808 | 240,084 | 2,336 | 42,270 | 3,559 | 116,255 | 0 | 0 | 0 | 0 | 22,703 | 398,609 |
| 7/2 | 16,029 | 256,113 | 1,839 | 44,109 | 2,728 | 118,983 | 0 | 0 | 0 | 0 | 20,596 | 419,205 |
| 7/3 | 17,035 | 273,148 | 1,050 | 45,159 | 2,692 | 121,675 | 0 | 0 | 0 | 0 | 20,777 | 439,982 |
| 7/4 | 18,029 | 291,177 | 1,248 | 46,407 | 866 | 122,541 | 0 | 0 | 0 | 0 | 20,143 | 460,125 |
| 7/5 | 25,391 | 316,568 | 780 | 47,187 | 1,878 | 124,419 | 0 | 0 | 0 | 0 | 28,049 | 488,174 |
| 7/6 | 44,623 | 361,191 | 1,569 | 48,756 | 3,862 | 128,281 | 0 | 0 | 0 | 0 | 50,054 | 538,228 |
| 7/7 | 33,245 | 394,436 | 1,720 | 50,476 | 2,975 | 131,256 | 0 | 0 | 0 | 0 | 37,940 | 576,168 |
| 7/8 | 19,878 | 414,314 | 68 | 50,544 | 1,957 | 133,213 | 0 | 0 | 0 | 0 | 21,903 | 598,071 |
| 7/9 | 14,314 | 428,628 | 791 | 51,335 | 2,038 | 135,251 | 0 | 0 | 0 | 0 | 17,143 | 615,214 |
| 7/10 | 13,916 | 442,544 | 422 | 51,757 | 4,154 | 139,405 | 0 | 0 | 0 | 0 | 18,492 | 633,706 |
| 7/11 | 10,518 | 453,062 | 385 | 52,142 | 3,122 | 142,527 | 0 | 0 | 0 | 0 | 14,025 | 647,731 |
| 7/12 | 8,141 | 461,203 | 1,005 | 53,147 | 1,812 | 144,339 | 0 | 0 | 0 | 0 | 10,958 | 658,689 |
| 7/13 | 13,757 | 474,960 | 1,107 | 54,254 | 3,194 | 147,533 | 0 | 0 | 0 | 0 | 18,058 | 676,747 |
| 7/14 | 10,295 | 485,255 | 1,146 | 55,400 | 1,526 | 149,059 | | | | | 12,967 | 689,714 |
| 7/15 | 9,181 | 494,436 | 592 | 55,992 | 836 | 149,895 | | | | | 10,609 | 700,323 |
| 7/16 | 6,238 | 500,674 | 411 | 56,403 | 3,361 | 153,256 | | | | | 10,010 | 710,333 |
| 7/17 | 7,373 | 508,047 | 2,079 | 58,482 | 3,489 | 156,745 | | | | | 12,941 | 723,274 |
| 7/18 | 6,815 | 514,862 | 1,362 | 59,844 | 3,256 | 160,001 | | | | | 11,433 | 734,707 |
| 7/19 | 3,179 | 518,041 | 615 | 60,459 | 1,482 | 161,483 | | | | | 5,276 | 739,983 |

Table 22.—Comparison of daily sockeye salmon escapement estimates by tower count, aerial survey and river test fishing enumeration methods, Kvichak River, Bristol Bay, 2007.

| Date | Tower Count | | Aerial Survey Total | Fish per Index Pt. ^a | River Test Fishing | | | Estimated River Fish ^b |
|------|-------------|-----------|------------------------|------------------------------------|-----------------------|--------|--------------------------|--------------------------------------|
| | Daily | Cum. | | | Index Points Daily | Cum. | Cumulative Escapement | |
| 6/21 | 60 | 60 | | | | | - | |
| 6/22 | 144 | 204 | | 47 | 0 | 0 | - | |
| 6/23 | 150 | 354 | | 47 | 37 | 37 | 1,743 | |
| 6/24 | 312 | 666 | | 47 | 66 | 103 | 4,831 | |
| 6/25 | 2,730 | 3,396 | | 47 | 37 | 140 | 6,558 | |
| 6/26 | 2,430 | 5,826 | | 47 | 3 | 142 | 6,695 | |
| 6/27 | 2,400 | 8,226 | | 47 | 24 | 166 | 7,814 | |
| 6/28 | 834 | 9,060 | | 47 | 118 | 284 | 13,357 | |
| 6/29 | 1,272 | 10,332 | | 62 | 576 | 861 | 53,352 | 40,000 |
| 6/30 | 42,192 | 52,524 | | 88 | 881 | 1,741 | 153,224 | 100,000 |
| 7/01 | 97,446 | 149,970 | | 130 | 1,976 | 3,717 | 483,223 | 300,000 |
| 7/02 | 130,824 | 280,794 | 215,405 | 86 | 1,275 | 4,992 | 429,316 | 150,000 |
| 7/03 | 105,774 | 386,568 | | 77 | 2,353 | 7,345 | 565,540 | 180,000 |
| 7/04 | 102,468 | 489,036 | 158,735 | 67 | 2,849 | 10,194 | 682,982 | 150,000 |
| 7/05 | 197,742 | 686,778 | | 69 | 2,411 | 12,605 | 869,721 | 150,000 |
| 7/06 | 302,940 | 989,718 | | 83 | 1,052 | 13,656 | 1,133,464 | 150,000 |
| 7/07 | 220,026 | 1,209,744 | | 96 | 1,143 | 14,799 | 1,420,677 | 200,000 |
| 7/08 | 253,944 | 1,463,688 | 296,300 | 105 | 1,037 | 15,836 | 1,662,750 | 200,000 |
| 7/09 | 139,596 | 1,603,284 | | 90 | 7,556 | 23,392 | 2,105,280 | 500,000 |
| 7/10 | 220,386 | 1,823,670 | | 80 | 3,846 | 27,238 | 2,179,033 | 350,000 |
| 7/11 | 249,066 | 2,072,736 | | 78 | 2,690 | 29,928 | 2,334,384 | 250,000 |
| 7/12 | 155,388 | 2,228,124 | | 76 | 2,313 | 32,241 | 2,450,314 | 200,000 |
| 7/13 | 196,422 | 2,424,546 | | 76 | 1,611 | 33,852 | 2,572,778 | 140,000 |
| 7/14 | 123,432 | 2,547,978 | | 76 | 670 | 34,522 | 2,623,668 | 60,000 |
| 7/15 | 74,844 | 2,622,822 | | 76 | 465 | 34,987 | 2,658,993 | 50,000 |
| 7/16 | 38,706 | 2,661,528 | | | | | | |
| 7/17 | 35,592 | 2,697,120 | | | | | | |
| 7/18 | 42,996 | 2,740,116 | | | | | | |
| 7/19 | 33,006 | 2,773,122 | | | | | | |
| 7/20 | 15,240 | 2,788,362 | | | | | | |
| 7/21 | 8,472 | 2,796,834 | | | | | | |
| 7/22 | 11,028 | 2,807,862 | | | | | | |
| 7/23 | 2,346 | 2,810,208 | | | | | | |

Note: Blank cells represent days when no data was collected.

^a The mean FPI of 36, based on median FPIs from 2001-2005, was used through 27 June. Thereafter, FPIs were based on lag-time relationships.

^b Estimated river fish (ERF) was based on the river test fish cumulative escapement estimate less the cumulative tower count. On occasion, staff adjusted the ERF based on aerial surveys, catchability, etc.

Table 23.—Comparison of daily sockeye salmon escapement estimates by tower count, aerial survey and river test fishing enumeration methods, Egegik River, Bristol Bay, 2007.

| Date | Tower Count | | Aerial Survey Total | Fish per Index Pt. ^a | River Test Fishing | | | Estimated River Fish ^b |
|------|-------------|-----------|------------------------|------------------------------------|--------------------|--------------------------|-----------|--------------------------------------|
| | Daily | Cum. | | | Index Points | Cumulative Escapement | Estimated | |
| 6/15 | | | | 40 | 157 | 157 | 6,278 | |
| 6/16 | | | | 40 | 181 | 338 | 13,526 | |
| 6/17 | | | | 40 | 211 | 549 | 21,955 | |
| 6/18 | | | | 40 | 239 | 788 | 31,518 | 30,000 |
| 6/19 | 1,122 | 1,122 | | 40 | 125 | 913 | 36,519 | 35,000 |
| 6/20 | 11,412 | 12,534 | | 55 | 364 | 1,277 | 70,213 | 60,000 |
| 6/21 | 636 | 13,170 | 11,450 | 46 | 431 | 1,708 | 78,548 | 65,000 |
| 6/22 | 25,830 | 39,000 | | 53 | 341 | 2,049 | 108,587 | 70,000 |
| 6/23 | 41,784 | 80,784 | | 63 | 199 | 2,248 | 141,619 | 60,000 |
| 6/24 | 19,914 | 100,698 | | 49 | 206 | 2,454 | 120,258 | 20,000 |
| 6/25 | 6,258 | 106,956 | | 48 | 25 | 2,480 | 119,022 | 11,000 |
| 6/26 | 19,830 | 126,786 | 8,600 | 59 | 157 | 2,637 | 155,581 | 29,000 |
| 6/27 | 15,588 | 142,374 | | 66 | 115 | 2,752 | 181,604 | 40,000 |
| 6/28 | 5,796 | 148,170 | | 60 | 529 | 3,280 | 196,812 | 50,000 |
| 6/29 | 25,086 | 173,256 | | 66 | 477 | 3,757 | 247,967 | 75,000 |
| 6/30 | 3,906 | 177,162 | | 64 | 242 | 3,999 | 255,926 | 75,000 |
| 7/01 | 6,396 | 183,558 | 3,000 | 49 | 403 | 4,402 | 215,705 | 30,000 |
| 7/02 | 4,974 | 188,532 | | 49 | 2,533 | 6,935 | 339,826 | 150,000 |
| 7/03 | 53,700 | 242,232 | | 43 | 2,228 | 9,163 | 393,998 | 150,000 |
| 7/04 | 59,310 | 301,542 | | 20 | 1,738 | 10,900 | 218,005 | 35,000 |
| 7/05 | 288,078 | 589,620 | 143,000 | 75 | 264 | 11,164 | 837,298 | 250,000 |
| 7/06 | 310,608 | 900,228 | | 98 | 526 | 11,690 | 1,145,665 | 250,000 |
| 7/07 | 134,820 | 1,035,048 | | 95 | 733 | 12,423 | 1,180,220 | 150,000 |
| 7/08 | 71,502 | 1,106,550 | | 99 | 577 | 13,000 | 1,287,042 | 180,000 |
| 7/09 | 48,492 | 1,155,042 | | 97 | 1,042 | 14,042 | 1,362,077 | 200,000 |
| 7/10 | 91,734 | 1,246,776 | | 100 | 1,324 | 15,366 | 1,536,557 | 300,000 |
| 7/11 | 49,752 | 1,296,528 | | 96 | 1,178 | 16,543 | 1,588,159 | 300,000 |
| 7/12 | 46,740 | 1,343,268 | | 92 | 265 | 16,809 | 1,546,398 | 200,000 |
| 7/13 | 34,962 | 1,378,230 | | | | | | |
| 7/14 | 42,276 | 1,420,506 | | | | | | |
| 7/15 | 4,656 | 1,425,162 | | | | | | |
| 7/16 | 2,298 | 1,427,460 | | | | | | |
| 7/17 | 5,040 | 1,432,500 | | | | | | |

Note: Blank cells represent days when no data was collected.

^a The mean FPI of 47, based on median FPIs from 2002-2006, was used through 28 June. Thereafter, FPIs were based on lag-time relationships.

^b Estimated river fish (ERF) was based on the river test fish cumulative escapement estimate less the cumulative tower count. On occasion, staff adjusted the ERF based on aerial surveys, catchability, etc.

Table 24.—Comparison of daily sockeye salmon escapement estimates by tower count, aerial survey and river test fishing enumeration methods, Ugashik River, Bristol Bay, 2007.

| Date | Tower Count | | Aerial Survey | | River Test Fishing | | | |
|------|-------------|-----------|---------------|------------------------------------|--------------------|--------|--------------------------|--------------------------------------|
| | Daily | Cum. | Total | Fish per Index Pt. ^a | Index Points | | Estimated | Estimated River Fish ^b |
| | | | | | Daily | Cum. | Cumulative Escapement | |
| 6/25 | | | | 30 | 101 | 101 | 3,031 | |
| 6/26 | | | | 30 | 68 | 169 | 5,075 | 3,000 |
| 6/27 | | | | 30 | 56 | 226 | 6,770 | 5,000 |
| 6/28 | | | | 30 | 49 | 275 | 8,239 | 7,000 |
| 6/29 | | | | 49 | 29 | 304 | 14,887 | 10,000 |
| 6/30 | 4,080 | 4,080 | | 54 | 691 | 995 | 53,727 | 15,000 |
| 7/01 | 22,470 | 26,550 | 300 | 82 | 729 | 1,724 | 141,389 | 50,000 |
| 7/02 | 41,856 | 68,406 | | 56 | 1,791 | 3,515 | 196,836 | 100,000 |
| 7/03 | 5,532 | 73,938 | | 30 | 1,848 | 5,363 | 160,885 | 130,000 |
| 7/04 | 1,584 | 75,522 | | 21 | 2,062 | 7,425 | 155,926 | 80,000 |
| 7/05 | 17,448 | 92,970 | 13,000 | 26 | 2,501 | 9,926 | 258,065 | 80,000 |
| 7/06 | 87,582 | 180,552 | | 31 | 2,065 | 11,990 | 371,694 | 170,000 |
| 7/07 | 209,832 | 390,384 | | 51 | 701 | 12,691 | 647,231 | 200,000 |
| 7/08 | 411,930 | 802,314 | | 80 | 626 | 13,317 | 1,065,327 | 250,000 |
| 7/09 | 247,812 | 1,050,126 | | 87 | 608 | 13,924 | 1,211,403 | 270,000 |
| 7/10 | 221,820 | 1,271,946 | | 99 | 1,729 | 15,653 | 1,549,642 | 170,000 |
| 7/11 | 23,316 | 1,295,262 | | 96 | 1,044 | 16,697 | 1,602,871 | 300,000 |
| 7/12 | 21,120 | 1,316,382 | | 88 | 720 | 17,417 | 1,532,664 | 350,000 |
| 7/13 | 114,438 | 1,430,820 | | 89 | 801 | 18,217 | 1,621,352 | 250,000 |
| 7/14 | 269,538 | 1,700,358 | | 107 | 825 | 19,043 | 2,037,590 | 200,000 |
| 7/15 | 407,712 | 2,108,070 | | 123 | 550 | 19,593 | 2,409,907 | 350,000 |
| 7/16 | 122,994 | 2,231,064 | | 122 | 319 | 19,912 | 2,429,213 | 300,000 |
| 7/17 | 116,016 | 2,347,080 | | | | | | |
| 7/18 | 35,136 | 2,382,216 | | | | | | |
| 7/19 | 23,820 | 2,406,036 | | | | | | |
| 7/20 | 12,756 | 2,418,792 | | | | | | |
| 7/21 | 7,926 | 2,426,718 | | | | | | |
| 7/22 | 16,812 | 2,443,530 | | | | | | |
| 7/23 | 30,216 | 2,473,746 | | | | | | |

Note: Blank cells represent days when no data was collected.

^a The FPI used to estimate the daily ERFs prior to using lag time relationships was calculated using an average of the 1989-2006 starting FPIs after lag time relationships "locked in" and the midpoint of the escapement count each year. This method was used until July 1 when FPIs were based on lag-time relationships.

^b Estimated river fish (ERF) was based on the river test fish cumulative escapement estimate less the cumulative tower count. On occasion, staff adjusted the ERF based on aerial surveys, catchability, etc.

Table 25.—Commercial salmon processors and buyers operating in Bristol Bay, 2007.

| | Name of Operator/Buyer^a | Base of Operations | District^b | Method^c | Export |
|----|---|---------------------------|-----------------------------|---------------------------|---------------|
| 1 | Alaska General Seafoods | Kenmore, WA | K,E | C,EF,F | AIR |
| 2 | Alaska Wild Salmon Products | Big Lake AK | N | F, EF | AIR |
| 3 | Anthony Wood | King Salmon, AK | N,K | EF,F | SEA,AIR |
| 4 | Baywatch Seafoods, LLC | Woodinville, WA | K,E,U,N,T | C,EF,F | SEA,AIR |
| 5 | Betty Bonin Blue Bird | Naknek, AK | K | EF | AIR |
| 6 | Charles B. Gordon | Dillingham, AK | N | F | SEA |
| 7 | Coffee Point Seafoods of WA, LLC | S. Seattle, WA | E | F | SEA |
| 8 | Copper River Seafoods | Anchorage, AK | N | EF | AIR |
| 9 | Dancing Salmon Company, LLC | Dillingham, AK | N | EF, F, S | AIR |
| 10 | Diamond Lodge Smokehouse | King Salmon, AK | K | C, F | SEA |
| 11 | Ekuk Fisheries | Seattle, WA | N | F | SEA |
| 12 | Favco Inc. | Anchorage, AK | N | EF | AIR |
| 13 | Friedman Family Fisheries, Inc. | Baltimore, MD | N | F | SEA |
| 14 | Great Ruby Fish Company | Naknek, AK | K | EF,F | SEA, AIR |
| 15 | Icicle Seafoods, Inc. | Japan Air/Anchorage | K,E,U,N | C,F, EF,S | SEA, AIR |
| 16 | Lady Marion Seafoods F/V Jessie Lucile | Anchorage, AK | K,E | F | AIR |
| 17 | Leader Creek Fisheries, LLC | Seattle, WA | K,E,U,N | EF,F | SEA, AIR |
| 18 | My Girl | Domestic | K | F | AIR |
| 19 | Naknek Family Fisheries | Naknek, AK | K | EF, F | AIR |
| 20 | NorQuest Seafoods, Inc. | Seattle, WA | K,E,U,N | F | SEA |
| 21 | Northland Fisheries LLC. | Everett, WA | U, E | C | SEA |
| 22 | Ocean Beauty Seafoods, Inc. | Seattle, WA | K,E,U,N,T | C,EF,F,S | SEA,AIR |
| 23 | Ocean Run Seafoods F/V Stina | Seattle, WA | N | EF, F | AIR |
| 24 | Papetti Seafoods | Naknek, AK | K | F, EF | SEA,AIR |
| 25 | Paul Friis-Mikkelsen | Dillingham, AK | N | F | SEA,AIR |
| 26 | Pederson Point | Seattle, WA | K,E | F | SEA |
| 27 | Peter Pan Seafoods, Inc. | Seattle, WA | K,E,U,N | C,EF,F,S | SEA,AIR |
| 28 | Red's Best | Boston, MA | N | S, F | AIR |
| 29 | Robert Lebovic | Seattle, WA | N | F | SEA |
| 30 | Snopac Products, Inc. | Seattle, WA | K,E,U,N | F | SEA |
| 31 | Terry Medjo F/V Krisindy | Denver, CO | N | EF | AIR |
| 32 | Togiak Fisheries | Seattle, WA | T | F | SEA |
| 33 | Trident Seafoods | Seattle, WA | K,E,U,N | F | SEA |
| 34 | Ugashik Wild Salmon | Ugashik, AK | U | C | AIR |
| 35 | Weck Fish | Anchorage AK | K | F | AIR |
| 36 | Wild Premium Salmon | Egegik, AK | E | EF | AIR |
| 37 | Wild Sea Salmon | Dillingham, AK | N | F | SEA |
| 38 | XS Corp | Dillingham | N | F | SEA |
| 39 | Yard Arm Knot Fisheries, LLC | Seattle, WA | K,E,U,N | C,F | SEA |

Canning=9; Freezing= 31; Fresh=18; Curing=5; Air Export=24; Sea Export=24

^a Indicates operators with a processing facility in a district or operators from other areas buying fish and/or providing support service for fishers in districts away from the facility.

^b K=Naknek-Kvichak; E=Egegik; U=Ugashik; N=Nushagak; T=Togiak

^c Type of processing: C=canned; EF=export fresh; F=frozen; S=cured.

Table 26.—Mean round weight, price per pound, and total exvessel value of the commercial salmon catch, Bristol Bay, 2007.

| Species | Total Catch (lbs.) | Mean Weight (lbs.) | Mean Price (\$/lb.) | Exvessel Value (\$) |
|----------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|
| Sockeye | 167,932,091 | 5.65 | 0.61 | 103,191,557 |
| Chinook | 846,426 | 13.35 | 0.65 | 549,257 |
| Chum | 10,612,680 | 5.90 | 0.12 | 1,288,095 |
| Pink | 3,399 | 3.43 | 0.02 | 96 |
| Coho | 332,474 | 6.39 | 0.38 | 126,610 |
| Total | 179,727,070 | | | 105,155,615 |

Note: Weighted averages used.

Table 27.—Subsistence salmon harvest by species, in numbers of fish, by district and location fished, Bristol Bay, 2006.

| Area and River System | Permits | Estimated Number of Salmon Harvested | | | | | |
|-----------------------------|---------------------|--------------------------------------|---------------|--------------|--------------|--------------|----------------|
| | Issued ^a | Sockeye | Chinook | Chum | Pink | Coho | Total |
| NAKNEK-KVICHAK DISTRICT | 468 | 69,097 | 881 | 341 | 757 | 720 | 71,796 |
| Naknek River | 289 | 19,247 | 869 | 324 | 749 | 706 | 21,895 |
| Kvichak River/Iliamna Lake: | 179 | 49,850 | 12 | 17 | 8 | 13 | 49,901 |
| Alagnak (Branch) River | 1 | 33 | 0 | 0 | 0 | 0 | 33 |
| Igiugig | 6 | 1,185 | 0 | 0 | 0 | 0 | 1,185 |
| Iliamna (community) | 2 | 305 | 0 | 0 | 0 | 0 | 305 |
| Iliamna Lake | 31 | 6,420 | 0 | 0 | 0 | 0 | 6,420 |
| Kijik | 5 | 1,030 | 0 | 0 | 0 | 0 | 1,030 |
| Kokhanok | 29 | 19,070 | 12 | 17 | 8 | 13 | 19,121 |
| Kvichak River | 7 | 593 | 0 | 0 | 0 | 0 | 593 |
| Lake Clark: General | 27 | 3,016 | 0 | 0 | 0 | 0 | 3,016 |
| Levelock | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Newhalen River | 42 | 11,044 | 0 | 0 | 0 | 0 | 11,044 |
| Nondalton Village | 2 | 490 | 0 | 0 | 0 | 0 | 490 |
| Pedro Bay | 22 | 3,842 | 0 | 0 | 0 | 0 | 3,842 |
| Port Alsworth | 5 | 757 | 0 | 0 | 0 | 0 | 757 |
| Six Mile Lake | 10 | 2,065 | 0 | 0 | 0 | 0 | 2,065 |
| EGEGIK DISTRICT | 41 | 1,641 | 94 | 34 | 7 | 641 | 2,418 |
| UGASHIK DISTRICT | 25 | 962 | 41 | 6 | 16 | 339 | 1,364 |
| NUSHAGAK DISTRICT | 461 | 20,773 | 9,971 | 4,448 | 1,591 | 3,590 | 40,373 |
| Wood River | 110 | 5,445 | 1,454 | 307 | 253 | 502 | 7,961 |
| Lower Nushagak River | 32 | 1,341 | 1,103 | 213 | 124 | 153 | 2,934 |
| Upper Nushagak River | 67 | 3,204 | 3,012 | 2,183 | 141 | 908 | 9,446 |
| Dillingham Beaches | 205 | 7,948 | 3,541 | 1,460 | 878 | 1,687 | 15,513 |
| Nushagak Bay Commercial | 37 | 1,056 | 514 | 103 | 167 | 264 | 2,104 |
| Igushik/Snake River | 28 | 1,670 | 230 | 48 | 11 | 65 | 2,024 |
| Nushagak, Site Unspecified | 8 | 110 | 118 | 135 | 17 | 11 | 391 |
| TOGIAK DISTRICT | 61 | 2,728 | 1,630 | 492 | 355 | 408 | 5,613 |
| TOTAL BRISTOL BAY | 1,050 | 95,201 | 12,617 | 5,321 | 2,727 | 5,697 | 121,564 |

Note: 2007 numbers were not available at the time of publication. Harvests are extrapolated for all permits issued, based on those returned and on the area fished as recorded on the permit. Due to rounding, the sum of columns and rows may not equal the estimated total. Of 1,100 permits issued for the management area, 940 were returned (85.5%).

^a Sum of sites may exceed district totals, and sum of districts may exceed area total, because permittees may use more than one site.

Table 28.—Daily observed estimates (tons) of herring by index area, Togiak District, 2007.

| Date | Start Time | Survey Rating ^b | Miles of Spawn | Estimated Biomass by Index Area ^a | | | | | | | | | | | | | Daily Total | |
|------------------------------------|------------|----------------------------|------------------|--|-------|-------|-------|-------|--------|--------|-------|--------|-----|-----|-----|-----|------------------------------|---------------|
| | | | | NUS | KUK | MET | NVK | UGL | TOG | TNG | MTG | OSK | PYR | CPN | HAG | WAL | | |
| 4/27 | 10:05 | 3.6 | | | | | | | | | | | | | | | | |
| 4/29 | 10:10 | 3.8 | | | | | | | | | | | | | | | | |
| 5/02 | 15:00 | 2.7 | | | | | | | | | | | | | | | | |
| 5/04 | 11:00 | 3.2 | | | | | | | | | | | | | | | | |
| 5/06 | 10:00 | 3.6 | | | | 68 | | | | | | | | | | | 68 | |
| 5/07 | 17:00 | 4.1 | | | | 16 | | | | | | | | | | | 16 | |
| 5/09 | 11:00 | 3.4 | | | | 288 | 147 | | 11191 | | | | | | 66 | | 11,692 | |
| 5/10 | 09:15 | 3.9 | | | | 1,247 | | 22 | 16,644 | | | | | | | | 17,913 | |
| 5/13 | 16:45 | 2.4 | 11.9 | 740 | 3,395 | 1,640 | 2,195 | 3,919 | 41,955 | 16,732 | 5,906 | 3,567 | | | | | 80,049 | |
| 5/15 | 13:30 | 3.0 | 1.4 | 121 | 5,934 | 1,417 | 1,828 | 1,286 | 46,356 | 3,751 | 3,584 | 14,141 | 830 | 137 | | | 79,385 | |
| 5/16 | 21:00 | | 1.5 ^c | | | | | | | | | | | | | | 0 | |
| 5/17 | 16:00 | 2.2 | 2.7 | | 5,350 | 5,689 | 158 | 7,009 | 59,964 | 3,411 | 1,222 | 1,298 | | | | | 84,101 | |
| 5/20 | 10:45 | 3.9 | | | | | | 531 | 71,517 | 5,790 | 748 | 125 | | | | | 78,711 | |
| 5/29 | 11:15 | 2.9 | 1.4 | 724 | 1,119 | 1,982 | 1,760 | 498 | 43,161 | 306 | 570 | | | | | | 50,120 | |
| 6/04 | 10:15 | 3.0 | | 127 | 641 | 12 | 429 | | 16,612 | 121 | | | | | | | 17,942 | |
| Total linear miles of spawn | | | 18.9 | | | | | | | | | | | | | | Peak biomass estimate | 84,101 |

Note: Blank cells represent days when no herring were observed.

^a Index areas: NUS - Nushagak Peninsula; KUK - Kulukak; MET - Metervik; NUK - Nunavachak; UGL - Ungalikthluk/Togiak; TOG - Togiak; TNG - Tongue Pt; MTG - Matogak; HAG - Hagemeister; OSK - Osviak; PYT - Pyrite Point; CPN - Cape Newenham.

^b Average survey rating for all sections surveyed: 1= Excellent, 2 = Good, 3 = Fair, 4 = Poor, 5 = Unsatisfactory.

^c Vessel count and spawn survey only.

Table 29.—Emergency order (EO) commercial fishing periods for herring sac roe and spawn-on-kelp, Togiak District, 2007.

| EO # | Area ^a | Date and Time | | | | |
|--|--|---------------|-----------|------------|---------------|-----------------|
| Herring Sac Roe Gillnet | | | | | | |
| DLG-02 | Egg Island Section | 5/10 | 6:00 p.m. | to | end of season | |
| DLG-09 | Egg Island Section, Right Hand Pt. to Anchor Pt. | 5/24 | 8:30 a.m. | to | end of season | |
| Herring Sac Roe Purse Seine | | | | | | |
| DLG-01 | Right Hand Pt. to Anchor Pt., Togiak Reef to Cape Newenham | 5/10 | 6:00 p.m. | to | 5/13 | 10:00 p.m. |
| DLG-03 | Right Hand Pt. to Anchor Pt., Togiak Reef to Cape Newenham | extension | 5/13 | 10:00 p.m. | to | 5/14 10:00 p.m. |
| DLG-04 | Right Hand Pt. to Anchor Pt., Togiak Reef to Cape Newenham | extension | 5/14 | 10:00 p.m. | to | 5/15 10:00 p.m. |
| DLG-05 | Right Hand Pt. to Anchor Pt., Togiak Reef to Cape Newenham | extension | 5/15 | 10:00 p.m. | to | 5/17 10:00 p.m. |
| DLG-06 | Right Hand Pt. to Anchor Pt., Togiak Reef to Cape Newenham | extension | 5/17 | 10:00 p.m. | to | 5/19 10:00 p.m. |
| DLG-07 | Right Hand Pt. to Anchor Pt., Togiak Reef to Cape Newenham | extension | 5/19 | 10:00 p.m. | to | 5/20 2:00 p.m. |
| DLG-08 | Right Hand Pt. to Anchor Pt., Togiak Reef to Cape Newenham | extension | 5/20 | 2:00 p.m. | to | 5/20 10:00 p.m. |
| Herring Spawn on Kelp^b | | | | | | |

^a Area descriptions are approximate. Precise boundaries are described in Emergency Orders.

^b There was no market for spawn on kelp therefore, a fishery did not occur.

Table 30.—Commercial herring harvest (tons) by fishing section, gear type, and date Togiak District, Bristol Bay, 2007.

| Date | Duration | Periods | Kulukak | | Nunavachak | | Togiak | | Hagemeister | | Pyrite Point | | Cape Newenham | | Total | |
|-------------|-----------|---------|---------|-------|------------|-------|--------|-------|-------------|-------|--------------|-------|---------------|-------|--------|-------|
| | | | Tons | Roe % | Tons | Roe % | Tons | Roe % | Tons | Roe % | Tons | Roe % | Tons | Roe % | Tons | Roe % |
| Purse Seine | | | | | | | | | | | | | | | | |
| 10-May | 30:00 | 1 | | | 0.0 | 0.0 | 296.3 | 9.3 | 0.0 | 0.0 | 174.4 | 9.5 | 0.0 | 0.0 | 471 | 9.4 |
| 12-May | 24:00 | 2 | | | 2,232.5 | 9.2 | 298.0 | 9.6 | 79.3 | 10.6 | 0.0 | 0.0 | 0.0 | 0.0 | 2,610 | 9.3 |
| 13-May | 24:00 | 3 | | | 320.4 | | 258.5 | 9.8 | 1,062.1 | 10.6 | 0.0 | 0.0 | 0.0 | 0.0 | 1,641 | 10.4 |
| 14-May | 24:00 | 4 | | | 149.8 | 9.4 | 0.0 | 0.0 | 437.6 | 10.2 | 0.0 | 0.0 | 0.0 | 0.0 | 587 | 8.0 |
| 15-May | 24:00 | 5 | | | 0.0 | 0.0 | 0.0 | 0.0 | 1,224.3 | 10.0 | 0.0 | 0 | 0.0 | 0.0 | 1,224 | 12.6 |
| 16-May | 24:00 | 6 | | | 0.0 | 0.0 | 0.0 | 0.0 | 858.1 | 9.5 | 374.3 | 10.7 | 0.0 | 0.0 | 1,232 | 9.9 |
| 17-May | 24:00 | 7 | | | 0.0 | 0.0 | 0.0 | 0.0 | 833.8 | 10.3 | 0.0 | 0.0 | 0.0 | 0.0 | 834 | 10.3 |
| 18-May | 24:00 | 8 | | | 0.0 | 0.0 | 0.0 | 0.0 | 1,650.0 | 10.1 | 0.0 | 0.0 | 0.0 | 0.0 | 1,650 | 10.1 |
| 19-May | 24:00 | 9 | | | 0.0 | 0.0 | 0.0 | 0.0 | 880.1 | 10.2 | 139.2 | 9.3 | 0.0 | 0.0 | 1,019 | 10.1 |
| 20-May | 22:00 | 10 | | | 0.0 | 0.0 | 0.0 | 0.0 | 1,451.2 | 9.7 | 0.0 | 0.0 | 0.0 | 0.0 | 1,451 | 9.7 |
| 22-May | | | | | | | 340.0 | | | | | | | | 340 | |
| 23-May | | | | | | | 60.0 | | | | | | | | 60 | |
| Subtotal | 244:00:00 | | | | 2,702.7 | 9.2 | 1252.8 | 9.6 | 8,476.5 | 10.1 | 687.9 | 10.1 | 0.0 | 0.0 | 13,120 | 10.0 |
| Gillnet | | | | | | | | | | | | | | | | |
| 10-May | 24:00 | 1 | 56.2 | 10.4 | | | | | | | | | | | 56 | 10.4 |
| 13-May | 24:00 | 2 | 334.8 | 10.4 | | | | | | | | | | | 335 | 10.4 |
| 14-May | 24:00 | 3 | 593.3 | 11.0 | | | | | | | | | | | 593 | 11.0 |
| 15-May | 24:00 | 4 | 459.1 | 11.3 | | | | | | | | | | | 459 | 11.3 |
| 16-May | 24:00 | 5 | 396.5 | 11.8 | | | | | | | | | | | 397 | 11.8 |
| 17-May | 24:00 | 6 | 275.0 | 11.1 | | | | | | | | | | | 275 | 11.1 |
| 18-May | 24:00 | 7 | 424.6 | 11.1 | | | | | | | | | | | 425 | 11.1 |
| 19-May | 24:00 | 8 | 438.6 | 10.8 | | | | | | | | | | | 439 | 10.8 |
| 20-May | 24:00 | 9 | 222.3 | 11.0 | | | | | | | | | | | 222 | 11.0 |
| 21-May | 24:00 | 10 | 435.7 | 11.4 | | | | | | | | | | | 436 | 11.4 |
| 22-May | 24:00 | 11 | 135.7 | 12.3 | | | | | | | | | | | 136 | 12.3 |
| 23-May | 24:00 | 12 | 125.5 | 11.8 | | | 0.2 | | | | | | | | 126 | 11.8 |
| 24-May | 24:00 | 13 | 32.4 | 11.7 | | | | | | | | | | | 32 | 11.7 |
| 25-May | 24:00 | 14 | 81.3 | 11.6 | | | | | | | | | | | 81 | 11.6 |
| Subtotal | 366:00:00 | | 4,011.0 | 11.2 | | | | | | | | | | | 4,012 | 11.2 |

-continued-

Table 30.–Page 2 of 2.

| Date | Duration Periods | Kulukak | | Nunavachak | | Togiak | | Hagemeister | | Pyrite Point | | Cape Newenham | | Total | |
|--------------|------------------|----------------|-------------|----------------|------------------------|---------------|------------------------|----------------|-------------------------|--------------|-------------|---------------|------------|---------------|-------------|
| | | Tons | Roe % | Tons | Roe % | Tons | Roe % | Tons | Roe % | Tons | Roe % | Tons | Roe % | Tons | Roe % |
| Combined | | | | | | | | | | | | | | | |
| 10-May | | 56.2 | 10.4 | 0.0 | 0.0 | 296.3 | 9.3 | 0.0 | 0.0 | 174.4 | 9.5 | 0.0 | 0.0 | 527 | 9.5 |
| 12-May | | | | 2,232.5 | 9.2 | 298.0 | 9.6 | 79.3 | 10.6 | 0.0 | 0.0 | 0.0 | 0.0 | 2,610 | 9.3 |
| 13-May | | 334.8 | 10.4 | 320.4 | 0.0 ^b | 258.5 | 9.8 | 1,062.1 | 10.6 | 0.0 | 0.0 | 0.0 | 0.0 | 1,976 | 10.4 |
| 14-May | | 593.3 | 11.0 | 149.8 | 9.4 | 0.0 | 0.0 | 437.6 | 10.2 | 0.0 | 0.0 | 0.0 | 0.0 | 1,181 | 10.5 |
| 15-May | | 459.1 | 11.3 | 0.0 | 0.0 | 0.0 | 0.0 | 1,224.3 | 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1,683 | 12.2 |
| 16-May | | 396.5 | 11.8 | 0.0 | 0.0 | 0.0 | 0.0 | 858.1 | 9.5 | 374.3 | 10.7 | 0.0 | 0.0 | 1,629 | 10.3 |
| 17-May | | 275.0 | 11.1 | 0.0 | 0.0 | 0.0 | 0.0 | 833.8 | 10.3 | 0.0 | 0.0 | 0.0 | 0.0 | 1,109 | 10.5 |
| 18-May | | 424.6 | 11.1 | 0.0 | 0.0 | 0.0 | 0.0 | 1,650.0 | 10.1 | 0.0 | 0.0 | 0.0 | 0.0 | 2,075 | 10.3 |
| 19-May | | 438.6 | 10.8 | 0.0 | 0.0 | 0.0 | 0.0 | 880.1 | 10.2 | 139.2 | 9.3 | 0.0 | 0.0 | 1,458 | 10.3 |
| 20-May | | 222.3 | 11.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1,451.2 | 9.7 | 0.0 | 0.0 | 0.0 | 0.0 | 1,674 | 9.9 |
| 21-May | | 435.7 | 11.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 436 | 11.4 |
| 22-May | | 135.7 | 12.3 | 0.0 | 0.0 | 340.0 | 0.0 ^a | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 476 | 12.3 |
| 23-May | | 125.5 | 11.8 | 0.0 | 0.0 | 60.0 | 0.0 ^a | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 186 | 11.8 |
| 24-May | | 32.4 | 11.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 32 | 11.7 |
| 25-May | | 81.3 | 11.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 81 | 11.6 |
| Total | | 4,011.0 | 11.2 | 2,702.7 | 9.2^b | 1252.8 | 9.6^a | 8,476.5 | 10.1^a | 687.9 | 10.1 | 0.0 | 0.0 | 17,132 | 10.4 |

Note: Blank cells represent no data due to area closures.

^a Includes 500 tons documented waste.

^b Includes test fish harvest which is conducted during closed commercial periods.

Table 31.—Herring total run and commercial catch by year class, Togiak District, 2007.

| Year Class | Age | Total Run | | Harvest ^a | | Escapement | |
|---------------|-----|----------------|--------------|----------------------|--------------|----------------|--------------|
| | | (tons) | % | (tons) | % | (tons) | % |
| 1988 | 20 | 9 | 0.0 | 3 | 0.0 | 6 | 0.0 |
| 1989 | 19 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| 1990 | 18 | 26 | 0.1 | 14 | 0.1 | 12 | 0.0 |
| 1991 | 17 | 347 | 0.1 | 24 | 0.1 | 323 | 0.3 |
| 1992 | 16 | 343 | 0.2 | 31 | 0.2 | 311 | 0.3 |
| 1993 | 15 | 546 | 0.7 | 68 | 0.4 | 478 | 0.4 |
| 1994 | 14 | 2,264 | 1.4 | 262 | 1.5 | 2,001 | 1.7 |
| 1995 | 13 | 1,243 | 0.8 | 118 | 0.7 | 1,126 | 1.0 |
| 1996 | 12 | 5,524 | 4.1 | 690 | 4.0 | 4,834 | 4.1 |
| 1997 | 11 | 11,370 | 7.9 | 1,256 | 7.3 | 10,114 | 8.6 |
| 1998 | 10 | 32,184 | 24.0 | 4,668 | 27.2 | 27,516 | 23.5 |
| 1999 | 9 | 28,552 | 22.0 | 3,985 | 23.3 | 24,566 | 21.0 |
| 2000 | 8 | 12,716 | 9.4 | 1,589 | 9.3 | 11,127 | 9.5 |
| 2001 | 7 | 7,237 | 5.5 | 748 | 4.4 | 6,489 | 5.5 |
| 2002 | 6 | 19,860 | 15.5 | 2,315 | 13.5 | 17,545 | 15.0 |
| 2003 | 5 | 10,815 | 7.3 | 1,233 | 7.2 | 9,582 | 8.2 |
| 2004 | 4 | 1,186 | 0.7 | 129 | 0.8 | 1,058 | 0.9 |
| 2005 | 3 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| 2006 | 2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Total | | 134,221 | 100.0 | 17,132 | 100.0 | 117,089 | 100.0 |

^a Does not include harvest in the Dutch Harbor food and bait fishery, but does include harvest from test fishery.

Table 32.—Commercial herring sac roe and spawn-on-kelp buyers in Togiak District, 2007.

| Operator/Buyer ^a | Base of Operation | Product Purchased | | | |
|-----------------------------|-------------------------|--|-------------|---------------|--|
| | | Sac Roe | | Spawn-on-Kelp | |
| | | Gillnet | Purse Seine | | |
| 1 | Icicle Seafoods | P/Vs Bering Star, Discovery Star | X | X | |
| 2 | Trident Seafoods | S/P Naknek, P/V Alaska Packer | X | X | |
| 3 | Y.A.K. Inc. | S/P Red Salmon Cannery | X | X | |
| 4 | Norquest Seafoods, Inc. | P/V Pribilof | X | X | |
| 5 | Togiak Fisheries | S/P Pedersen Pt., S/P Togiak Fish - Togiak | X | X | |

^a Operators that registered in the Togiak District.

APPENDIX A. SALMON

Appendix A1.—Escapement goals and actual counts of sockeye salmon by river system, in thousands of fish, Bristol Bay, 1987–2007.

| Year | Kvichak River | | | Naknek River ^a | | |
|--------------|---------------|--------|--------|---------------------------|-------|--------|
| | Range | | Actual | Range | | Actual |
| | Lower | Upper | | Lower | Upper | |
| 1987 | 4,000 | 6,000 | 6,066 | 800 | 1,400 | 1,062 |
| 1988 | 4,000 | 6,000 | 4,065 | 800 | 1,400 | 1,038 |
| 1989 | 6,000 | 10,000 | 8,318 | 800 | 1,400 | 1,612 |
| 1990 | 6,000 | 10,000 | 6,970 | 800 | 1,400 | 2,093 |
| 1991 | 4,000 | 8,000 | 4,223 | 800 | 1,400 | 3,579 |
| 1992 | 4,000 | 8,000 | 4,726 | 800 | 1,400 | 1,607 |
| 1993 | 4,000 | 8,000 | 4,025 | 800 | 1,400 | 1,536 |
| 1994 | 6,000 | 10,000 | 8,338 | 800 | 1,400 | 991 |
| 1995 | 6,000 | 10,000 | 10,039 | 800 | 1,400 | 1,111 |
| 1996 | 4,000 | 6,000 | 1,451 | | | 1,078 |
| 1997 | 4,000 | 6,000 | 1,504 | 800 | 1,400 | 1,026 |
| 1998 | 2,000 | 10,000 | 2,296 | 800 | 1,400 | 1,202 |
| 1999 | 6,000 | 10,000 | 6,197 | 800 | 1,400 | 1,625 |
| 2000 | 6,000 | 10,000 | 1,828 | 800 | 1,400 | 1,375 |
| 2001 | 2,000 | 10,000 | 1,095 | 800 | 2,000 | 1,830 |
| 2002 | 2,000 | 10,000 | 704 | 800 | 2,000 | 1,264 |
| 2003 | 2,000 | 10,000 | 1,687 | 800 | 2,000 | 1,831 |
| 2004 | 2,000 | 10,000 | 5,500 | 800 | 2,000 | 1,939 |
| 2005 | 2,000 | 10,000 | 2,320 | 800 | 2,000 | 2,745 |
| 2006 | 2,000 | 10,000 | 3,068 | 800 | 2,000 | 1,953 |
| 20-Year Ave. | 3,900 | 8,900 | 4,221 | 800 | 1,589 | 1,625 |
| 1987-96 Ave. | 4,800 | 8,200 | 5,822 | 800 | 1,400 | 1,571 |
| 1997-06 Ave. | 3,000 | 9,600 | 2,620 | 800 | 1,760 | 1,679 |
| 2007 | 2,000 | 10,000 | 2,810 | 800 | 2,000 | 2,945 |

| Year | Egegik River | | | Ugashik River | | |
|----------------|--------------|-------|--------|---------------|-------|--------|
| | Range | | Actual | Range | | Actual |
| | Lower | Upper | | Lower | Upper | |
| 1987 | 800 | 1,200 | 1,273 | 500 | 900 | 669 |
| 1988 | 800 | 1,200 | 1,599 | 500 | 900 | 643 |
| 1989 | 800 | 1,200 | 1,610 | 500 | 900 | 1,681 |
| 1990 | 800 | 1,200 | 2,191 | 500 | 900 | 730 |
| 1991 | 800 | 1,200 | 2,787 | 500 | 900 | 2,457 |
| 1992 | 800 | 1,200 | 1,945 | 500 | 900 | 2,174 |
| 1993 | 800 | 1,200 | 1,517 | 500 | 900 | 1,390 |
| 1994 | 800 | 1,200 | 1,897 | 500 | 900 | 1,081 |
| 1995 | 800 | 1,400 | 1,282 | 500 | 1,200 | 1,304 |
| 1996 | 800 | 1,400 | 1,076 | 500 | 1,200 | 668 |
| 1997 | 800 | 1,400 | 1,104 | 500 | 1,200 | 618 |
| 1998 | 800 | 1,400 | 1,111 | 500 | 1,200 | 891 |
| 1999 | 800 | 1,400 | 1,728 | 500 | 1,200 | 1,652 |
| 2000 | 800 | 1,400 | 1,032 | 500 | 1,200 | 620 |
| 2001 | 800 | 1,400 | 969 | 500 | 1,200 | 834 |
| 2002 | 800 | 1,400 | 1,036 | 500 | 1,200 | 892 |
| 2003 | 800 | 1,400 | 1,152 | 500 | 1,200 | 759 |
| 2004 | 800 | 1,400 | 1,290 | 500 | 1,200 | 776 |
| 2005 | 800 | 1,400 | 1,622 | 500 | 1,200 | 779 |
| 2006 | 800 | 1,400 | 1,465 | 500 | 1,200 | 978 |
| 20-Year Ave. | 800 | 1,320 | 1,484 | 500 | 1,080 | 1,080 |
| 1987-1996 Ave. | 800 | 1,240 | 1,718 | 500 | 960 | 1,280 |
| 1997-2006 Ave. | 800 | 1,400 | 1,251 | 500 | 1,200 | 880 |
| 2007 | 800 | 1,400 | 1,433 | 500 | 1,200 | 2,599 |

-continued-

Appendix A1.–Page 2 of 2.

| Year | Wood River | | | Igushik River | | |
|----------------|-----------------------------|-------|--------|---------------|-------|--------|
| | Range | | Actual | Range | | Actual |
| | Lower | Upper | | Lower | Upper | |
| 1987 | 800 | 1,200 | 1,337 | 140 | 250 | 169 |
| 1988 | 800 | 1,200 | 867 | 140 | 250 | 170 |
| 1989 | 800 | 1,200 | 1,186 | 150 | 250 | 462 |
| 1990 | 700 | 1,200 | 1,069 | 150 | 250 | 366 |
| 1991 | 700 | 1,200 | 1,160 | 150 | 250 | 756 |
| 1992 | 700 | 1,200 | 1,286 | 150 | 250 | 305 |
| 1993 | 700 | 1,200 | 1,176 | 150 | 250 | 406 |
| 1994 | 700 | 1,200 | 1,472 | 150 | 250 | 446 |
| 1995 | 700 | 1,200 | 1,475 | 150 | 250 | 473 |
| 1996 | 700 | 1,200 | 1,650 | 150 | 250 | 401 |
| 1997 | 700 | 1,200 | 1,512 | 150 | 250 | 128 |
| 1998 | 700 | 1,200 | 1,756 | 150 | 250 | 216 |
| 1999 | 700 | 1,200 | 1,512 | 150 | 250 | 446 |
| 2000 | 700 | 1,200 | 1,300 | 150 | 250 | 413 |
| 2001 | 700 | 1,500 | 1,459 | 150 | 300 | 410 |
| 2002 | 700 | 1,500 | 1,284 | 150 | 300 | 123 |
| 2003 | 700 | 1,500 | 1,460 | 150 | 300 | 194 |
| 2004 | 700 | 1,500 | 1,543 | 150 | 300 | 110 |
| 2005 | 700 | 1,500 | 1,497 | 150 | 300 | 366 |
| 2006 | 700 | 1,500 | 4,008 | 150 | 300 | 305 |
| 20-Year Ave. | 715 | 1,290 | 1,500 | 149 | 265 | 333 |
| 1987-1996 Ave. | 730 | 1,200 | 1,268 | 148 | 250 | 395 |
| 1997-2006 Ave. | 700 | 1,380 | 1,733 | 150 | 280 | 271 |
| 2007 | 700 | 1,500 | 1,528 | 150 | 300 | 415 |
| Year | Nushagak River ^b | | | Togiak River | | |
| | Range | | Actual | Range | | Actual |
| | Lower ^c | Upper | | Lower | Upper | |
| 1987 | 300 | 700 | 163 | 100 | 200 | 250 |
| 1988 | 300 | 700 | 483 | 100 | 200 | 277 |
| 1989 | 300 | 700 | 513 | 100 | 200 | 84 |
| 1990 | 340 | 760 | 680 | 140 | 250 | 142 |
| 1991 | 340 | 760 | 493 | 140 | 250 | 255 |
| 1992 | 340 | 760 | 695 | 140 | 250 | 199 |
| 1993 | 340 | 760 | 715 | 140 | 250 | 177 |
| 1994 | 340 | 760 | 509 | 140 | 250 | 155 |
| 1995 | 340 | 760 | 281 | 140 | 250 | 186 |
| 1996 | 340 | 760 | 504 | 140 | 250 | 157 |
| 1997 | 340 | 760 | 373 | 100 | 200 | 132 |
| 1998 | 340 | 760 | 459 | 100 | 200 | 154 |
| 1999 | 235 | 760 | 393 | 100 | 200 | 156 |
| 2000 | 235 | 760 | 404 | 100 | 200 | 312 |
| 2001 | 340 | 760 | 804 | 100 | 200 | 297 |
| 2002 | 235 | 760 | 316 | 100 | 200 | 162 |
| 2003 | 340 | 760 | 581 | 100 | 200 | 232 |
| 2004 | 340 | 760 | 492 | 100 | 200 | 129 |
| 2005 | 340 | 760 | 1,096 | 100 | 200 | 149 |
| 2006 | 340 | 760 | 541 | 100 | 200 | 312 |
| 20-Year Ave. | 318 | 751 | 525 | 114 | 218 | 196 |
| 1987-1996 Ave. | 328 | 742 | 504 | 128 | 235 | 188 |
| 1997-2006 Ave. | 309 | 760 | 546 | 100 | 200 | 204 |
| 2007 | 340 | 760 | 518 | 120 | 270 | 270 |

^a An "Optimal Escapement Goal" of up to 2.0 million sockeye set by the BOF in 2001, when fishing in the Naknek River Special Harvest Area.

^b Actual escapement through 1988 is Nuyakuk River tower count, from 1989–present is based on sonar count at Portage Creek.

^c The "Optimal Escapement Goal" of 235,000 sockeye set by the BOF in 1999.

Appendix A2.—Salmon entry permit registration by gear and residency, Bristol Bay, 1987–2007.

| Year | Drift Net ^a | | | | | | Set Net ^a | | | | | | Total Drift Set |
|----------------|------------------------|--------------|----------------|-------------------|-------------|----------------|----------------------|--------------|--------------|-------------------|-------------|----------------|-----------------------|
| | Resident | Non-Resident | Drift Total | Permits Fished | % Fished | Interim Use | Resident | Non-Resident | Set Total | Permits Fished | % Fished | Interim Use | |
| 1987 | 1,044 | 793 | 1,837 | 1,824 | 99% | 91 | 736 | 224 | 960 | 899 | 94% | 18 | 2,736 |
| 1988 | 1,033 | 806 | 1,839 | 1,837 | 100% | 90 | 731 | 227 | 958 | 922 | 96% | 17 | 2,761 |
| 1989 | 1,036 | 831 | 1,867 | 1,855 | 99% | 91 | 785 | 240 | 1,025 | 971 | 95% | 18 | 2,838 |
| 1990 | 1,039 | 839 | 1,878 | 1,869 | 100% | 93 | 783 | 243 | 1,026 | 971 | 95% | 15 | 2,849 |
| 1991 | 1,019 | 862 | 1,881 | 1,873 | 100% | 88 | 771 | 253 | 1,024 | 950 | 93% | 12 | 2,831 |
| 1992 | 997 | 886 | 1,883 | 1,879 | 100% | 86 | 774 | 251 | 1,025 | 968 | 94% | 8 | 2,851 |
| 1993 | 982 | 904 | 1,886 | 1,875 | 99% | 81 | 763 | 259 | 1,022 | 965 | 94% | 8 | 2,851 |
| 1994 | 970 | 917 | 1,887 | 1,865 | 99% | 77 | 760 | 259 | 1,019 | 939 | 92% | 7 | 2,826 |
| 1995 | 967 | 921 | 1,888 | 1,882 | 100% | 75 | 762 | 257 | 1,019 | 967 | 95% | 8 | 2,855 |
| 1996 | 966 | 925 | 1,891 | 1,884 | 100% | 70 | 760 | 257 | 1,017 | 941 | 93% | 6 | 2,832 |
| 1997 | 959 | 940 | 1,899 | 1,875 | 99% | 67 | 757 | 262 | 1,019 | 921 | 90% | 7 | 2,820 |
| 1998 | 954 | 945 | 1,899 | 1,858 | 98% | 55 | 756 | 259 | 1,015 | 901 | 89% | 6 | 2,800 |
| 1999 | 937 | 961 | 1,898 | 1,847 | 97% | 52 | 748 | 266 | 1,014 | 925 | 91% | 6 | 2,823 |
| 2000 | 945 | 945 | 1,890 | 1,823 | 96% | 38 | 735 | 277 | 1,012 | 921 | 91% | 6 | 2,811 |
| 2001 | 958 | 925 | 1,883 | 1,566 | 83% | 24 | 729 | 281 | 1,010 | 834 | 83% | 2 | 2,717 |
| 2002 | 945 | 933 | 1,878 | 1,183 | 63% | 16 | 717 | 289 | 1,006 | 680 | 68% | 2 | 2,558 |
| 2003 | 923 | 944 | 1,867 | 1,389 | 74% | 7 | 713 | 288 | 1,001 | 714 | 71% | 1 | 2,581 |
| 2004 | 912 | 948 | 1,860 | 1,426 | 77% | 3 | 703 | 286 | 989 | 797 | 81% | 1 | 2,849 |
| 2005 | 895 | 967 | 1,862 | 1,526 | 82% | 3 | 688 | 300 | 988 | 829 | 84% | 1 | 2,850 |
| 2006 | 893 | 966 | 1,859 | 1,567 | 84% | 1 | 683 | 302 | 985 | 844 | 86% | 0 | 2,844 |
| 20 Year Ave. | 969 | 908 | 1,877 | 1,735 | 92% | 55 | 743 | 264 | 1,007 | 893 | 89% | 7 | 2,794 |
| 1987-1996 Ave. | 1,005 | 868 | 1,874 | 1,864 | 99% | 84 | 763 | 247 | 1,010 | 949 | 94% | 12 | 2,822 |
| 1997-2006 Ave. | 932 | 947 | 1,880 | 1,606 | 85% | 27 | 723 | 281 | 1,004 | 837 | 83% | 3 | 2,771 |
| 2007 | 881 | 981 | 1,862 | 1,621 | 87% | 1 | 672 | 311 | 983 | 836 | 85% | 0 | 2,845 |

Note: Limited Entry went into effect in 1974. Interim-use permits are included in the totals.

^a Allowable gear per license/permit is measured in fathoms, 150 for drift and 50 for set net.

Appendix A3.–Sockeye salmon commercial catch by district, in numbers of fish, Bristol Bay, 1987-2007.

| Year | Naknek-Kvichak | Egegik | Ugashik | Nushagak | Togiak | Total |
|----------------|-----------------------|---------------|----------------|-----------------|---------------|-------------------------|
| 1987 | 4,986,002 | 5,356,669 | 2,128,652 | 3,254,720 | 342,732 | 16,068,775 |
| 1988 | 3,480,836 | 6,456,598 | 1,523,520 | 1,706,716 | 822,126 | 13,989,796 |
| 1989 | 13,809,956 | 8,901,994 | 3,146,239 | 2,788,194 | 88,923 | 28,735,306 |
| 1990 | 17,272,367 | 10,333,858 | 2,118,796 | 3,521,467 | 197,589 | 33,444,077 |
| 1991 | 10,475,206 | 6,797,166 | 2,945,742 | 5,053,845 | 549,221 | 25,821,180 |
| 1992 | 9,395,948 | 15,646,575 | 3,320,966 | 2,789,741 | 726,446 | 31,879,676 |
| 1993 | 8,907,872 | 21,600,603 | 4,176,952 | 5,236,932 | 539,933 | 40,462,292 |
| 1994 | 16,327,858 | 10,750,213 | 4,352,797 | 3,393,139 | 400,039 | 35,224,046 |
| 1995 | 20,279,581 | 14,426,007 | 4,509,418 | 4,445,900 | 605,328 | 44,266,234 |
| 1996 | 8,215,028 | 10,809,115 | 4,411,055 | 5,693,563 | 462,897 | 29,591,658 |
| 1997 | 589,311 | 7,517,389 | 1,402,690 | 2,506,818 | 142,569 | 12,158,777 |
| 1998 | 2,595,439 | 3,528,845 | 730,274 | 2,990,597 | 190,427 | 10,035,582 |
| 1999 | 9,452,972 | 7,388,080 | 2,256,007 | 6,175,419 | 385,411 | 25,657,889 |
| 2000 | 4,727,061 | 7,029,397 | 1,538,790 | 6,367,208 | 794,996 | 20,457,452 |
| 2001 | 5,280,538 | 2,872,662 | 480,509 | 4,734,800 | 810,096 | 14,178,605 |
| 2002 | 1,418,938 | 4,610,374 | 1,573,234 | 2,839,424 | 233,743 | 10,675,713 |
| 2003 | 3,348,504 | 2,291,502 | 1,748,934 | 6,665,965 | 706,008 | 14,760,913 |
| 2004 | 4,715,070 | 10,209,227 | 3,139,229 | 6,104,048 | 437,234 | 26,261,802 ^a |
| 2005 | 6,728,469 | 8,015,950 | 2,216,635 | 7,096,031 | 465,094 | 24,522,179 |
| 2006 | 7,151,741 | 7,408,983 | 2,429,637 | 10,876,552 | 626,442 | 28,493,355 |
| 20-Year Ave. | 7,957,935 | 8,597,560 | 2,507,504 | 4,712,054 | 476,363 | 24,232,816 |
| 1987-1996 Ave. | 11,315,065 | 11,107,880 | 3,263,414 | 3,788,422 | 473,523 | 29,948,304 |
| 1997-2006 Ave. | 4,600,804 | 6,087,241 | 1,751,594 | 5,635,686 | 479,202 | 17,882,274 |
| 2007 | 9,033,945 | 6,493,954 | 5,007,574 | 7,992,223 | 799,410 | 29,327,106 |

^a Total includes General District catch of 1,656,994.

Appendix A4.—Chinook salmon commercial catch by district, in numbers of fish, Bristol Bay, 1987–2007.

| Year | Naknek-Kvichak | Egegik | Ugashik | Nushagak | Togiak | Total |
|----------------|-----------------------|---------------|----------------|-----------------|---------------|----------------------|
| 1987 | 5,175 | 2,959 | 4,065 | 45,983 | 17,217 | 75,399 |
| 1988 | 6,538 | 3,103 | 3,444 | 16,648 | 15,614 | 45,347 |
| 1989 | 6,611 | 2,034 | 2,112 | 17,637 | 11,366 | 39,760 |
| 1990 | 5,068 | 1,144 | 1,839 | 14,812 | 11,130 | 33,993 |
| 1991 | 3,584 | 510 | 589 | 19,718 | 6,039 | 30,440 |
| 1992 | 5,724 | 694 | 2,146 | 47,563 | 12,640 | 68,767 |
| 1993 | 7,468 | 1,464 | 2,811 | 62,971 | 10,851 | 85,565 |
| 1994 | 6,015 | 1,243 | 3,685 | 119,478 | 10,484 | 140,905 |
| 1995 | 5,084 | 760 | 1,551 | 79,942 | 11,981 | 99,318 |
| 1996 | 4,195 | 980 | 588 | 72,011 | 8,602 | 86,376 |
| 1997 | 3,128 | 2,143 | 1,096 | 64,160 | 6,066 | 76,593 |
| 1998 | 2,449 | 760 | 346 | 117,065 | 14,131 | 134,751 |
| 1999 | 1,295 | 712 | 1,638 | 10,893 | 11,919 | 26,457 |
| 2000 | 1,027 | 1,061 | 893 | 12,055 | 7,858 | 22,894 |
| 2001 | 904 | 950 | 989 | 11,568 | 9,937 | 24,348 |
| 2002 | 969 | 268 | 612 | 39,473 | 2,801 | 44,123 |
| 2003 | 567 | 131 | 409 | 42,615 | 3,231 | 46,953 |
| 2004 | 1,360 | 1,589 | 863 | 96,534 | 9,310 | 114,280 ^a |
| 2005 | 1,377 | 485 | 1,815 | 62,308 | 10,605 | 76,590 |
| 2006 | 2,333 | 915 | 2,608 | 84,881 | 16,225 | 106,962 |
| 20-Year Ave. | 3,544 | 1,195 | 1,705 | 51,916 | 10,400 | 66,607 |
| 1987-1996 Ave. | 5,546 | 1,489 | 2,283 | 49,676 | 11,592 | 70,587 |
| 1997-2006 Ave. | 1,541 | 901 | 1,127 | 54,155 | 9,208 | 62,186 |
| 2007 | 1,579 | 541 | 1,445 | 51,350 | 7,755 | 62,670 |

^a Total includes General District catch of 4,624.

Appendix A5.—Chum salmon commercial catch by district, in numbers of fish, Bristol Bay, 1987–2007.

| Year | Naknek- Kvichak | Egegik | Ugashik | Nushagak | Togiak | Total |
|----------------|----------------------------|---------------|----------------|-----------------|---------------|----------------------|
| 1987 | 446,908 | 145,259 | 101,074 | 416,476 | 419,425 | 1,529,142 |
| 1988 | 295,572 | 237,888 | 94,545 | 371,199 | 470,495 | 1,469,699 |
| 1989 | 310,869 | 136,185 | 84,673 | 523,910 | 203,171 | 1,258,808 |
| 1990 | 422,276 | 122,843 | 31,798 | 375,361 | 102,861 | 1,055,139 |
| 1991 | 443,189 | 75,892 | 60,299 | 463,780 | 246,589 | 1,289,749 |
| 1992 | 167,168 | 121,472 | 57,170 | 398,691 | 176,123 | 920,624 |
| 1993 | 43,684 | 70,628 | 73,402 | 505,799 | 144,869 | 838,382 |
| 1994 | 219,118 | 62,961 | 52,127 | 328,260 | 232,559 | 895,025 |
| 1995 | 236,472 | 68,325 | 62,801 | 390,158 | 221,126 | 978,882 |
| 1996 | 97,574 | 85,151 | 106,168 | 331,414 | 206,226 | 826,533 |
| 1997 | 8,628 | 59,139 | 16,903 | 185,635 | 47,285 | 317,590 |
| 1998 | 82,281 | 29,405 | 8,088 | 208,551 | 67,345 | 395,670 |
| 1999 | 259,922 | 74,890 | 68,004 | 170,795 | 111,677 | 685,288 |
| 2000 | 68,218 | 38,777 | 36,349 | 114,454 | 140,175 | 397,973 |
| 2001 | 16,472 | 33,579 | 43,394 | 526,602 | 211,701 | 831,748 |
| 2002 | 19,180 | 23,516 | 35,792 | 276,777 | 112,987 | 468,252 |
| 2003 | 34,481 | 37,116 | 52,908 | 740,311 | 68,154 | 932,970 |
| 2004 | 29,972 | 75,061 | 49,358 | 458,902 | 94,025 | 732,481 ^a |
| 2005 | 204,777 | 62,029 | 39,513 | 966,050 | 124,694 | 1,397,063 |
| 2006 | 457,855 | 153,777 | 168,428 | 1,240,235 | 223,364 | 2,243,659 |
| 20-Year Ave. | 193,231 | 85,695 | 62,140 | 449,668 | 181,243 | 936,610 |
| 1987-1996 Ave. | 268,283 | 112,660 | 72,406 | 410,505 | 242,344 | 1,106,198 |
| 1997-2006 Ave. | 118,179 | 58,729 | 51,874 | 488,831 | 120,141 | 767,021 |
| 2007 | 379,651 | 166,528 | 251,457 | 1,021,453 | 220,633 | 2,039,722 |

^a Total includes General District catch of 25,163.

Appendix A6.—Pink salmon commercial catch by district, in numbers of fish, Bristol Bay, 1987–2007.

| Year | Naknek- Kvichak | Egegik | Ugashik | Nushagak | Togiak | Total |
|-----------------------------|----------------------------|---------------|----------------|-----------------|---------------|---------------------|
| 1987 | 5 | 0 | 30 | 2 | 20 | 57 |
| 1988 | 648,569 | 4,485 | 218 | 243,923 | 58,394 | 955,589 |
| 1989 | 75 | 6 | 29 | 156 | 172 | 438 |
| 1990 | 421,690 | 11,593 | 361 | 54,127 | 8,746 | 496,517 |
| 1991 | 102 | 15 | 2 | 69 | 117 | 305 |
| 1992 | 214,228 | 694 | 525 | 190,102 | 93,989 | 499,538 |
| 1993 | 86 | 2 | 2 | 83 | 240 | 413 |
| 1994 | 11,537 | 145 | 21 | 8,652 | 69,552 | 89,907 |
| 1995 | 55 | 1 | 1 | 120 | 294 | 471 |
| 1996 | 4,590 | 22 | 21 | 2,681 | 30,308 | 37,622 |
| 1997 | 35 | 2 | 2 | 46 | 23 | 108 |
| 1998 | 11,317 | 674 | 247 | 6,787 | 6,406 | 25,431 |
| 1999 | 11 | 0 | 3 | 52 | 2 | 68 |
| 2000 | 19,659 | 32 | 4 | 38,309 | 695 | 58,699 |
| 2001 | 23 | 0 | 0 | 308 | 97 | 428 |
| 2002 | 10 | 1 | 1 | 204 | 311 | 527 |
| 2003 | 24 | 0 | 0 | 188 | 32 | 244 |
| 2004 | 7,749 | 0 | 187 | 26,150 | 18,293 | 52,380 ^a |
| 2005 | 32 | 0 | 1 | 554 | 2,108 | 2,695 |
| 2006 | 25,149 | 700 | 0 | 39,011 | 80,748 | 145,608 |
| 20-Year Ave. ^a | 136,450 | 1,835 | 159 | 60,995 | 36,744 | 230,944 |
| 1987-1996 Ave. ^a | 260,123 | 3,388 | 229 | 99,897 | 52,198 | 415,835 |
| 1997-2006 Ave. ^a | 12,777 | 281 | 88 | 22,092 | 21,291 | 46,053 |
| 2007 | 9 | 0 | 3 | 435 | 545 | 992 |

Note: Averages include even numbered years only.

^a Total includes General District catch of 1.

Appendix A7.—Coho salmon commercial catch by district, in numbers of fish, Bristol Bay, 1987–2007.

| Year | Naknek- Kvichak | Egegik | Ugashik | Nushagak | Togiak | Total |
|----------------|----------------------------|---------------|----------------|-----------------|---------------|--------------|
| 1987 | 5,274 | 30,789 | 14,785 | 13,263 | 1,292 | 65,403 |
| 1988 | 29,988 | 48,981 | 52,355 | 52,706 | 18,668 | 202,698 |
| 1989 | 22,668 | 49,175 | 33,942 | 77,077 | 56,972 | 239,834 |
| 1990 | 16,091 | 43,897 | 32,906 | 7,733 | 2,690 | 103,317 |
| 1991 | 17,527 | 47,486 | 42,622 | 5,574 | 4,531 | 117,740 |
| 1992 | 18,553 | 47,780 | 35,794 | 84,077 | 5,328 | 191,532 |
| 1993 | 1,779 | 41,603 | 2,387 | 14,345 | 12,615 | 72,729 |
| 1994 | 5,877 | 48,436 | 19,250 | 5,615 | 96,062 | 175,240 |
| 1995 | 1,105 | 21,833 | 13,454 | 4,181 | 8,871 | 49,444 |
| 1996 | 3,601 | 38,156 | 13,163 | 11,401 | 58,978 | 125,299 |
| 1997 | 718 | 35,470 | 7,156 | 4,110 | 2,970 | 50,424 |
| 1998 | 1,587 | 29,856 | 13,007 | 22,703 | 58,688 | 125,841 |
| 1999 | 303 | 11,464 | 2,289 | 2,836 | 2,653 | 19,545 |
| 2000 | 952 | 13,166 | 1,269 | 112,819 | 2,758 | 130,964 |
| 2001 | 3 | 12,603 | 976 | 3,218 | 284 | 17,084 |
| 2002 | 0 | 7,099 | 464 | 93 | 754 | 8,410 |
| 2003 | 42 | 40,577 | 994 | 583 | 1,047 | 43,243 |
| 2004 | 2,142 | 2,324 | 4,744 | 47,706 | 15,463 | 72,379 |
| 2005 | 3,314 | 20,611 | 8,162 | 42,456 | 8 | 74,551 |
| 2006 | 5,163 | 26,788 | 3,087 | 44,385 | 449 | 79,872 |
| 20-Year Ave. | 6,834 | 30,905 | 15,140 | 27,844 | 17,554 | 98,277 |
| 1987-1996 Ave. | 12,246 | 41,814 | 26,066 | 27,597 | 26,601 | 134,324 |
| 1997-2006 Ave. | 1,422 | 19,996 | 4,215 | 28,091 | 8,507 | 62,231 |
| 2007 | 2,162 | 18,129 | 1,961 | 29,649 | 152 | 52,053 |

Appendix A8.—Total salmon commercial catch by district, in numbers of fish, Bristol Bay, 1987–2007.

| Year | Naknek-Kvichak | Egegik | Ugashik | Nushagak | Togiak | Total |
|----------------|-----------------------|---------------|----------------|-----------------|---------------|-------------------------|
| 1987 | 5,443,364 | 5,535,676 | 2,248,606 | 3,730,444 | 780,686 | 17,738,776 |
| 1988 | 4,461,502 | 6,751,055 | 1,674,082 | 2,391,148 | 1,384,377 | 16,662,164 |
| 1989 | 14,150,179 | 9,089,394 | 3,266,995 | 3,406,958 | 360,620 | 30,274,146 |
| 1990 | 18,137,349 | 10,551,485 | 2,216,129 | 3,987,438 | 323,016 | 35,215,417 |
| 1991 | 10,939,608 | 6,921,069 | 3,049,254 | 5,542,986 | 806,497 | 27,259,414 |
| 1992 | 9,801,621 | 15,817,215 | 3,416,601 | 3,510,174 | 1,014,526 | 33,560,137 |
| 1993 | 8,960,902 | 21,714,569 | 4,255,766 | 5,819,760 | 708,508 | 41,459,505 |
| 1994 | 16,570,406 | 10,862,998 | 4,427,880 | 3,855,157 | 808,698 | 36,525,139 |
| 1995 | 20,522,297 | 14,516,875 | 4,587,276 | 4,920,284 | 847,600 | 45,394,332 |
| 1996 | 8,322,312 | 10,900,288 | 4,530,995 | 6,111,030 | 724,023 | 30,588,648 |
| 1997 | 616,084 | 7,626,863 | 1,432,200 | 2,866,890 | 200,676 | 12,742,713 |
| 1998 | 2,693,068 | 3,589,540 | 751,962 | 3,345,717 | 336,995 | 10,717,282 |
| 1999 | 9,714,503 | 7,475,146 | 2,327,941 | 6,359,995 | 511,662 | 26,389,247 |
| 2000 | 4,816,917 | 7,082,513 | 1,577,305 | 6,644,845 | 946,482 | 21,068,062 |
| 2001 | 5,297,940 | 2,919,794 | 525,868 | 5,276,496 | 1,032,115 | 15,052,213 |
| 2002 | 1,439,097 | 4,641,258 | 1,610,103 | 3,156,646 | 350,596 | 11,197,700 |
| 2003 | 3,383,567 | 2,369,326 | 1,803,245 | 7,449,615 | 778,472 | 15,784,225 |
| 2004 | 4,756,293 | 10,288,201 | 3,194,381 | 6,733,340 | 574,325 | 27,233,322 ^a |
| 2005 | 6,937,969 | 8,099,075 | 2,266,126 | 8,167,399 | 602,509 | 26,073,078 |
| 2006 | 7,642,241 | 7,591,163 | 2,603,760 | 12,285,064 | 947,228 | 31,069,456 |
| 20-Year Ave. | 8,230,361 | 8,717,175 | 2,588,324 | 5,278,069 | 701,981 | 25,514,298 |
| 1987-1996 Ave. | 11,730,954 | 11,266,062 | 3,367,358 | 4,327,538 | 775,855 | 31,467,768 |
| 1997-2006 Ave. | 4,729,768 | 6,168,288 | 1,809,289 | 6,228,601 | 628,106 | 18,899,331 |
| 2007 | 9,405,074 | 6,678,855 | 5,263,283 | 9,095,110 | 1,028,495 | 31,470,817 |

^a Total includes General District catch.

Appendix A9.—Commercial sockeye salmon catch, in percent, by gear type and district, Bristol Bay, 1987–2007.

| Year | Naknek-Kvichak | | | | | | Nushagak | | | | | | Total | | | | | | |
|-------------------------|----------------|------|------|--------------------|-----------------|--|----------|-----|---------|-----|--------------|-------|---------|-------|--------------------|-------|--------|-------|------|
| | Set net Sec. | | | NRSHA ^a | | | Egegik | | Ugashik | | Set net Sec. | | | | WRSHA ^b | | Togiak | | |
| | Drift | Nak. | Kvi. | Drift | Set | | Drift | Set | Drift | Set | Drift | Nush. | Igushik | Drift | Set | Drift | Set | Drift | Set |
| 1987 | 86 | 14 | | | | | 91 | 9 | 93 | 7 | 80 | 20 | | | | 66 | 34 | 90 | 10 |
| 1988 | 86 | 14 | | | | | 90 | 10 | 91 | 9 | 75 | 25 | | | | 64 | 36 | 85 | 15 |
| 1989 | 89 | 11 | | | | | 90 | 10 | 87 | 13 | 58 | 42 | | | | 55 | 45 | 87 | 13 |
| 1990 | 88 | 12 | | | | | 91 | 9 | 91 | 9 | 67 | 33 | | | | 67 | 33 | 86 | 14 |
| 1991 | 89 | 11 | | | | | 91 | 9 | 89 | 11 | 76 | 24 | | | | 64 | 36 | 86 | 14 |
| 1992 | 89 | 11 | | | | | 91 | 9 | 90 | 10 | 65 | 35 | | | | 62 | 38 | 87 | 13 |
| 1993 | 84 | 16 | | | | | 93 | 7 | 90 | 10 | 72 | 28 | | | | 54 | 46 | 86 | 14 |
| 1994 | 90 | 10 | | | | | 92 | 8 | 94 | 6 | 68 | 32 | | | | 52 | 48 | 88 | 12 |
| 1995 | 89 | 11 | | | | | 90 | 10 | 95 | 5 | 68 | 32 | | | | 52 | 48 | 87 | 13 |
| 1996 | 83 | 17 | | | | | 90 | 10 | 95 | 5 | 81 | 19 | | | | 52 | 55 | 88 | 12 |
| 1997 | 73 | 27 | | | | | 87 | 13 | 88 | 12 | 70 | 30 | | | | 37 | 63 | 87 | 13 |
| 1998 | 84 | 8 | 8 | | | | 86 | 14 | 85 | 15 | 72 | 24 | 4 | 76 | 24 | 43 | 57 | 86 | 14 |
| 1999 | 85 | 8 | 7 | | | | 85 | 15 | 89 | 11 | 70 | 24 | 6 | 78 | 22 | 53 | 47 | 82 | 18 |
| 2000 | 84 | 11 | 5 | | | | 84 | 16 | 87 | 13 | 77 | 17 | 6 | 68 | 32 | 57 | 43 | 80 | 20 |
| 2001 | 82 | 16 | 2 | 74 ^c | 26 ^c | | 86 | 14 | 80 | 20 | 77 | 18 | 5 | | | 66 | 34 | 80 | 20 |
| 2002 | | | | 64 ^c | 36 ^c | | 85 | 15 | 88 | 12 | 77 | 22 | 1 | 67 | 33 | 62 | 38 | 79 | 21 |
| 2003 | 91 | 9 | 0 | 65 ^c | 35 ^c | | 81 | 19 | 89 | 11 | 83 | 15 | 2 | | | 63 | 37 | 79 | 21 |
| 2004 | 79 | 11 | 10 | 88 | 12 | | 86 | 14 | 88 | 12 | 84 | 15 | 1 | | | 55 | 45 | 79 | 21 |
| 2005 | | | | 81 | 19 | | 82 | 18 | 87 | 13 | 84 | 14 | 2 | | | 56 | 44 | 66 | 34 |
| 2006 | 86 | 8 | 5 | 81 | 19 | | 84 | 16 | 88 | 12 | 87 | 11 | 2 | | | 53 | 47 | 85 | 15 |
| 20-Year Ave. | 85 | 13 | 5 | 76 | 25 | | 88 | 12 | 89 | 11 | 75 | 24 | 3 | 72 | 28 | 57 | 44 | 84 | 16 |
| 1987-1996 Ave. | 87 | 13 | | | | | 91 | 9 | 92 | 9 | 71 | 29 | | | | 59 | 42 | 87 | 13 |
| 1997-2006 Ave. | 83 | 12 | 5 | 76 | 25 | | 85 | 15 | 87 | 13 | 78 | 19 | 3 | 72 | 28 | 55 | 46 | 80 | 20 |
| 2007 | 82 | 12 | 6 | 80 | 12 | | 84 | 16 | 92 | 8 | 80 | 17 | 3 | | | 59 | 41 | 81 | 19 |
| Allocation ^d | 84 | 8 | 8 | 84 | 16 | | 86 | 14 | 90 | 10 | 74 | 20 | 6 | 74 | 26 | n.a. | n.a. | n.a. | n.a. |

^a NRSHA allocation plan enacted in December 2003.

^b Wood River Special Harvest Area (WRSHA), Nushagak District.

^c Naknek River Special Harvest Area (NRSHA) prior to allocation plan, fishing periods were alternated between gear types.

^d BOF enacted allocation plan in 1998, reviewed in December 2003. Historical data prior to 1998 is based on post-season numbers. Inseason numbers are presented for 1998-present, as they were used to make management decisions regarding allocation.

Appendix A10.–Sockeye salmon escapement by district, in numbers of fish, Bristol Bay, 1987–2007.

| Year | Naknek- | | | | | Total |
|----------------|-------------------------|---------------------|----------------------|------------------------|----------------------|------------|
| | Kvichak ^a | Egegik ^b | Ugashik ^c | Nushagak ^d | Togiak ^e | |
| 1987 | 7,281,896 | 1,273,553 | 686,894 | 1,895,961 | 316,076 | 11,454,380 |
| 1988 | 5,297,708 | 1,599,161 | 654,412 | 1,524,704 | 340,712 | 9,416,697 |
| 1989 | 9,676,244 | 1,611,566 | 1,713,281 | 2,189,501 | 125,080 | 15,315,672 |
| 1990 | 9,231,358 | 2,191,582 | 749,478 | 2,144,444 | 278,202 | 14,595,064 |
| 1991 | 8,078,885 | 2,786,925 | 2,482,001 | 2,419,488 | 320,713 | 16,088,012 |
| 1992 | 6,557,157 | 1,945,632 | 2,194,927 | 2,286,278 | 266,956 | 13,250,950 |
| 1993 | 5,908,799 | 1,517,000 | 1,413,454 | 2,296,789 | 242,475 | 11,378,517 |
| 1994 | 9,571,245 | 1,894,977 | 1,095,068 | 2,449,616 | 233,632 | 15,244,538 |
| 1995 | 11,365,573 | 1,282,508 | 1,321,108 | 2,254,231 | 240,266 | 16,463,686 |
| 1996 | 2,835,426 | 1,075,596 | 692,167 | 2,553,995 ^f | 212,524 | 7,369,708 |
| 1997 | 2,747,511 | 1,104,004 | 656,641 | 2,021,529 | 171,373 | 6,701,058 |
| 1998 | 3,750,246 | 1,110,932 | 924,853 | 2,441,666 | 214,626 | 8,442,323 |
| 1999 | 8,303,878 | 1,727,772 | 1,662,042 | 2,269,861 ^f | 231,196 | 14,194,749 |
| 2000 | 3,654,568 | 1,032,138 | 638,420 | 2,116,842 | 390,080 ^f | 7,832,048 |
| 2001 | 3,194,708 | 968,872 | 866,368 | 2,679,432 ^f | 338,616 ^g | 9,016,868 |
| 2002 | 2,303,463 | 1,036,092 | 905,584 | 1,722,519 ^f | 199,507 | 6,167,165 |
| 2003 | 5,627,974 ^h | 1,152,120 | 790,202 | 2,241,556 ^f | 261,851 ^g | 10,073,703 |
| 2004 | 12,836,100 ^h | 1,290,144 | 815,104 | 2,144,690 ^f | 154,681 ^g | 17,240,719 |
| 2005 | 9,283,980 ^h | 1,621,734 | 799,612 | 2,958,527 ^f | 155,778 ^g | 14,819,631 |
| 2006 | 6,795,420 ^h | 1,465,158 | 1,003,158 | 4,861,780 ^f | 312,126 ^g | 14,437,642 |
| 20-Year Ave. | 6,715,107 | 1,484,373 | 1,103,239 | 2,373,670 | 250,324 | 11,975,157 |
| 1985-1994 Ave. | 7,580,429 | 1,717,850 | 1,300,279 | 2,201,501 | 257,664 | 13,057,722 |
| 1995-2004 Ave. | 5,849,785 | 1,250,897 | 906,198 | 2,545,840 | 242,983 | 10,892,591 |
| 2007 | 8,221,926 ^h | 1,432,500 | 2,599,186 | 2,461,579 ^f | 269,646 ^g | 14,984,837 |

^a Includes counts from Kvichak tower, Alagnak aerial survey and Naknek tower.

^b Includes Egegik River. May include King Salmon River and Shosky Creek; see table 14 for specific counts.

^c Includes Ugashik River. Also includes Mother Goose River and Dog Salmon River system in 1984-2004.

^d Includes Wood, Igushik, Nuyakuk, Nushagak-Mulchatna and Snake Rivers.

^e Includes Togiak River, Lake tributaries, Kulukak system and other miscellaneous river systems.

^f Snake River not surveyed.

^g Only partial and/ or late survey of Togiak streams in 2001, 2003-2007.

^h Alagnak tower count.

Appendix A11.—Inshore commercial catch and escapement of sockeye salmon in the Naknek-Kvichak District by river system, in numbers of fish, Bristol Bay, 1987–2007.

| Year | Catch | Escapement | | | Total | Total Run |
|----------------|------------|----------------------|------------------------|---------------------|------------|------------|
| | | Kvichak ^a | Alagnak ^b | Naknek ^a | | |
| 1987 | 4,986,002 | 6,065,880 | 154,210 | 1,061,806 | 7,281,896 | 12,267,898 |
| 1988 | 3,480,836 | 4,065,216 | 194,630 | 1,037,862 | 5,297,708 | 8,778,544 |
| 1989 | 13,809,956 | 8,317,500 | 196,760 | 1,161,984 | 9,676,244 | 23,486,200 |
| 1990 | 17,272,224 | 6,970,020 | 168,760 | 2,092,578 | 9,231,358 | 26,503,582 |
| 1991 | 10,475,206 | 4,222,788 | 277,589 | 3,578,508 | 8,078,885 | 18,554,091 |
| 1992 | 9,395,948 | 4,725,864 | 224,643 | 1,606,650 | 6,557,157 | 15,953,105 |
| 1993 | 8,907,876 | 4,025,166 | 347,975 | 1,535,658 | 5,908,799 | 14,816,675 |
| 1994 | 16,327,858 | 8,337,840 | 242,595 | 990,810 | 9,571,245 | 25,899,103 |
| 1995 | 20,279,581 | 10,038,720 | 215,713 | 1,111,140 | 11,365,573 | 31,645,154 |
| 1996 | 8,211,983 | 1,450,578 | 306,750 | 1,078,098 | 2,835,426 | 11,047,409 |
| 1997 | 589,311 | 1,503,732 | 218,115 | 1,025,664 | 2,747,511 | 3,336,822 |
| 1998 | 2,595,439 | 2,296,074 | 252,200 | 1,202,172 | 3,750,446 | 6,345,885 |
| 1999 | 9,452,972 | 6,196,914 | 481,600 | 1,625,364 | 8,303,878 | 17,756,850 |
| 2000 | 4,727,061 | 1,827,780 | 451,300 | 1,375,488 | 3,654,568 | 8,381,629 |
| 2001 | 5,280,538 | 1,095,348 | 267,000 | 1,830,360 | 3,192,708 | 8,473,246 |
| 2002 | 1,418,938 | 703,884 | 335,661 | 1,263,918 | 2,303,463 | 3,722,401 |
| 2003 | 3,348,453 | 1,686,804 | 3,676,146 ^a | 1,831,170 | 7,194,120 | 10,542,573 |
| 2004 | 4,715,070 | 5,500,134 | 5,396,592 ^a | 1,939,374 | 12,836,100 | 17,551,170 |
| 2005 | 6,706,386 | 2,320,422 | 4,219,026 ^a | 2,744,622 | 9,284,070 | 15,990,456 |
| 2006 | 7,153,750 | 3,068,226 | 1,773,966 ^a | 1,953,228 | 6,795,420 | 13,949,170 |
| 20 Year Ave. | 7,956,769 | 4,220,945 | | 1,602,323 | 6,793,329 | 14,750,098 |
| 1987-1996 Ave. | 11,314,747 | 5,821,957 | | 1,525,509 | 7,580,429 | 18,895,176 |
| 1997-2006 Ave. | 4,598,792 | 2,619,932 | | 1,679,136 | 6,006,228 | 10,605,020 |
| 2007 | 9,021,738 | 2,810,208 | 2,466,414 ^a | 2,945,304 | 8,221,926 | 17,243,664 |

^a Tower count.

^b Aerial survey estimates.

Appendix A12.—Inshore sockeye salmon total run by river system Naknek-Kvichak District, in thousands of fish, Bristol Bay, 1987–2007.

| Year | Kvichak | | Alagnak | | Naknek | | Total Run ^a |
|----------------|---------|------|---------|----------------|--------|----|------------------------|
| | Number | % | Number | % | Number | % | |
| 1987 | 9,593 | 78.2 | 297 | 2 ^b | 2,378 | 19 | 12,268 |
| 1988 | 6,720 | 76.5 | 320 | 4 ^b | 1,739 | 20 | 8,779 |
| 1989 | 19,774 | 84.2 | 534 | 2 ^b | 3,179 | 14 | 23,487 |
| 1990 | 17,521 | 66 | 555 | 2 ^b | 8,427 | 32 | 26,503 |
| 1991 | 8,032 | 43 | 604 | 3 ^b | 9,918 | 53 | 18,554 |
| 1992 | 10,445 | 65 | 487 | 3 ^b | 5,021 | 31 | 15,953 |
| 1993 | 9,313 | 63 | 817 | 6 ^b | 4,687 | 32 | 14,817 |
| 1994 | 22,232 | 86 | 634 | 2 ^b | 3,033 | 12 | 25,899 |
| 1995 | 27,431 | 87 | 651 | 2 ^b | 3,564 | 11 | 31,646 |
| 1996 | 3,458 | 31 | 706 | 6 ^b | 6,860 | 62 | 11,024 |
| 1997 | 1,683 | 50 | 244 | 7 ^b | 1,409 | 42 | 3,336 |
| 1998 | 3,412 | 54 | 388 | 6 ^b | 2,546 | 40 | 6,346 |
| 1999 | 12,947 | 73 | 1,070 | 6 ^b | 3,740 | 21 | 17,757 |
| 2000 | 2,862 | 34 | 731 | 9 ^b | 4,789 | 57 | 8,382 |
| 2001 | 1,426 | 17 | 409 | 5 ^b | 6,639 | 78 | 8,474 |
| 2002 | 704 | 19 | 336 | 9 ^b | 2,671 | 72 | 3,711 |
| 2003 | 1,721 | 19 | 2,110 | 24 | 5,096 | 57 | 8,927 |
| 2004 | 7,332 | 42 | 6,510 | 37 | 3,721 | 21 | 17,563 |
| 2005 | 2,951 | 18 | 5,436 | 33 | 8,005 | 49 | 16,392 |
| 2006 | 5,804 | 42 | 2,854 | 20 | 5,292 | 38 | 13,950 |
| 20 Year Ave. | 8,768 | 52 | 1,285 | 9 | 4,636 | 38 | 14,688 |
| 1987-1996 Ave. | 13,452 | 68 | 561 | 3 | 4,881 | 29 | 18,893 |
| 1997-2006 Ave. | 4,084 | 37 | 2,009 | 16 | 4,391 | 48 | 10,484 |
| 2007 | 4,281 | 25 | 4,323 | 25 | 8,640 | 50 | 17,244 |

^a Total run is based on aerial survey estimate, not tower counts.

^b Due to rounding of river system total runs, district total run may not equal the sum of the rows.

Appendix A13.—Inshore commercial catch and escapement of sockeye salmon in the Egegik District by river system, 1987–2007.

| Year | Catch | Escapement | | | Total Run |
|----------------|------------|---------------------|-------------------------|--------------------------------|------------|
| | | Egegik ^a | Shosky Cr. ^b | King Salmon River ^b | |
| 1987 | 5,356,669 | 1,272,978 | | 575 | 6,630,222 |
| 1988 | 6,456,598 | 1,599,096 | 65 | | 8,055,759 |
| 1989 | 8,901,994 | 1,610,916 | 50 | 600 | 10,513,560 |
| 1990 | 10,371,762 | 2,191,362 | | 220 | 12,563,344 |
| 1991 | 6,797,166 | 2,786,880 | | 45 | 9,584,091 |
| 1992 | 15,646,575 | 1,945,332 | | 300 | 17,592,207 |
| 1993 | 21,600,858 | 1,516,980 | 20 | | 23,117,858 |
| 1994 | 10,750,213 | 1,894,932 | 15 | 30 | 12,645,190 |
| 1995 | 14,425,979 | 1,281,678 | | 830 | 15,708,487 |
| 1996 | 10,809,115 | 1,075,596 | | | 11,884,711 |
| 1997 | 7,517,389 | 1,103,964 | | 40 | 8,621,393 |
| 1998 | 3,528,845 | 1,110,882 | | 50 | 4,639,777 |
| 1999 | 7,388,080 | 1,727,772 | | 625 | 9,116,477 |
| 2000 | 7,050,899 | 1,032,138 | | | 8,083,037 |
| 2001 | 2,872,662 | 968,862 | 10 | | 3,841,534 |
| 2002 | 4,610,374 | 1,036,092 | | | 5,646,466 |
| 2003 | 2,291,502 | 1,152,030 | | 90 | 3,443,622 |
| 2004 | 10,209,227 | 1,290,144 | | | 11,499,371 |
| 2005 | 8,015,950 | 1,621,584 | 0 | | 9,625,584 |
| 2006 | 7,408,983 | 1,465,128 | 0 | | 8,874,111 |
| 20-Year Ave. | 8,600,542 | 1,484,217 | 23 | 310 | 10,084,340 |
| 1987-1996 Ave. | 11,111,693 | 1,717,575 | 38 | 371 | 12,829,543 |
| 1997-2006 Ave. | 6,089,391 | 1,250,860 | 3 | 201 | 7,339,137 |
| 2007 | 6,493,655 | 1,432,500 | 0 | 1,500 | 7,927,655 |

Note: Blank cells represent no data.

^a Tower count.

^b Aerial survey index count.

Appendix A14.—Inshore commercial catch and escapement of sockeye salmon in the Ugashik District, by river system, 1987–2007.

| Year | Catch | Escapement | | | Total Run |
|----------------|-----------|-------------------------------|-----------------------------------|----------------------------------|-----------|
| | | Ugashik ^a River | King Salmon ^b River | Dog Salmon ^b River | |
| 1987 | 2,128,652 | 668,964 | 15,855 | 2,075 | 2,815,546 |
| 1988 | 1,523,520 | 642,972 | 8,360 | 3,080 | 2,177,932 |
| 1989 | 3,146,239 | 1,681,296 | 25,480 | 6,505 | 4,859,520 |
| 1990 | 2,149,009 | 730,038 | 11,340 | 8,100 | 2,898,487 |
| 1991 | 2,945,742 | 2,457,306 | 12,195 | 12,500 | 5,427,743 |
| 1992 | 3,320,966 | 2,173,692 | 13,425 | 7,810 | 5,515,893 |
| 1993 | 4,176,900 | 1,389,534 | 22,570 | 1,350 | 5,590,354 |
| 1994 | 4,352,797 | 1,080,858 | 8,885 | 5,325 | 5,447,865 |
| 1995 | 4,509,446 | 1,304,058 | 7,650 | 9,400 | 5,830,554 |
| 1996 | 4,411,055 | 667,518 | 7,230 | 17,419 | 5,103,222 |
| 1997 | 1,402,690 | 618,396 | 27,645 | 10,600 | 2,059,331 |
| 1998 | 730,274 | 890,508 | 27,425 | 6,920 | 1,655,127 |
| 1999 | 2,256,007 | 1,651,572 | 6,350 | 4,120 | 3,918,049 |
| 2000 | 1,538,790 | 620,040 | 12,900 | 5,480 | 2,177,210 |
| 2001 | 480,509 | 833,628 | 22,940 | 9,800 | 1,346,877 |
| 2002 | 1,573,234 | 892,104 | 11,460 | 2,020 | 2,478,818 |
| 2003 | 1,748,934 | 758,532 | 27,620 | 4,000 | 2,539,086 |
| 2004 | 3,139,229 | 776,364 | 22,850 | 15,890 | 3,954,333 |
| 2005 | 2,216,635 | 779,172 | 0 ^c | 20,440 | 3,001,814 |
| 2006 | 2,429,637 | 978,718 | 0 ^c | 24,440 | 3,432,795 |
| 20-Year Ave. | 2,509,013 | 1,079,764 | 14,609 | 8,864 | 3,611,528 |
| 1987-1996 Ave. | 3,266,433 | 1,279,624 | 13,299 | 7,356 | 4,566,712 |
| 1997-2006 Ave. | 1,751,594 | 879,903 | 15,919 | 10,371 | 2,656,344 |
| 2007 | 5,007,186 | 2,523,686 ^d | 5,420 ^c | 70,020 | 7,606,312 |

^a Tower count.

^b Aerial survey.

^c King Salmon system still impacted by Mt. Chiginigak-see text for explanation.

^d Includes 50,000 sockeyes at Lower Ugashik Lake outlet from post season aerial survey.

Appendix A15.—Inshore commercial catch and escapement of sockeye salmon in the Nushagak District by river system, in numbers of fish, Bristol Bay, 1987–2007.

| Year | Catch | Escapement | | | | | | | Total | Total Run |
|----------------|------------|-------------------|----------------------|----------------------|-----------------------|-----------------------|--------------------|-----------|------------|-----------|
| | | Wood ^a | Igushik ^a | Nuyakuk ^a | Nush/Mul ^b | Nushagak ^c | Snake ^d | | | |
| 1987 | 3,254,720 | 1,337,172 | 169,236 | 163,000 | 225,034 | 388,034 | 1,520 | 1,895,962 | 5,150,682 | |
| 1988 | 1,706,716 | 866,778 | 170,454 | 319,992 | 163,208 | 483,200 | 4,320 | 1,524,752 | 3,231,468 | |
| 1989 | 2,788,185 | 1,186,410 | 461,610 | | | 513,421 | 28,060 | 2,189,501 | 4,977,686 | |
| 1990 | 3,532,543 | 1,069,440 | 365,802 | | | 680,368 | 28,840 | 2,144,450 | 5,676,993 | |
| 1991 | 5,053,845 | 1,159,920 | 756,126 | | | 492,522 | 10,920 | 2,419,488 | 7,473,333 | |
| 1992 | 2,789,741 | 1,286,250 | 304,920 | | | 695,108 | | 2,286,278 | 5,076,019 | |
| 1993 | 5,236,557 | 1,176,126 | 405,564 | | | 715,099 | | 2,296,789 | 7,533,346 | |
| 1994 | 3,393,143 | 1,471,890 | 445,920 | | | 509,326 | 22,480 | 2,449,616 | 5,842,759 | |
| 1995 | 4,445,883 | 1,482,162 | 473,382 | 69,702 | 211,605 | 281,307 | 17,380 | 2,254,231 | 6,700,114 | |
| 1996 | 5,693,523 | 1,649,598 | 400,746 | 250,692 | 252,959 | 503,651 | | 2,553,995 | 8,247,518 | |
| 1997 | 2,506,818 | 1,512,396 | 127,704 | 272,982 | 100,053 | 373,035 | 8,394 | 2,021,529 | 4,528,347 | |
| 1998 | 2,990,597 | 1,755,768 | 215,904 | 146,250 | 312,624 | 458,874 | 11,120 | 2,441,666 | 5,432,263 | |
| 1999 | 6,175,419 | 1,512,426 | 445,536 | 81,006 | 230,893 | 311,899 | ^e | 2,269,861 | 8,445,280 | |
| 2000 | 6,367,208 | 1,300,026 | 413,316 | 129,468 | 274,032 | 403,500 | ^e | 2,116,842 | 8,484,050 | |
| 2001 | 4,734,800 | 1,458,732 | 409,596 | 184,044 | 627,060 | 811,104 | ^e | 2,679,432 | 7,414,232 | |
| 2002 | 2,840,031 | 1,283,682 | 123,156 | 68,928 | 246,753 | 315,681 | ^e | 1,722,519 | 4,562,550 | |
| 2003 | 6,665,918 | 1,459,782 | 194,088 | 116,646 | 463,888 | 580,534 | ^e | 2,234,404 | 8,900,322 | |
| 2004 | 6,104,048 | 1,543,342 | 109,650 | 77,406 | 414,292 | 491,698 | ^e | 2,144,690 | 8,248,738 | |
| 2005 | 7,132,342 | 1,496,550 | 365,709 | 251,016 | 845,252 | 1,096,268 | ^e | 2,958,527 | 10,090,869 | |
| 2006 | 10,876,552 | 4,008,102 | 305,268 | 170,760 | 377,650 | 548,410 | ^e | 4,861,780 | 15,738,332 | |
| 20-year Ave. | 4,714,429 | 1,500,828 | 333,184 | 164,421 | 338,950 | 532,652 | 14,782 | 2,373,316 | 7,087,745 | |
| 1987-1996 Ave. | 3,789,486 | 1,268,575 | 395,376 | 200,847 | 213,202 | 526,204 | 16,217 | 2,201,506 | 5,990,992 | |
| 1997-2006 Ave. | 5,639,373 | 1,733,081 | 270,993 | 149,851 | 389,250 | 539,100 | 9,757 | 2,545,125 | 8,184,498 | |
| 2007 | 8,142,604 | 1,528,086 | 415,452 | | ^f | 518,041 | ^e | 2,461,579 | 10,604,183 | |

Note: Blank cells represent no data.

^a Tower count.

^b Escapement estimates for 1987-88, and 1995-2005, were derived from the difference between lower river sonar estimates and Nuyakuk Tower counts. In 1987, the counting tower was terminated early due to high water. Tower estimate was expanded using aerial survey data.

^c Total escapements from 1989 on are determined for the entire Nushagak River drainage using Portage Creek sonar estimates.

^d Aerial survey estimate 1985-1991, 1994-1995 and 1997; weir count not surveyed in 1992, 1993 or 1996 due to lack of funding.

^e Snake River escapement is not included this year because staff was unable to conduct aerial surveys.

^f The Nuyakuk tower project has been discontinued. There is no longer a breakout For Nuyakuk or Nushagak/Mulchatna.

Appendix A16.—Inshore sockeye salmon total run by river system, in thousands of fish, Nushagak District, 1987–2007.

| Year | Wood | | Igushik | | Nushagak | | | | | | | | Total Run ^c | | |
|----------------|-----------|----|-----------|----|----------------------------------|----|----------|----|----------|-----------|--------|--------------------|------------------------|--------|--------|
| | Total Run | | Total Run | | Nushagak Escapement ^a | | | | Catch | Total Run | | Snake ^b | | | |
| | Number | % | Number | % | Nuyakuk | | Nush-Mul | | Sonar | Total | Number | % | | Number | % |
| | | | | | Number | % | Number | % | Estimate | | | | | | |
| 1987 | 2,828 | 55 | 617 | 12 | 163 | 42 | 225 | 58 | 388 | 1,317 | 1,705 | 33 | 2 | 0 | 5,152 |
| 1988 | 1,749 | 54 | 406 | 13 | 320 | 66 | 163 | 34 | 483 | 590 | 1,073 | 33 | 4 | 0 | 3,232 |
| 1989 | 2,519 | 51 | 1,214 | 24 | | | | | 513 | 704 | 1,217 | 24 | 28 | 1 | 4,978 |
| 1990 | 2,610 | 46 | 1,280 | 23 | | | | | 680 | 1,077 | 1,757 | 31 | 29 | 1 | 5,676 |
| 1991 | 3,303 | 44 | 2,424 | 32 | | | | | 493 | 1,243 | 1,736 | 23 | 11 | 0 | 7,474 |
| 1992 | 2,481 | 49 | 794 | 16 | | | | | 695 | 1,107 | 1,802 | 35 | | | 5,077 |
| 1993 | 3,725 | 49 | 1,580 | 21 | | | | | 715 | 1,513 | 2,228 | 30 | | | 7,533 |
| 1994 | 2,957 | 51 | 1,300 | 22 | | | | | 509 | 1,034 | 1,543 | 26 | 42 | 1 | 5,842 |
| 1995 | 4,022 | 60 | 1,902 | 28 | 70 | 25 | 211 | 75 | 281 | 475 | 756 | 11 | 20 | 0 | 6,700 |
| 1996 | 5,007 | 61 | 1,481 | 18 | 251 | 50 | 253 | 50 | 504 | 1,256 | 1,760 | 21 | | | 8,248 |
| 1997 | 3,365 | 74 | 291 | 6 | 273 | 73 | 100 | 27 | 373 | 491 | 864 | 19 | 8 | 0 | 4,528 |
| 1998 | 3,901 | 72 | 571 | 11 | 146 | 32 | 313 | 68 | 459 | 490 | 949 | 17 | 11 | 0 | 5,432 |
| 1999 | 5,930 | 70 | 1,563 | 19 | 81 | 26 | 231 | 74 | 312 | 640 | 952 | 11 | | | 8,445 |
| 2000 | 5,278 | 62 | 1,748 | 21 | 129 | 32 | 275 | 68 | 404 | 1,054 | 1,458 | 17 | | | 8,484 |
| 2001 | 3,987 | 54 | 1,315 | 18 | 184 | 23 | 627 | 77 | 811 | 1,301 | 2,112 | 28 | | | 7,414 |
| 2002 | 3,715 | 81 | 207 | 5 | 69 | 22 | 247 | 78 | 316 | 325 | 641 | 14 | | | 4,563 |
| 2003 | 5,647 | 63 | 1,018 | 11 | 117 | 20 | 464 | 80 | 581 | 1,655 | 2,236 | 25 | | | 8,901 |
| 2004 | 5,375 | 65 | 564 | 7 | 77 | 16 | 415 | 84 | 492 | 1,801 | 2,293 | 28 | | | 8,232 |
| 2005 | 4,771 | 47 | 1,878 | 19 | 251 | 23 | 845 | 77 | 1096 | 2,346 | 3,442 | 34 | | | 10,091 |
| 2006 | 11,064 | 70 | 1,435 | 9 | 171 | 31 | 377 | 69 | 548 | 2,690 | 3,238 | 21 | | | 15,737 |
| 20-Year Ave. | 4,212 | 59 | 1,179 | 17 | 164 | 34 | 339 | 66 | 533 | 1,155 | 1,688 | 24 | 17 | 0 | 7,087 |
| 1987-1996 Ave. | 3,120 | 52 | 1,300 | 21 | 201 | 46 | 213 | 54 | 526 | 1,032 | 1,558 | 27 | 19 | 0 | 5,991 |
| 1997-2006 Ave. | 5,303 | 66 | 1,059 | 12 | 150 | 30 | 389 | 70 | 539 | 1,279 | 1,819 | 22 | 10 | 0 | 8,183 |
| 2007 | 6,364 | 60 | 1,721 | 16 | | | | | 518 | 2,002 | 2,520 | 24 | | | 10,605 |

Note: Blank cells represent no data.

^a Escapement percentages represent the portion of sonar escapement that is accounted for in the Nuyakuk or Nushagak-Mulchatna.

^b Snake River escapement is not included from 1999-2007 because staff was unable to conduct aerial surveys.

^c Due to rounding, the district total runs may not equal the sum of the rows. District total run is the sum of Wood, Igushik, Nushagak, and Snake total run numbers.

Appendix A17.—Inshore commercial catch and escapement of sockeye salmon in the Togiak District by river system, in numbers of fish, Bristol Bay, 1987–2007.

| Year | Catch | | | | Escapement | | | | | | |
|---------------------|---------|---------|--------|---------|------------|--------------------|--------------------------|----------------------|--------------------|---------|-----------|
| | Togiak | Kulukak | Os/Mat | Total | Togiak | | | Kulukak ^c | Other ^d | Total | Total Run |
| | | | | | Lake | River ^a | Tributaries ^b | | | | |
| 1987 | 274,613 | 45,401 | 22,718 | 342,732 | 249,676 | 10,400 | 18,200 | 37,800 | | 316,076 | 658,808 |
| 1988 | 673,408 | 143,112 | 5,567 | 822,087 | 276,612 | 18,800 | 13,600 | 31,700 | | 340,712 | 1,162,799 |
| 1989 | 68,375 | 14,116 | 6,441 | 88,932 | 84,480 | 15,200 | 4,560 | 20,840 | | 125,080 | 214,012 |
| 1990 | 168,688 | 27,311 | 1,590 | 197,589 | 141,977 | 17,540 | 29,605 | 49,600 | 39,480 | 278,202 | 475,791 |
| 1991 | 522,090 | 33,425 | 6,437 | 549,221 | 254,683 | 15,980 | 7,740 | 23,940 | 18,370 | 320,713 | 869,934 |
| 1992 | 610,575 | 108,358 | 7,513 | 726,446 | 199,056 | 6,060 | 10,400 | 26,440 | 25,000 | 266,956 | 993,402 |
| 1993 | 475,799 | 58,616 | 5,518 | 539,933 | 177,185 | 4,600 | 11,330 | 31,800 | 17,560 | 242,475 | 782,408 |
| 1994 | 321,121 | 76,781 | 2,137 | 400,039 | 154,752 | 6,200 | 13,220 | 29,740 | 29,720 | 233,632 | 633,671 |
| 1995 | 527,143 | 76,056 | 2,129 | 605,328 | 185,718 | 6,520 | 18,988 | 14,620 | 14,420 | 240,266 | 845,594 |
| 1996 | 381,539 | 76,833 | 1,691 | 460,063 | 156,954 | 18,320 | 11,900 | 18,980 | 6,370 | 212,524 | 672,587 |
| 1997 | 91,639 | 47,979 | 2,951 | 142,569 | 131,682 | 12,300 | 8,325 | 7,950 | 11,116 | 171,373 | 313,942 |
| 1998 | 112,993 | 75,279 | 2,155 | 190,427 | 153,576 | 9,780 | 12,120 | 12,950 | 26,200 | 214,626 | 405,053 |
| 1999 | 346,749 | 38,662 | 0 | 385,411 | 155,898 | 10,800 | 29,438 | 12,300 | 22,760 | 231,196 | 616,607 |
| 2000 | 727,384 | 67,612 | 0 | 794,996 | 311,970 | 25,200 | 15,075 | 22,350 | 15,485 | 390,080 | 1,185,076 |
| 2001 ^e | 798,426 | 9,762 | 1,908 | 810,096 | 296,676 | 6,520 | 150 | 17,280 | 17,990 | 338,616 | 1,148,712 |
| 2002 | 214,094 | 19,112 | 537 | 233,743 | 162,402 | 4,100 | 12,075 | 8,500 | 12,430 | 199,507 | 433,250 |
| 2003 | 650,066 | 55,081 | 861 | 706,008 | 232,302 | | | 8,004 | 21,545 | 261,851 | 967,859 |
| 2004 ^{e,f} | 357,354 | 80,204 | 1,095 | 438,653 | 129,462 | 6,100 | 75 | | 19,044 | 154,681 | 593,334 |
| 2005 ^f | 411,320 | 53,774 | 0 | 465,094 | 149,178 | 5,580 | 1,020 | | 3,713 | 159,491 | 624,585 |
| 2006 ^f | 574,629 | 51,603 | 0 | 626,442 | 312,126 | | | | | 312,126 | 938,568 |
| 20-Year Ave. | 415,400 | 57,954 | 3,562 | 476,290 | 195,818 | 11,111 | 12,101 | 22,047 | 18,825 | 250,509 | 726,800 |
| 1987-1996 Ave. | 402,335 | 66,001 | 6,174 | 473,237 | 188,109 | 11,962 | 13,954 | 28,546 | 21,560 | 257,664 | 730,901 |
| 1997-2006 Ave. | 428,465 | 49,907 | 951 | 479,344 | 203,527 | 10,048 | 9,785 | 12,762 | 16,698 | 243,355 | 722,699 |
| 2007 ^f | 741,562 | 57,848 | 0 | 799,410 | 269,646 | | | | | 269,646 | 1,069,056 |

Note: Blank cells represent years of no data.

^a Aerial survey estimate.

^b Aerial survey estimate includes Gechiak, Pungokepuk, Kemuk, Nayorurun, and Ongivinuck River systems.

^c Aerial survey estimate includes Kulukak River and Lake and Tithe Creek ponds.

^d Aerial survey estimate includes Matogak, Osviak, Slug, Negukthlik, and Ungalikthluk and Quigmy Rivers.

^e Only the Ongivinuck River was surveyed for sockeye escapement in tributaries.

^f Partial survey.

Appendix A18.—Inshore total run of sockeye salmon by district, in numbers of fish, Bristol Bay, 1987–2007.

| Year | Naknek- Kvichak | Egegik | Ugashik | Nushagak | Togiak | Total |
|----------------|----------------------------|---------------|----------------|-----------------|---------------|-------------------------|
| 1987 | 12,267,898 | 6,630,222 | 2,815,546 | 5,150,681 | 658,808 | 27,523,155 |
| 1988 | 8,778,544 | 8,055,759 | 2,177,932 | 3,231,420 | 1,162,799 | 23,406,454 |
| 1989 | 23,486,200 | 10,513,560 | 4,859,520 | 4,977,686 | 214,012 | 44,050,978 |
| 1990 | 26,503,582 | 12,563,344 | 2,898,487 | 5,676,987 | 475,791 | 48,118,191 |
| 1991 | 18,554,091 | 9,584,091 | 5,427,743 | 7,473,333 | 869,934 | 41,909,192 |
| 1992 | 15,953,105 | 17,592,207 | 5,515,893 | 5,076,019 | 993,402 | 45,130,626 |
| 1993 | 14,816,675 | 23,117,858 | 5,590,354 | 7,533,346 | 782,408 | 51,840,641 |
| 1994 | 25,899,103 | 12,645,190 | 5,447,865 | 5,842,759 | 633,671 | 50,468,588 |
| 1995 | 31,645,154 | 15,708,487 | 5,830,554 | 6,700,114 | 845,594 | 60,729,903 |
| 1996 | 11,047,409 | 11,884,711 | 5,103,222 | 8,247,518 | 672,587 | 36,955,447 |
| 1997 | 3,336,822 | 8,621,393 | 2,059,331 | 4,527,953 | 313,942 | 18,859,441 |
| 1998 | 6,345,885 | 4,639,777 | 1,655,127 | 5,432,143 | 405,053 | 18,477,985 |
| 1999 | 17,738,850 | 9,116,477 | 3,918,049 | 8,445,280 | 616,607 | 39,835,263 |
| 2000 | 8,381,629 | 8,083,037 | 2,177,210 | 8,484,050 | 1,185,076 | 28,311,002 |
| 2001 | 8,473,246 | 3,841,534 | 1,346,877 | 7,414,232 | 1,148,712 | 22,224,601 |
| 2002 | 3,722,401 | 5,646,466 | 2,478,818 | 4,562,550 | 433,250 | 16,843,485 |
| 2003 | 8,976,427 | 3,443,622 | 2,539,136 | 8,900,322 | 967,859 | 24,827,366 |
| 2004 | 15,066,178 | 11,499,371 | 3,954,333 | 8,248,738 | 591,915 | 41,017,529 ^a |
| 2005 | 15,984,566 | 9,625,859 | 3,001,814 | 10,090,869 | 622,965 | 39,326,073 |
| 2006 | 13,945,960 | 8,873,391 | 3,432,755 | 15,738,137 | 886,755 | 42,876,998 |
| 20-Year Ave. | 14,546,186 | 10,084,318 | 3,611,528 | 7,087,707 | 724,057 | 35,879,757 |
| 1987-1996 Ave. | 18,895,176 | 12,829,543 | 4,566,712 | 5,990,986 | 730,901 | 43,013,318 |
| 1997-2006 Ave. | 10,197,196 | 7,339,093 | 2,656,345 | 8,184,427 | 717,213 | 27,953,579 |
| 2007 | 17,243,664 | 7,926,155 | 7,606,758 | 10,604,183 | 1,069,056 | 44,449,816 |

^a Total includes General District catch.

Appendix A19.—Chinook salmon harvest, escapement and total runs in the Nushagak District, in numbers of fish, Bristol Bay, 1987–2007.

| Year | Harvests by Fishery | | | Total | Inriver | Spawning | Total Run |
|----------------|---------------------|--------------------|---------------------|---------|------------------------|-------------------------|-----------|
| | Commercial | Sport | Subsistence | | Abundance ^a | Escapement ^b | |
| 1987 | 45,983 | 4,425 | 12,200 | 62,608 | 84,309 | 75,924 | 138,532 |
| 1988 | 16,648 | 2,818 | 10,079 | 29,545 | 56,905 | 50,945 | 80,490 |
| 1989 | 17,637 | 3,614 | 8,122 | 29,373 | 78,302 | 72,600 | 101,973 |
| 1990 | 14,812 | 3,486 | 12,407 | 30,705 | 63,955 | 55,931 | 86,636 |
| 1991 | 19,718 | 5,551 | 13,627 | 38,896 | 104,351 | 94,733 | 133,629 |
| 1992 | 47,563 | 4,755 | 13,588 | 65,906 | 82,848 | 74,094 | 140,000 |
| 1993 | 62,976 | 5,900 | 17,709 | 86,585 | 97,812 | 86,705 | 173,290 |
| 1994 | 119,480 | 10,627 | 15,490 | 145,597 | 95,954 | 83,102 | 228,699 |
| 1995 | 79,943 | 4,951 | 13,701 | 98,595 | 85,622 | 77,018 | 175,613 |
| 1996 | 72,011 | 5,391 | 15,941 | 93,343 | 52,127 | 42,227 | 135,570 |
| 1997 | 64,156 | 3,497 | 15,318 | 82,971 | | 82,000 | 164,971 |
| 1998 | 117,079 | 5,827 | 12,258 | 135,164 | 117,495 | 108,037 | 243,201 |
| 1999 | 10,893 | 4,237 | 10,057 | 25,187 | 62,331 | 54,703 | 79,890 |
| 2000 | 12,055 | 6,017 | 9,470 | 27,542 | 56,374 | 47,674 | 75,216 |
| 2001 | 11,568 | 5,899 | 26,939 | 44,406 | 99,155 | 83,272 | 127,678 |
| 2002 | 39,473 | 3,693 | 11,281 | 54,447 | 87,141 | 79,790 | 134,237 |
| 2003 | 42,615 | 5,590 | 18,686 | 66,891 | 80,028 | 68,606 | 135,497 |
| 2004 | 100,601 | 6,813 | 15,610 | 123,024 | 116,400 | 105,442 | 228,466 |
| 2005 | 62,308 | 8,565 | 12,392 | 83,265 | 172,559 | 161,528 | 244,793 |
| 2006 | 84,881 | 7,473 | 9,971 | 102,325 | 124,683 | 116,088 | 218,413 |
| 20-Year Ave. | 52,120 | 5,456 | 13,742 | 71,319 | 90,440 | 81,021 | 152,340 |
| 1987-1996 Ave. | 49,677 | 5,152 | 13,286 | 68,115 | 80,219 | 71,328 | 139,443 |
| 1997-2006 Ave. | 54,563 | 5,761 | 14,198 | 74,522 | 101,796 | 90,714 | 165,236 |
| 2007 | 51,350 | 6,427 ^c | 13,588 ^c | 71,365 | 60,464 | 50,594 | 121,959 |

Note: Blank cells represent no data.

^a Inriver abundance estimated by sonar below the village of Portage Creek.

^b Spawning escapement estimated from the following: 1997 comprehensive aerial surveys. 1986–1996, 1998–2005 - Inriver abundance estimated by sonar minus inriver harvests.

^c Data unavailable at the time of publication. A 5-year average is reported.

Appendix A20.—Chinook salmon harvest, escapement and total runs in the Togiak District, in numbers of fish, Bristol Bay, 1987–2007.

| Year | Harvests by Fishery | | | Total | Spawning Escapement ^b | Total Run |
|----------------|---------------------|--------------------|--------------------|--------|----------------------------------|-----------|
| | Commercial | Sport ^a | Subsistence | | | |
| 1987 | 17,217 | 137 | 700 | 18,054 | 11,000 | 29,054 |
| 1988 | 15,606 | 0 | 429 | 16,035 | 10,000 | 26,035 |
| 1989 | 11,366 | 234 | 551 | 12,151 | 10,540 | 22,691 |
| 1990 | 11,130 | 172 | 480 | 11,782 | 9,107 | 20,889 |
| 1991 | 6,039 | 284 | 470 | 6,793 | 12,667 | 19,460 |
| 1992 | 12,640 | 271 | 1,361 | 14,272 | 10,413 | 24,685 |
| 1993 | 10,851 | 225 | 784 | 11,860 | 16,035 | 27,895 |
| 1994 | 10,486 | 663 | 904 | 12,053 | 19,353 | 31,406 |
| 1995 | 11,981 | 581 | 448 | 13,010 | 16,438 | 29,448 |
| 1996 | 8,602 | 790 | 471 | 9,863 | 11,476 | 21,339 |
| 1997 | 6,114 | 1,165 | 667 | 7,946 | 11,495 | 19,441 |
| 1998 | 14,131 | 763 | 782 | 15,676 | 11,666 | 27,342 |
| 1999 | 11,919 | 644 | 1,244 | 13,807 | 12,263 | 26,070 |
| 2000 | 7,858 | 470 | 1,116 | 9,444 | 16,897 | 26,341 |
| 2001 | 9,937 | 1,006 | 1,612 | 12,555 | 15,185 | 27,740 |
| 2002 | 2,801 | 76 | 703 | 3,580 | 14,265 | 17,845 |
| 2003 | 3,231 | 706 | 1,208 | 5,145 | 5,668 ^c | 10,813 |
| 2004 | 9,310 | 1,388 | 1,094 | 11,792 | 15,990 | 27,782 |
| 2005 | 10,605 | 1,734 | 1,528 | 13,867 | 13,521 | 27,388 |
| 2006 | 16,225 | 1,064 | 1,630 | 18,919 | 1,670 ^c | 20,589 |
| 20-Year Ave. | 10,402 | 619 | 909 | 11,930 | 12,282 | 24,213 |
| 1986-1995 Ave. | 11,592 | 336 | 660 | 12,587 | 12,703 | 25,290 |
| 1996-2005 Ave. | 9,213 | 902 | 1,158 | 11,273 | 11,862 | 23,135 |
| 2007 | 7,755 | 994 ^d | 1,233 ^d | 9,981 | ^c | 9,981 |

^a Sport fish harvest estimate only includes the Togiak River Section.

^b Spawning escapement estimated from comprehensive aerial surveys. Estimates for 1987–1988 are rounded to the nearest thousand fish.

^c Partial survey.

^d Estimate.

Appendix A21.—Inshore commercial catch and escapement of chum salmon in the Nushagak and Togiak Districts, in numbers of fish, 1987–2007.

| Year | Nushagak District | | | Togiak District | | |
|----------------|-------------------|-------------------------|-----------|-----------------|-------------------------|-----------|
| | Catch | Escapement ^a | Total Run | Catch | Escapement ^b | Total Run |
| 1987 | 416,476 | 147,433 | 563,909 | 419,425 | 361,000 | 780,425 |
| 1988 | 371,196 | 186,418 | 557,614 | 470,132 | 412,000 | 882,132 |
| 1989 | 523,903 | 377,512 | 901,415 | 203,178 | 143,890 | 347,068 |
| 1990 | 378,223 | 329,793 | 708,016 | 102,861 | 67,460 | 170,321 |
| 1991 | 463,780 | 287,280 | 751,060 | 246,589 | 149,210 | 395,799 |
| 1992 | 398,691 | 302,678 | 701,369 | 176,123 | 120,000 | 296,123 |
| 1993 | 505,799 | 217,230 | 723,029 | 144,869 | 98,470 | 243,339 |
| 1994 | 328,267 | 378,928 | 707,195 | 232,559 | 229,470 | 462,029 |
| 1995 | 390,158 | 212,612 | 602,770 | 221,126 | 163,040 | 384,166 |
| 1996 | 331,414 | 225,331 | 556,745 | 206,226 | 117,240 | 323,466 |
| 1997 | 185,620 | 61,456 | 247,076 | 47,459 | 106,580 | 154,039 |
| 1998 | 208,551 | 299,443 | 507,994 | 67,408 | 102,455 | 169,863 |
| 1999 | 170,795 | 242,312 | 413,107 | 111,677 | 116,183 | 227,860 |
| 2000 | 114,454 | 141,323 | 255,777 | 140,175 | 80,860 ^c | 221,035 |
| 2001 | 526,602 | 564,373 | 1,090,975 | 211,701 | 252,610 | 464,311 |
| 2002 | 276,845 | 419,969 | 696,814 | 112,987 | 154,360 | 267,347 |
| 2003 | 740,311 | 295,413 | 1,035,724 | 68,406 | 39,090 ^d | 107,496 |
| 2004 | 470,248 | 283,805 | 754,053 | 94,025 | 103,810 | 197,835 |
| 2005 | 874,090 | 448,059 | 1,322,149 | 124,694 | 108,346 | 233,040 |
| 2006 | 1,240,235 | 661,003 | 1,901,238 | 223,364 | 26,900 ^{c,d} | 250,264 |
| 20-Year Ave. | 445,783 | 304,119 | 749,901 | 181,249 | 147,649 | 328,898 |
| 1987-1996 Ave. | 410,791 | 266,522 | 677,312 | 242,309 | 186,178 | 428,487 |
| 1997-2006 Ave. | 480,775 | 341,716 | 822,491 | 120,190 | 109,119 | 229,309 |
| 2007 | | | 0 | 220,633 | ^{c,d} | 220,633 |

Note: Blank cells represent no data.

^a Escapement based on sonar estimates from the Portage Creek site.

^b Escapement estimates based on aerial surveys. Estimates for 1987-1988 rounded to the nearest thousand fish.

^c No escapement counts were made for the Togiak River.

^d Partial count.

Appendix A22.—Coho salmon harvest by fishery, escapement and total runs for the Togiak River, in numbers of fish, Bristol Bay, 1987–2007.

| Year | Harvests by Fishery | | | | Spawning Escapement ^b | Total Run |
|----------------|---------------------|--------------------------|--------------------|---------|----------------------------------|-----------|
| | Commercial | Subsistence ^a | Sport | Total | | |
| 1981 | 19,504 | 2,200 | 119 | 21,823 | 43,500 | 65,323 |
| 1982 | 108,000 | 1,300 | 524 | 109,824 | 69,900 | 179,724 |
| 1983 | 4,977 | 800 | 829 | 6,606 | | |
| 1984 | 111,631 | 3,800 | 1,154 | 116,585 | 60,840 | 177,425 |
| 1985 | 35,765 | 1,500 | 0 | 37,265 | 33,210 | 70,475 |
| 1986 | 28,030 | 500 | 2,851 | 31,381 | 21,400 | 52,781 |
| 1987 | 1,284 | 1,600 | 183 | 3,067 | 16,000 | 19,067 |
| 1988 | 8,744 | 792 | 1,238 | 10,774 | 25,770 | 36,544 |
| 1989 | 35,814 | 976 | 416 | 37,206 | | |
| 1990 | 2,296 | 1,111 | 367 | 3,774 | 21,390 | 25,164 |
| 1991 | 4,262 | 1,238 | 87 | 5,587 | 25,260 | 30,847 |
| 1992 | 3,918 | 1,231 | 251 | 5,400 | 80,100 | 85,500 |
| 1993 | 12,613 | 743 | 330 | 13,686 | | |
| 1994 | 88,522 | 910 | 531 | 89,963 | | |
| 1995 | 8,910 | 703 | 408 | 10,021 | | |
| 1996 | 58,369 | 199 | 1,382 | 59,950 | 64,980 | 124,930 |
| 1997 | 2,976 | 260 | 780 | 4,016 | 20,625 | 24,641 |
| 1998 | 52,783 | 310 | 1,020 | 54,113 | 25,335 | 79,448 |
| 1999 | 2,653 | 217 | 1,109 | 3,979 | 3,855 ^c | 7,834 |
| 2000 | 2,758 | 342 | 840 | 3,940 | | |
| 2001 | 3,218 | 388 | 904 | 4,510 | | |
| 2002 | 754 | 241 | 1,475 | 2,470 | | |
| 2003 | 961 | 883 | 2,086 | 3,930 | 6,900 ^c | 10,830 |
| 2004 | 15,463 | 204 | 2,321 | 17,988 | | 17,988 |
| 2005 | 8 | 295 | 1,959 | 2,262 | | 2,262 |
| 2006 | 453 | 408 ^d | 931 ^d | 1,792 | | 1,792 |
| 20-Year Ave. | 15,338 | 653 | 931 | 16,921 | 29,022 | 35,911 |
| 1987-1996 Ave. | 22,473 | 950 | 519 | 23,943 | 38,917 | 53,675 |
| 1997-2006 Ave. | 8,203 | 355 | 1,342 | 9,900 | 14,179 | 20,685 |
| 2007 | 152 | 406 ^d | 1,754 ^d | 2,313 | | 2,313 |

Note: Blank cells represent no data.

- ^a Subsistence harvest estimated by expanding permit returns; estimates for 1987 were based on community where permit was issued; 1988 - present on community of residence.
- ^b Expanded estimates from aerial surveys.
- ^c Results of a partial survey.
- ^d Estimate.

Appendix A23.—Average round weight (lbs.) of the commercial salmon catch by species, Bristol Bay, 1987–2007.

| Year | Sockeye | Chinook | Chum | Pink | Coho |
|----------------|----------------|----------------|-------------|-------------|-------------|
| 1987 | 6.0 | 20.5 | 6.5 | | 7.0 |
| 1988 | 6.2 | 18.7 | 7.0 | 3.6 | 7.8 |
| 1989 | 5.6 | 19.1 | 6.3 | | 7.4 |
| 1990 | 5.7 | 16.9 | 6.3 | 3.8 | 7.5 |
| 1991 | 5.7 | 15.9 | 6.4 | | 7.3 |
| 1992 | 5.7 | 16.8 | 6.4 | 3.7 | 7.0 |
| 1993 | 6.0 | 17.4 | 6.5 | | 6.8 |
| 1994 | 5.5 | 18.0 | 6.5 | 3.7 | 8.2 |
| 1995 | 5.5 | 19.8 | 6.3 | 3.6 | 6.7 |
| 1996 | 6.3 | 18.0 | 7.3 | 3.5 | 6.8 |
| 1997 | 6.0 | 16.4 | 7.3 | 3.4 | 6.3 |
| 1998 | 5.7 | 17.7 | 6.4 | 3.3 | 8.4 |
| 1999 | 5.3 | 14.3 | 6.7 | 3.2 | 6.4 |
| 2000 | 6.1 | 15.7 | 6.9 | 3.7 | 7.6 |
| 2001 | 6.7 | 17.4 | 8.2 | 2.8 | 7.1 |
| 2002 | 6.1 | 18.2 | 7.1 | 3.8 | 6.8 |
| 2003 | 6.3 | 16.0 | 6.5 | 4.0 | 6.9 |
| 2004 | 5.8 | 15.4 | 6.6 | 4.1 | 6.8 |
| 2005 | 6.3 | 16.6 | 7.1 | 3.5 | 6.3 |
| 2006 | 5.7 | 17.0 | 7.7 | 3.7 | 6.4 |
| 20-Year Ave. | 5.9 | 17.3 | 6.8 | 3.6 | 7.1 |
| 1987-1996 Ave. | 5.8 | 18.1 | 6.6 | 3.7 | 7.3 |
| 1997-2006 Ave. | 6.0 | 16.5 | 7.0 | 3.5 | 6.9 |
| 2007 | 5.7 | 13.4 | 5.9 | 3.4 | 6.4 |

Note: Blank cells represent no data.

Appendix A24.—Average price paid in dollars per pound for salmon, by species, Bristol Bay, 1987–2007.

| Year | Sockeye | Chinook | Chum | Pink | Coho |
|-------------------|----------------|----------------|-------------|-------------|-------------|
| 1987 | 1.40 | 1.17 | 0.30 | 0.18 | 0.72 |
| 1988 | 2.11 | 1.08 | 0.47 | 0.35 | 1.40 |
| 1989 | 1.25 | 0.82 | 0.26 | 0.32 | 0.71 |
| 1990 ^a | 1.09 | 0.91 | 0.27 | 0.29 | 0.73 |
| 1991 | 0.75 | 0.67 | 0.22 | 0.15 | 0.60 |
| 1992 | 1.12 | 0.93 | 0.26 | 0.14 | 0.59 |
| 1993 | 0.67 | 0.76 | 0.22 | 0.25 | 0.52 |
| 1994 | 0.97 | 0.64 | 0.22 | 0.12 | 0.71 |
| 1995 | 0.77 | 0.66 | 0.20 | 0.14 | 0.43 |
| 1996 | 0.81 | 0.51 | 0.11 | 0.05 | 0.31 |
| 1997 | 0.90 | 0.52 | 0.10 | 0.07 | 0.50 |
| 1998 | 1.22 | 0.62 | 0.10 | 0.08 | 0.48 |
| 1999 | 0.84 | 0.53 | 0.10 | 0.09 | 0.72 |
| 2000 | 0.67 | 0.46 | 0.09 | 0.08 | 0.41 |
| 2001 | 0.42 | 0.31 | 0.11 | 0.09 | 0.33 |
| 2002 | 0.49 | 0.33 | 0.09 | 0.06 | 0.32 |
| 2003 | 0.51 | 0.32 | 0.08 | 0.07 | 0.27 |
| 2004 | 0.51 | 0.37 | 0.09 | 0.09 | 0.31 |
| 2005 | 0.62 | 0.58 | 0.11 | 0.02 | 0.29 |
| 2006 | 0.55 | 0.74 | 0.11 | 0.03 | 0.35 |
| 20-Year Ave. | 0.89 | 0.65 | 0.17 | 0.13 | 0.53 |
| 1987-1996 Ave. | 1.09 | 0.81 | 0.25 | 0.20 | 0.67 |
| 1997-2006 Ave. | 0.68 | 0.48 | 0.10 | 0.07 | 0.40 |
| 2007 | 0.61 | 0.65 | 0.12 | 0.03 | 0.38 |

Note: Blank cells represent no data. Price does not include all postseason adjustments.

^a Price paid in Nushagak District. Bristol Bay average unavailable.

Appendix A25.—Estimated exvessel value of the commercial salmon catch by species paid to fishermen, in thousands of dollars, Bristol Bay, 1987–2007.

| Year | Sockeye | Chinook | Chum | Pink ^a | Coho | Total |
|----------------|----------------|----------------|-------------|--------------------------|-------------|--------------|
| 1987 | 134,179 | 1,774 | 2,988 | | 326 | 139,267 |
| 1988 | 185,153 | 909 | 4,815 | 1,205 | 2,108 | 194,190 |
| 1989 | 205,654 | 627 | 2,028 | | 1,263 | 209,573 |
| 1990 | 210,057 | 524 | 1,740 | 553 | 564 | 213,439 |
| 1991 | 112,114 | 316 | 1,758 | | 492 | 114,680 |
| 1992 | 204,604 | 1,073 | 1,526 | 251 | 792 | 208,245 |
| 1993 | 163,089 | 1,133 | 1,194 | | 263 | 165,679 |
| 1994 | 188,918 | 1,616 | 1,201 | 41 | 1,019 | 192,796 |
| 1995 | 187,863 | 1,295 | 1,262 | | 142 | 190,562 |
| 1996 | 150,968 | 754 | 606 | 7 | 336 | 152,671 |
| 1997 | 65,743 | 652 | 198 | | 183 | 66,777 |
| 1998 | 70,529 | 1,414 | 234 | 7 | 503 | 72,688 |
| 1999 | 114,504 | 207 | 407 | | 97 | 115,215 |
| 2000 | 83,940 | 165 | 232 | 16 | 403 | 84,756 |
| 2001 | 40,395 | 132 | 679 | | 40 | 41,246 |
| 2002 | 31,899 | 272 | 290 | 0 | 19 | 32,479 |
| 2003 | 47,993 | 249 | 482 | | 77 | 48,801 |
| 2004 | 77,897 | 647 | 398 | 19 | 158 | 79,119 |
| 2005 | 96,650 | 738 | 962 | | 154 | 98,503 |
| 2006 | 90,233 | 1,330 | 1,350 | 19 | 178 | 93,110 |
| 20 Year Ave. | 123,119 | 791 | 1,218 | 193 | 456 | 125,690 |
| 1987-1996 Ave. | 174,260 | 1,002 | 1,912 | 343 | 731 | 178,110 |
| 1997-2006 Ave. | 71,978 | 580 | 523 | 12 | 181 | 73,269 |
| 2007 | 103,192 | 549 | 1,288 | 0 | 127 | 105,156 |

Note: Value paid to fishermen, derived from price per pound times commercial catch. Blank cells represent no data.

^a Includes even-years only.

Appendix A26.—South Unimak and Shumagin Island preseason sockeye allocation, actual sockeye and chum harvest in thousands of fish, Alaska Peninsula, 1987–2007.

| Year | South Unimak | | | Shumagin Island | | | Total | | |
|----------------|--------------|--------------------|------|-----------------|--------------------|------|---------|--------------------|------|
| | Sockeye | | Chum | Sockeye | | Chum | Sockeye | | Chum |
| | Actual | Quota ^a | | Actual | Quota ^a | | Actual | Quota ^a | |
| 1987 | 652 | 635 | 406 | 141 | 140 | 37 | 793 | 775 | 443 |
| 1988 | 474 | 1,263 | 465 | 282 | 279 | 62 | 756 | 1,542 | 527 |
| 1989 | 1,348 | 1,199 | 408 | 397 | 264 | 48 | 1,745 | 1,463 | 456 |
| 1990 | 1,091 | 1,087 | 455 | 256 | 240 | 64 | 1,347 | 1,327 | 519 |
| 1991 | 1,216 | 1,573 | 669 | 333 | 347 | 102 | 1,549 | 1,920 | 771 |
| 1992 | 2,047 | 1,959 | 324 | 410 | 432 | 102 | 2,457 | 2,391 | 426 |
| 1993 | 2,365 | 2,375 | 382 | 607 | 524 | 150 | 2,972 | 2,899 | 532 |
| 1994 | 1,001 | 2,938 | 374 | 460 | 648 | 208 | 1,461 | 3,586 | 582 |
| 1995 | 1,451 | 2,987 | 342 | 653 | 659 | 195 | 2,104 | 3,646 | 537 |
| 1996 | 572 | 2,564 | 129 | 446 | 566 | 228 | 1,018 | 3,130 | 357 |
| 1997 | 1,179 | 1,840 | 196 | 449 | 406 | 126 | 1,628 | 2,246 | 322 |
| 1998 | 975 | 1,529 | 195 | 314 | 336 | 50 | 1,289 | 1,865 | 245 |
| 1999 | 1,106 | 1,024 | 187 | 269 | 226 | 58 | 1,375 | 1,250 | 245 |
| 2000 | 892 | 1,650 | 169 | 359 | 363 | 70 | 1,251 | 2013 | 239 |
| 2001 | 271 | | 185 | 130 | | 149 | 401 | | 334 |
| 2002 | 356 | | 201 | 235 | | 178 | 591 | | 379 |
| 2003 | 336 | | 121 | 117 | | 161 | 453 | | 282 |
| 2004 | 532 | | 131 | 816 | | 357 | 1,348 | | 488 |
| 2005 | 437 | | 144 | 567 | | 282 | 1,004 | | 426 |
| 2006 | 491 | | 96 | 441 | | 204 | 932 | | 300 |
| 20-yr Ave. | 940 | 1,759 | 279 | 384 | 388 | 142 | 1,324 | 2,147 | 421 |
| 1987-1996 Ave. | 1,222 | 1,858 | 395 | 399 | 410 | 120 | 1,620 | 2,268 | 515 |
| 1997-2006 Ave. | 658 | 1,511 | 163 | 370 | 333 | 164 | 1,027 | 1,844 | 326 |
| 2007 | 738 | | 153 | 852 | | 144 | 1,590 | | 297 |

Note: South Unimak includes statistical area 284 in June and July, while Shumagin Islands includes statistical area 282 in June only.

^a The sockeye quota management system was initiated in 1974, and is based on 8.3 % of the Bristol Bay projected inshore harvest and traditional harvest patterns. This quota system was removed in 2001.

Appendix A27.—Subsistence salmon harvest, by district and species, Bristol Bay, 1987–2007.

| Year ^a | Permits | | | | | | Total |
|--------------------------------|---------|---------|---------|-------|-------|-------|---------|
| | Issued | Sockeye | Chinook | Chum | Pink | Coho | |
| NAKNEK KVICHAK DISTRICT | | | | | | | |
| 1987 | 407 | 86,706 | 1,289 | 756 | 490 | 1,106 | 90,347 |
| 1988 | 391 | 88,145 | 1,057 | 588 | 917 | 813 | 91,520 |
| 1989 | 411 | 87,103 | 970 | 693 | 277 | 1,927 | 90,970 |
| 1990 | 466 | 92,326 | 985 | 861 | 1,032 | 726 | 95,930 |
| 1991 | 518 | 97,101 | 1,152 | 1,105 | 191 | 1,056 | 100,605 |
| 1992 | 571 | 94,304 | 1,444 | 2,721 | 1,601 | 1,152 | 101,222 |
| 1993 | 560 | 101,555 | 2,080 | 2,476 | 762 | 2,025 | 108,898 |
| 1994 | 555 | 87,662 | 1,843 | 503 | 460 | 1,807 | 92,275 |
| 1995 | 533 | 75,644 | 1,431 | 1,159 | 383 | 1,791 | 80,407 |
| 1996 | 540 | 81,305 | 1,574 | 816 | 794 | 1,482 | 85,971 |
| 1997 | 533 | 85,248 | 2,764 | 478 | 422 | 1,457 | 90,368 |
| 1998 | 567 | 83,095 | 2,433 | 784 | 1,063 | 1,592 | 88,967 |
| 1999 | 528 | 85,315 | 1,567 | 725 | 210 | 856 | 88,674 |
| 2000 | 562 | 61,817 | 894 | 560 | 845 | 937 | 65,053 |
| 2001 | 506 | 57,250 | 869 | 667 | 383 | 740 | 59,909 |
| 2002 | 471 | 52,805 | 837 | 909 | 1,137 | 943 | 56,632 |
| 2003 | 489 | 61,443 | 1,221 | 259 | 198 | 812 | 63,934 |
| 2004 | 481 | 71,110 | 1,075 | 469 | 1,080 | 566 | 74,300 |
| 2005 | 462 | 69,211 | 1,047 | 546 | 275 | 1,224 | 72,302 |
| 2006 | 468 | 69,097 | 881 | 341 | 757 | 720 | 71,796 |
| 20 Year Ave. | 501 | 79,412 | 1,371 | 871 | 969 | 1,187 | 83,504 |
| 1987-1996 Ave. | 495 | 89,185 | 1,383 | 1,168 | 961 | 1,389 | 93,815 |
| 1997-2006 Ave. | 507 | 69,639 | 1,359 | 574 | 976 | 985 | 73,193 |
| 2007 ^c | 474 | 64,733 | 1,012 | 505 | 689 | 853 | 67,793 |
| EGEGIK DISTRICT | | | | | | | |
| 1987 | 49 | 3,350 | 87 | 139 | 2 | 284 | 3,862 |
| 1988 | 52 | 1,405 | 97 | 87 | 54 | 333 | 1,976 |
| 1989 | 50 | 1,636 | 50 | 33 | 1 | 414 | 2,134 |
| 1990 | 61 | 1,105 | 53 | 85 | 39 | 331 | 1,613 |
| 1991 | 70 | 4,549 | 82 | 141 | 32 | 430 | 5,234 |
| 1992 | 80 | 3,322 | 124 | 270 | 51 | 729 | 4,496 |
| 1993 | 69 | 3,633 | 128 | 148 | 15 | 905 | 4,829 |
| 1994 | 59 | 3,208 | 166 | 84 | 153 | 857 | 4,468 |
| 1995 | 60 | 2,818 | 86 | 192 | 100 | 690 | 3,886 |
| 1996 | 44 | 2,321 | 99 | 89 | 85 | 579 | 3,173 |
| 1997 | 34 | 2,438 | 101 | 21 | 5 | 740 | 3,304 |
| 1998 | 36 | 1,795 | 44 | 33 | 52 | 389 | 2,314 |
| 1999 | 42 | 2,434 | 106 | 35 | 2 | 806 | 3,384 |
| 2000 | 31 | 842 | 16 | 11 | 0 | 262 | 1,131 |
| 2001 | 57 | 2,493 | 111 | 105 | 16 | 928 | 3,653 |
| 2002 | 53 | 1,892 | 65 | 34 | 12 | 356 | 2,359 |
| 2003 | 62 | 3,240 | 84 | 32 | 10 | 297 | 3,663 |
| 2004 | 46 | 2,618 | 169 | 410 | 91 | 1,423 | 4,711 |
| 2005 | 45 | 2,267 | 81 | 231 | 2 | 526 | 3,106 |
| 2006 | 41 | 1,641 | 94 | 34 | 7 | 641 | 2,418 |
| 20 Year Ave. | 52 | 2,450 | 92 | 111 | 54 | 596 | 3,286 |
| 1987-1996 Ave. | 59 | 2,735 | 97 | 127 | 76 | 555 | 3,567 |
| 1997-2006 Ave. | 45 | 2,166 | 87 | 95 | 32 | 637 | 3,004 |
| 2007 ^c | 49 | 2,332 | 99 | 148 | 24 | 649 | 3,251 |

-continued-

Appendix A27.—Page 2 of 3.

| Year | Permits | | | | | | Total |
|--------------------------|---------|---------|---------|-------|-------|--------|--------|
| | Issued | Sockeye | Chinook | Chum | Pink | Coho | |
| UGASHIK DISTRICT | | | | | | | |
| 1987 | 22 | 892 | 104 | 51 | 29 | 272 | 1,348 |
| 1988 | 23 | 1,400 | 84 | 55 | 35 | 330 | 1,904 |
| 1989 | 22 | 1,309 | 32 | 35 | 2 | 214 | 1,592 |
| 1990 | 37 | 1,578 | 51 | 143 | 120 | 280 | 2,172 |
| 1991 | 38 | 1,403 | 121 | 168 | 42 | 614 | 2,348 |
| 1992 | 37 | 2,348 | 106 | 79 | 8 | 397 | 2,938 |
| 1993 | 39 | 1,766 | 86 | 107 | 24 | 495 | 2,478 |
| 1994 | 31 | 1,587 | 126 | 42 | 38 | 579 | 2,372 |
| 1995 | 20 | 1,513 | 56 | 18 | 6 | 290 | 1,883 |
| 1996 | 26 | 1,247 | 50 | 21 | 7 | 298 | 1,623 |
| 1997 | 28 | 2,785 | 169 | 39 | 23 | 311 | 3,327 |
| 1998 | 27 | 1,241 | 59 | 75 | 82 | 485 | 1,942 |
| 1999 | 25 | 1,365 | 35 | 5 | 0 | 271 | 1,675 |
| 2000 | 31 | 1,927 | 51 | 34 | 1 | 467 | 2,481 |
| 2001 | 24 | 1,197 | 61 | 8 | 2 | 357 | 1,624 |
| 2002 | 23 | 1,294 | 51 | 14 | 2 | 460 | 1,821 |
| 2003 | 23 | 1,113 | 31 | 30 | 0 | 392 | 1,567 |
| 2004 | 21 | 804 | 64 | 9 | 4 | 234 | 1,116 |
| 2005 | 22 | 818 | 27 | 18 | 2 | 249 | 1,114 |
| 2006 | 25 | 962 | 41 | 6 | 16 | 339 | 1,364 |
| 20 Year Ave. | 27 | 1,427 | 70 | 48 | 31 | 367 | 1,934 |
| 1987-1996 Ave. | 30 | 1,504 | 82 | 72 | 42 | 377 | 2,066 |
| 1997-2006 Ave. | 25 | 1,351 | 59 | 24 | 21 | 356 | 1,803 |
| 2007 ^c | 23 | 998 | 43 | 15 | 5 | 335 | 1,396 |
| NUSHAGAK DISTRICT | | | | | | | |
| 1987 | 474 | 40,900 | 12,200 | 6,000 | 200 | 6,200 | 65,500 |
| 1988 | 441 | 31,086 | 10,079 | 8,234 | 6,316 | 5,223 | 60,938 |
| 1989 | 432 | 34,535 | 8,122 | 5,704 | 407 | 8,679 | 57,447 |
| 1990 | 441 | 33,003 | 12,407 | 7,808 | 3,183 | 5,919 | 62,320 |
| 1991 | 528 | 33,161 | 13,627 | 4,688 | 292 | 10,784 | 62,552 |
| 1992 | 476 | 30,640 | 13,588 | 7,076 | 3,519 | 7,103 | 61,926 |
| 1993 | 500 | 27,114 | 17,709 | 3,257 | 240 | 5,038 | 53,358 |
| 1994 | 523 | 26,501 | 15,490 | 5,055 | 2,042 | 5,338 | 54,426 |
| 1995 | 484 | 22,793 | 13,701 | 2,786 | 188 | 3,905 | 43,373 |
| 1996 | 481 | 22,935 | 15,941 | 4,704 | 1,573 | 5,217 | 50,370 |
| 1997 | 538 | 25,080 | 15,318 | 2,056 | 218 | 3,433 | 46,106 |
| 1998 | 562 | 25,217 | 12,258 | 2,487 | 1,076 | 5,316 | 46,355 |
| 1999 | 548 | 29,387 | 10,057 | 2,409 | 124 | 3,993 | 45,969 |
| 2000 | 541 | 24,451 | 9,470 | 3,463 | 1,662 | 5,983 | 45,029 |
| 2001 | 554 | 26,939 | 11,760 | 3,011 | 378 | 5,993 | 48,080 |
| 2002 | 520 | 22,777 | 11,281 | 5,096 | 1,179 | 4,565 | 44,897 |
| 2003 | 527 | 25,491 | 18,686 | 5,064 | 403 | 5,432 | 55,076 |
| 2004 | 511 | 17,491 | 15,610 | 3,869 | 1,944 | 4,240 | 43,154 |
| 2005 | 502 | 23,916 | 12,529 | 5,006 | 793 | 5,596 | 47,841 |
| 2006 | 461 | 20,773 | 9,971 | 4,448 | 1,591 | 3,590 | 40,373 |
| 20 Year Ave. | 502 | 27,209 | 12,990 | 4,611 | 2,409 | 5,577 | 51,754 |
| 1987-1996 Ave. | 478 | 30,267 | 13,286 | 5,531 | 3,327 | 6,341 | 57,221 |
| 1997-2006 Ave. | 526 | 24,152 | 12,694 | 3,691 | 1,490 | 4,814 | 46,288 |
| 2007 ^c | 504 | 22,090 | 13,615 | 4,696 | 1,182 | 4,685 | 46,268 |

-continued-

Appendix A27.—Page 3 of 3.

| Year | Permits Issued | Sockeye | Chinook | Chum | Pink | Coho | Total |
|-------------------------------|----------------|---------|---------|--------|--------------------|--------|---------|
| TOGIAK DISTRICT | | | | | | | |
| 1987 | 46 | 3,600 | 700 | 1,000 | 0 | 1,600 | 6,900 |
| 1988 | 29 | 2,413 | 429 | 716 | 45 | 792 | 4,395 |
| 1989 | 40 | 2,825 | 551 | 891 | 112 | 976 | 5,355 |
| 1990 | 37 | 3,689 | 480 | 786 | 60 | 1,111 | 6,126 |
| 1991 | 43 | 3,517 | 470 | 553 | 27 | 1,238 | 5,805 |
| 1992 | 40 | 3,716 | 1,361 | 626 | 135 | 1,231 | 7,069 |
| 1993 | 38 | 2,139 | 784 | 571 | 8 | 743 | 4,245 |
| 1994 | 25 | 1,777 | 904 | 398 | 77 | 910 | 4,066 |
| 1995 | 22 | 1,318 | 448 | 425 | 0 | 703 | 2,894 |
| 1996 | 19 | 662 | 471 | 285 | 59 | 199 | 1,676 |
| 1997 | 31 | 1,440 | 667 | 380 | 0 | 260 | 2,747 |
| 1998 | 42 | 2,211 | 782 | 412 | 76 | 310 | 3,791 |
| 1999 | 76 | 3,780 | 1,244 | 479 | 84 | 217 | 5,804 |
| 2000 | 54 | 3,013 | 1,116 | 569 | 90 | 342 | 5,130 |
| 2001 | 92 | 4,162 | 1,612 | 367 | 61 | 388 | 6,590 |
| 2002 | 36 | 2,319 | 703 | 605 | 10 | 241 | 3,878 |
| 2003 | 92 | 4,403 | 1,208 | 483 | 451 | 883 | 7,428 |
| 2004 | 46 | 1,795 | 1,094 | 383 | 108 | 204 | 3,584 |
| 2005 | 45 | 2,299 | 1,528 | 301 | 26 | 295 | 4,448 |
| 2006 | 61 | 2,728 | 1,630 | 492 | 355 | 408 | 5,613 |
| 20 Year Ave. | 46 | 2,690 | 909 | 536 | 102 ^b | 653 | 4,877 |
| 1987-1996 Ave. | 34 | 2,566 | 660 | 625 | 75 ^b | 950 | 4,853 |
| 1997-2006 Ave. | 58 | 2,815 | 1,158 | 447 | 128 ^b | 355 | 4,901 |
| 2007 ^c | 56 | 2,709 | 1,233 | 453 | 190 | 406 | 4,990 |
| TOTAL BRISTOL BAY AREA | | | | | | | |
| 1987 | 998 | 135,493 | 14,356 | 7,895 | 689 | 9,453 | 167,886 |
| 1988 | 936 | 124,449 | 11,746 | 9,680 | 7,367 | 7,491 | 160,733 |
| 1989 | 955 | 127,408 | 9,725 | 7,356 | 799 | 12,210 | 157,498 |
| 1990 | 1,042 | 131,701 | 13,976 | 9,683 | 4,434 | 8,367 | 168,161 |
| 1991 | 1,197 | 139,731 | 15,452 | 6,655 | 584 | 14,122 | 176,544 |
| 1992 | 1,204 | 134,330 | 16,623 | 10,772 | 5,314 | 10,612 | 177,651 |
| 1993 | 1,206 | 136,207 | 20,787 | 6,559 | 1,049 | 9,206 | 173,808 |
| 1994 | 1,193 | 120,735 | 18,529 | 6,082 | 2,770 | 9,491 | 157,607 |
| 1995 | 1,119 | 104,086 | 15,722 | 4,580 | 677 | 7,378 | 132,443 |
| 1996 | 1,110 | 108,470 | 18,136 | 5,915 | 2,518 | 7,775 | 142,813 |
| 1997 | 1,166 | 116,991 | 19,159 | 2,974 | 668 | 6,201 | 145,992 |
| 1998 | 1,234 | 113,560 | 15,576 | 3,792 | 2,349 | 8,093 | 143,368 |
| 1999 | 1,219 | 122,281 | 13,009 | 3,653 | 420 | 6,143 | 145,506 |
| 2000 | 1,219 | 92,050 | 11,547 | 4,637 | 2,599 | 7,991 | 118,824 |
| 2001 | 1,226 | 92,041 | 14,412 | 4,158 | 839 | 8,406 | 119,856 |
| 2002 | 1,093 | 81,088 | 12,936 | 6,658 | 2,341 | 6,565 | 109,587 |
| 2003 | 1,182 | 95,690 | 21,231 | 5,868 | 1,062 | 7,816 | 131,667 |
| 2004 | 1,100 | 93,819 | 18,012 | 5,141 | 3,225 | 6,667 | 126,865 |
| 2005 | 1,076 | 98,511 | 15,212 | 6,102 | 1,098 | 7,889 | 128,811 |
| 2006 | 1,050 | 95,201 | 12,617 | 5,321 | 2,726 | 5,697 | 121,564 |
| 20 Year Ave. | 1,126 | 113,192 | 15,438 | 6,174 | 3,564 ^b | 8,379 | 145,359 |
| 1987-1996 Ave. | 1,096 | 126,261 | 15,505 | 7,518 | 4,481 ^b | 9,611 | 161,514 |
| 1997-2006 Ave. | 1,157 | 100,123 | 15,371 | 4,830 | 2,648 ^b | 7,147 | 129,204 |
| 2007 ^c | 1,100 | 92,862 | 16,002 | 5,818 | 2,090 | 6,927 | 123,699 |

^a Permit and harvest estimates prior to 1989 are based on the community where the permit was issued; estimates from 1989 to the present are based on the area fished, as first recorded on the permit.

^b Includes even years only.

^c A 5 year average was used as data was not available at the time of publication.

Appendix A28.—Subsistence harvest of sockeye salmon by community, in numbers of fish, Kvichak River drainage, Bristol Bay, 1987–2007.

| Year ^{ab} | Iliamna- | | | | Port | | | | Total |
|--------------------|----------|--------------|-----------|----------|-----------------------|-----------|----------|--------------------|--------|
| | Levelock | Igiugig | Pedro Bay | Kokhanok | Newhalen ^c | Nondalton | Alsworth | Other ^d | |
| 1987 | 5,700 | ^e | 7,300 | 16,500 | 27,500 | 11,800 | 3,200 | | 72,000 |
| 1988 | 3,500 | ^e | 5,500 | 14,400 | 29,800 | 20,700 | 3,200 | ^f | 77,100 |
| 1989 | 5,100 | 1,200 | 6,700 | 13,000 | 24,700 | 18,500 | 2,200 | ^f | 71,400 |
| 1990 | 4,700 | 2,200 | 6,600 | 12,400 | 18,800 | 27,300 | 3,200 | 1,400 | 76,600 |
| 1991 | 1,029 | 1,712 | 9,739 | 17,184 | 29,094 | 4,163 | 2,755 | 1,110 | 66,786 |
| 1992 | 4,374 | 1,056 | 6,932 | 11,477 | 29,633 | 13,163 | 2,954 | 2,559 | 72,148 |
| 1993 | 4,699 | 1,397 | 6,226 | 18,810 | 19,067 | 17,890 | 3,254 | 2,780 | 74,123 |
| 1994 | 1,467 | 1,201 | 8,747 | 15,771 | 15,553 | 15,246 | 3,074 | 3,284 | 64,343 |
| 1995 | 3,756 | 497 | 5,359 | 14,412 | 20,134 | 4,188 | 2,892 | 3,441 | 54,679 |
| 1996 | 1,120 | 2,309 | 5,219 | 14,011 | 14,787 | 11,856 | 3,263 | 2,307 | 54,872 |
| 1997 | 1,062 | 2,067 | 5,501 | 8,722 | 19,513 | 17,194 | 2,348 | 3,101 | 59,508 |
| 1998 | 2,454 | 1,659 | 3,511 | 10,418 | 16,165 | 13,136 | 2,678 | 3,635 | 53,656 |
| 1999 | 1,276 | 1,608 | 5,005 | 10,725 | 14,129 | 17,864 | 4,282 | 2,834 | 57,723 |
| 2000 | 1,467 | 1,981 | 1,815 | 7,175 | 6,679 | 11,953 | 3,200 | 2,720 | 36,990 |
| 2001 | 908 | 779 | 2,118 | 9,447 | 8,132 | 7,566 | 1,958 | 1,901 | 32,808 |
| 2002 | 625 | 2,138 | 2,687 | 9,847 | 9,417 | 5,508 | 1,201 | 1,578 | 33,001 |
| 2003 | 737 | 1,081 | 2,135 | 9,771 | 13,824 | 8,016 | 1,370 | 1,591 | 38,495 |
| 2004 | 1,000 | 1,026 | 4,803 | 11,869 | 21,652 | 8,789 | 2,455 | 1,631 | 53,225 |
| 2005 | 914 | 1,017 | 4,162 | 16,801 | 12,010 | 8,824 | 2,457 | 2,078 | 48,263 |
| 2006 | 0 | 1,252 | 4,319 | 19,028 | 11,487 | 8,885 | 2,418 | 2,461 | 49,850 |
| 20 Year Ave. | 2,294 | 1,454 | 5,219 | 13,088 | 18,104 | 12,627 | 2,718 | 2,377 | 57,379 |
| 1987-1996 Ave. | 3,545 | 1,447 | 6,832 | 14,797 | 22,907 | 14,481 | 2,999 | 2,412 | 68,405 |
| 1997-2006 Ave. | 1,044 | 1,461 | 3,606 | 11,380 | 13,301 | 10,774 | 2,437 | 2,353 | 46,352 |
| 2007 ^g | 655 | 1,303 | 3,621 | 13,463 | 13,678 | 8,005 | 1,980 | 1,868 | 44,567 |

Note: Blank cells represent no data.

^a Harvests are extrapolated for all permits issued, based on those returned. Harvest estimates from 1991 are rounded to the nearest hundred fish.

^b Harvest estimates prior to 1990 are based on the community where the permit was issued; estimates from 1990 to the present are based on community of residence and include fish caught only in the Kvichak District.

^c Includes Chekok.

^d Subsistence harvests by non-Kvichak River watershed residents.

^e No permits issued.

^f No permits issued. Only residents of the Naknek/Kvichak watershed could obtain subsistence permits.

^g A 5 year average was used as current data was not available at the time of publishing.

Appendix A29.—Subsistence salmon harvest by community, Nushagak District, Bristol Bay, 1987–2007.

| Year ^{ab} | New | | | | | | | Total |
|--------------------|-------------------------|-----------|-----------|-------|----------|-----------|--------------------|--------|
| | Dillingham ^c | Manokotak | Aleknagik | Ekwok | Stuyahok | Koliganek | Other ^d | |
| 1987 | 33,500 | 5,900 | 3,100 | 6,400 | 11,400 | 4,900 | | 65,200 |
| 1988 | 29,600 ^e | 5,500 | 2,400 | 6,100 | 11,700 | 5,700 | ^f | 61,000 |
| 1989 | 31,800 ^e | 5,800 | 2,000 | 4,700 | 9,700 | 3,800 | ^f | 57,800 |
| 1990 | 28,860 ^e | 6,600 | 2,300 | 4,900 | 9,900 | 8,000 | 700 | 61,260 |
| 1991 | 34,399 ^e | 5,873 | 3,043 | 4,532 | 8,326 | 5,438 | 2,163 | 63,774 |
| 1992 | 31,702 ^e | 4,317 | 2,184 | 5,971 | 11,325 | 3,708 | 2,635 | 61,842 |
| 1993 | 25,315 ^e | 3,048 | 2,593 | 2,936 | 12,169 | 4,180 | 2,538 | 52,779 |
| 1994 | 30,145 ^e | 3,491 | 2,289 | 4,343 | 8,056 | 4,513 | 2,322 | 55,159 |
| 1995 | 24,998 ^e | 2,453 | 1,468 | 2,046 | 6,911 | 2,983 | 2,406 | 43,265 |
| 1996 | 27,161 ^e | 3,883 | 1,733 | 2,866 | 8,892 | 3,319 | 2,113 | 49,967 |
| 1997 | 23,255 ^e | 3,988 | 1,989 | 1,797 | 6,427 | 4,179 | 4,598 | 46,233 |
| 1998 | 24,072 ^e | 4,069 | 1,112 | 3,555 | 5,419 | 3,166 | 4,958 | 46,351 |
| 1999 | 26,502 ^e | 3,413 | 1,532 | 1,805 | 4,556 | 2,772 | 5,389 | 45,969 |
| 2000 | 27,931 ^e | 3,173 | 1,111 | 3,946 | 3,715 | 2,792 | 2,362 | 45,029 |
| 2001 | 26,435 ^e | 3,700 | 2,129 | 2,218 | 7,294 | 2,209 | 4,096 | 48,080 |
| 2002 | 25,004 ^e | 3,254 | 1,517 | 2,735 | 6,043 | 3,098 | 3,247 | 44,897 |
| 2003 | 26,955 ^e | 4,214 | 2,044 | 2,291 | 10,817 | 5,721 | 3,034 | 55,076 |
| 2004 | 23,308 ^e | 2,052 | 2,206 | 1,891 | 6,714 | 3,619 | 3,364 | 43,154 |
| 2005 | 21,898 ^e | 1,576 | 1,795 | 1,388 | 9,673 | 8,422 | 3,088 | 47,841 |
| 2006 | 22,184 ^e | 1,655 | 2,048 | 1,499 | 6,160 | 3,886 | 2,941 | 40,373 |
| 20 Year Ave. | 27,251 | 3,898 | 2,030 | 3,396 | 8,260 | 4,320 | 3,056 | 51,752 |
| 1987-1996 Ave. | 29,748 | 4,687 | 2,311 | 4,479 | 9,838 | 4,654 | 2,125 | 57,205 |
| 1997-2006 Ave. | 24,754 | 3,109 | 1,748 | 2,312 | 6,682 | 3,986 | 3,708 | 46,300 |
| 2007 ^g | 23,870 | 2,550 | 1,922 | 1,961 | 7,882 | 4,949 | 3,135 | 46,268 |

Note: Blank cells represent no data.

^a Harvests are extrapolated for all permits issued, based on those returned. Harvest estimates prior to 1991 are rounded to the nearest hundred fish.

^b Harvest estimates prior to 1990 are based on the community where the permit was issued; estimates from 1990 to the present are based on community of residence and include fish caught only in the Nushagak District.

^c Includes the village of Portage Creek and Clarks Point.

^d Subsistence harvests by non-watershed residents.

^e Includes permits issued in Clarks Point and Ekuk.

^f No permits issued. Only residents of the Nushagak watershed could obtain subsistence permits.

^g A 5 year average was used as current data was not available at the time of publishing.

APPENDIX B. HERRING

Appendix B1.—Sac roe herring industry participation, fishing effort and harvest, Togiak District, 1987–2007.

| Year | Number of Buyers | Daily Processing Capacity ^a | Fishery Dates | Gillnet | | | | | Purse Seine | | | | | Total Harvest ^c |
|----------------|------------------|--|---------------|---------------------|------------------|---------|------|-------|---------------------|------------------|----------------------|-------|------------------|----------------------------|
| | | | | Effort ^b | Duration (hours) | Harvest | CPUE | Roe % | Effort ^b | Duration (hours) | Harvest ^c | CPUE | Roe % | |
| 1987 | 18 | | 4/27-5/6 | 148 | 36.0 | 2,685 | 0.5 | 8.6 | 111 | 5.5 | 12,845 | 21.0 | 8.9 | 15,530 |
| 1988 | 22 | | 5/17 | 300 | 4.0 | 3,695 | 3.1 | 8.3 | 239 | 0.5 | 10,472 | 87.6 | 10.9 | 14,167 |
| 1989 | 19 | | 5/9-5/14 | 320 | 5.0 | 2,844 | 1.8 | 7.8 | 310 | 3.0 | 9,415 | 10.1 | 8.5 | 12,259 |
| 1990 | 16 | 3,100 | 5/8-5/20 | 277 | 66.0 | 3,072 | 0.2 | 9.0 | 221 | 3.0 | 9,158 | 13.8 | 9.7 | 12,230 |
| 1991 | 16 | 3,350 | 5/10-5/17 | 170 | 14.0 | 3,182 | 1.3 | 8.5 | 200 | 3.0 | 11,788 | 19.6 | 10.0 | 14,970 |
| 1992 | 18 | 3,700 | 5/20-5/27 | 274 | 25.5 | 5,030 | 0.7 | 8.8 | 301 | 0.3 | 20,778 | 230.1 | 9.2 | 25,808 |
| 1993 | 12 | 2,500 | 4/27-5/9 | 75 | 144.5 | 3,564 | 0.3 | 10.1 | 140 | 33.8 | 14,392 | 3.0 | 9.6 | 17,956 |
| 1994 | 16 | 3,300 | 5/11-5/20 | 146 | 76.0 | 7,462 | 0.7 | 12.0 | 240 | 4.6 | 22,853 | 20.7 | 9.4 | 30,315 |
| 1995 | 22 | 4,350 | 5/7-5/15 | 250 | 33.5 | 6,995 | 0.8 | 12.0 | 254 | 12.2 | 19,737 | 6.4 | 10.1 | 26,732 |
| 1996 | 19 | 4,850 | 5/3-5/8 | 461 | 18.0 | 6,863 | 0.8 | 11.1 | 268 | 2.4 | 18,008 | 27.8 | 9.0 | 24,871 |
| 1997 | 18 | 4,200 | 5/2-5/6 | 336 | 24.0 | 5,164 | 0.6 | 11.8 | 231 | 6.4 | 18,648 | 12.6 | 9.4 | 23,812 |
| 1998 | 15 | 2,475 | 4/29-5/10 | 152 | 46.0 | 5,952 | 0.9 | 12.5 | 123 | 16.5 | 16,824 | 8.3 | 9.6 | 22,776 |
| 1999 | 12 | 2,400 | 5/18-5/26 | 171 | 28.0 | 4,858 | 1.0 | 11.5 | 96 | 4.7 | 14,368 | 31.8 | 9.2 | 19,226 |
| 2000 | 12 | 2,100 | 5/6-5/14 | 227 | 67.0 | 5,464 | 0.4 | 10.6 | 90 | 15.8 | 14,957 | 10.6 | 10.1 | 20,421 |
| 2001 | 11 | 2,255 | 5/6-5/13 | 96 | 84.0 | 6,491 | 0.8 | 10.6 | 64 | 26.0 | 15,879 | 9.5 | 9.2 | 22,370 |
| 2002 | 8 | 1,920 | 5/3-5/13 | 82 | 102.0 | 5,216 | 0.6 | 10.9 | 37 | 57.5 | 11,833 | 5.6 | 9.3 ^d | 17,049 |
| 2003 | 7 | 1,920 | 4/25-5/7 | 75 | 142.0 | 6,505 | 0.6 | 10.9 | 35 | 110.2 | 15,158 | 3.9 | 8.9 ^d | 21,663 |
| 2004 | 6 | 2,150 | 4/29-5/9 | 54 | 162.0 | 4,980 | 0.6 | 10.4 | 31 | 78.0 | 13,888 | 5.7 | 9.5 | 18,868 |
| 2005 | 8 | 2,330 | 4/30-5/8 | 56 | 149.0 | 5,841 | 0.7 | 11.2 | 33 | 83.0 | 15,071 | 5.5 | 9.6 | 20,912 |
| 2006 | 7 | 2,060 | 5/12-5/21 | 49 | 143.9 | 7,132 | 1.0 | 10.8 | 28 | 113.0 | 16,821 | 5.3 | 9.2 | 23,953 |
| 1987-2006 Ave. | 14 | 2,880 | | 186 | 68.5 | 5,150 | 0.9 | 10.4 | 153 | 29.0 | 15,145 | 27.0 | 9.5 | 20,294 |
| 1997-2006 Ave. | 10 | 2,381 | | 130 | 94.8 | 5,760 | 0.7 | 11.1 | 77 | 51.1 | 15,345 | 9.9 | 9.5 | 21,105 |
| 2007 | 5 | 1,420 | 5/10-5/25 | 25 | 366.0 | 4,012 | 0.4 | 11.2 | 21 | 244.0 | 13,120 | 2.6 | 10.0 | 17,132 |

Note: Blank cells represent no data.

^a Number of tons per day based on companies registered.

^b Peak aerial survey count.

^c Harvest total does include deadloss and test fish harvest.

^d Values are lower than inseason assessment due to more stringent post-season market scrutiny compared with previous years.

Appendix B2.—Exploitation of Togiak herring stock, 1987–2007.

| Year | Biomass | | | Sac Roe | | | Total Harvest | Exploitation Rate | |
|--------------|---------------------------------------|-----------------------------|---------------------------|----------------------|--------------------------|--------------------|---------------|-------------------|-------|
| | Estimate ^a (short tons) | S-O-K Herring Equivalent | Dutch Harbor Food/Bait | Gillnet ^b | Purse Seine ^c | Waste ^d | | | Total |
| 1986 | 88,435 | 1,446 | | 3,448 | 12,828 | | 16,276 | 17,722 | 20.0% |
| 1987 | 76,000 | 1,309 | | 2,685 | 12,845 | | 15,530 | 16,839 | 22.2% |
| 1988 | 128,959 | 1,782 | 2,004 | 3,695 | 10,472 | | 14,167 | 17,953 | 13.9% |
| 1989 | 80,100 | 2,499 | 3,081 | 2,844 | 9,415 | | 12,259 | 17,839 | 22.3% |
| 1990 | 71,879 | 1,617 | 820 | 3,072 | 9,158 | | 12,230 | 14,667 | 20.4% |
| 1991 | 55,000 | 1,310 | 1,325 | 3,182 | 11,788 | | 14,970 | 17,605 | 32.0% |
| 1992 | 129,256 | 1,482 | 1,949 | 5,030 | 20,778 | | 25,808 | 29,239 | 22.6% |
| 1993 | 164,130 | 1,481 | 2,790 | 3,564 | 14,392 | | 17,956 | 22,227 | 13.5% |
| 1994 | 148,716 | 1,134 | 3,349 | 7,462 | 22,853 | | 30,315 | 34,798 | 23.4% |
| 1995 | 149,093 | 996 | 1,748 | 6,995 | 19,737 | | 26,732 | 29,476 | 19.8% |
| 1996 | 135,585 | 1,899 | 2,239 | 6,863 | 18,008 | | 24,871 | 29,009 | 21.4% |
| 1997 | 125,000 | 0 | 1,950 | 5,164 | 18,593 | 350 | 23,757 | 25,707 | 20.6% |
| 1998 | 121,000 | 0 | 1,994 | 5,952 | 16,424 | 400 | 22,376 | 24,370 | 20.1% |
| 1999 | 124,946 | 1,605 | 2,398 | 4,858 | 14,170 | 198 | 19,028 | 23,031 | 18.4% |
| 2000 | 130,904 | 0 | 2,014 | 5,464 | 14,857 | 100 | 20,321 | 22,335 | 17.1% |
| 2001 | 119,818 | 0 | 1,439 | 6,491 | 15,660 | 219 | 22,151 | 23,590 | 19.7% |
| 2002 | 120,196 | 260 | 2,846 | 5,216 | 11,793 | 40 | 17,009 | 20,115 | 16.7% |
| 2003 | 126,213 | 55 | 1,487 | 6,505 | 14,778 | 380 | 21,283 | 22,825 | 18.1% |
| 2004 | 143,124 | 0 | 1,258 | 4,980 | 13,785 | 103 | 18,868 | 20,126 | 14.1% |
| 2005 | 108,585 | 0 | 1,154 | 5,841 | 14,287 | 784 | 20,128 | 21,282 | 19.6% |
| 2006 | 129,976 | 0 | 953 | 7,132 | 16,321 | 500 | 23,953 | 24,906 | 19.2% |
| 1987-06 Ave. | 119,424 | 871 | 1,937 | 5,150 | 15,006 | 307 | 20,186 | 22,897 | 19.2% |
| 1997-06 Ave. | 124,976 | 192 | 1,749 | 5,760 | 15,067 | 307 | 20,887 | 22,829 | 18.3% |
| 2007 | 134,566 | 0 | 1,214 | 4,012 | 12,800 | 320 | 17,132 | 18,346 | 13.6% |

-continued-

Appendix B1.–Page 2 of 2.

| Year | Estimate ^a (short tons) | S-O-K Herring Equivalent | Dutch Harbor Food/Bait | Sac Roe | | | Total Harvest | Exploitation Rate | |
|----------------|---------------------------------------|-----------------------------|---------------------------|----------------------|--------------------------|--------------------|------------------|----------------------|-------|
| | | | | Gillnet ^b | Purse Seine ^c | Waste ^d | | | |
| 1986 | 88,435 | 1,446 | | 3,448 | 12,828 | | 16,276 | 17,722 | 20.0% |
| 1987 | 76,000 | 1,309 | | 2,685 | 12,845 | | 15,530 | 16,839 | 22.2% |
| 1988 | 128,959 | 1,782 | 2,004 | 3,695 | 10,472 | | 14,167 | 17,953 | 13.9% |
| 1989 | 80,100 | 2,499 | 3,081 | 2,844 | 9,415 | | 12,259 | 17,839 | 22.3% |
| 1990 | 71,879 | 1,617 | 820 | 3,072 | 9,158 | | 12,230 | 14,667 | 20.4% |
| 1991 | 55,000 | 1,310 | 1,325 | 3,182 | 11,788 | | 14,970 | 17,605 | 32.0% |
| 1992 | 129,256 | 1,482 | 1,949 | 5,030 | 20,778 | | 25,808 | 29,239 | 22.6% |
| 1993 | 164,130 | 1,481 | 2,790 | 3,564 | 14,392 | | 17,956 | 22,227 | 13.5% |
| 1994 | 148,716 | 1,134 | 3,349 | 7,462 | 22,853 | | 30,315 | 34,798 | 23.4% |
| 1995 | 149,093 | 996 | 1,748 | 6,995 | 19,737 | | 26,732 | 29,476 | 19.8% |
| 1996 | 135,585 | 1,899 | 2,239 | 6,863 | 18,008 | | 24,871 | 29,009 | 21.4% |
| 1997 | 125,000 | 0 | 1,950 | 5,164 | 18,593 | 350 | 23,757 | 25,707 | 20.6% |
| 1998 | 121,000 | 0 | 1,994 | 5,952 | 16,424 | 400 | 22,376 | 24,370 | 20.1% |
| 1999 | 124,946 | 1,605 | 2,398 | 4,858 | 14,170 | 198 | 19,028 | 23,031 | 18.4% |
| 2000 | 130,904 | 0 | 2,014 | 5,464 | 14,857 | 100 | 20,321 | 22,335 | 17.1% |
| 2001 | 119,818 | 0 | 1,439 | 6,491 | 15,660 | 219 | 22,151 | 23,590 | 19.7% |
| 2002 | 120,196 | 260 | 2,846 | 5,216 | 11,793 | 40 | 17,009 | 20,115 | 16.7% |
| 2003 | 126,213 | 55 | 1,487 | 6,505 | 14,778 | 380 | 21,283 | 22,825 | 18.1% |
| 2004 | 143,124 | 0 | 1,258 | 4,980 | 13,785 | 103 | 18,868 | 20,126 | 14.1% |
| 2005 | 108,585 | 0 | 1,154 | 5,841 | 14,287 | 784 | 20,128 | 21,282 | 19.6% |
| 2006 | 129,976 | 0 | 953 | 7,132 | 16,321 | 500 | 23,953 | 24,906 | 19.2% |
| 1987-2006 Ave. | 119,424 | 871 | 1,937 | 5,150 | 15,006 | 307 | 20,186 | 22,897 | 19.2% |
| 1997-2006 Ave. | 124,976 | 192 | 1,749 | 5,760 | 15,067 | 307 | 20,887 | 22,829 | 18.3% |
| 2007 | 134,566 | 0 | 1,214 | 4,012 | 12,800 | 320 | 17,132 | 18,346 | 13.6% |

Note: Blank cells represent no data.

^a Preseason forecast unless peak biomass estimate in season exceeded preseason forecast.

^b Includes bait harvest.

^c Includes test fish harvest.

^d Estimated waste, also included in purse seine harvest.

Appendix B3.–Age composition of inshore herring, Togiak District, 1987–2007.

| Year | Age Composition (%) ^a | | | | | | | Total ^b Run (tons) |
|------|----------------------------------|--------------|--------------|------|------|------|------|----------------------------------|
| | 3 ^c | 4 | 5 | 6 | 7 | 8 | 9 + | |
| 1986 | | | 1.0 | 2.0 | 15.0 | 44.0 | 38.0 | 94,770 |
| 1987 | | | | 8.0 | 10.0 | 28.0 | 54.0 | 88,398 |
| 1988 | | 2.0 | 5.0 | 1.0 | 13.0 | 5.0 | 74.0 | 134,718 |
| 1989 | | | 5.0 | 11.0 | 4.0 | 15.0 | 65.0 | 98,965 |
| 1990 | ^d | ^d | ^d | 6.0 | 11.0 | 3.0 | 80.0 | 88,105 |
| 1991 | | 7.0 | 1.0 | 1.0 | 16.0 | 18.0 | 57.0 | 83,229 |
| 1992 | ^d | 10.0 | 20.0 | 1.0 | 1.0 | 15.0 | 53.0 | 156,957 |
| 1993 | | ^d | 6.0 | 23.0 | 1.0 | 1.0 | 67.0 | 193,847 |
| 1994 | | ^d | 2.0 | 12.0 | 28.0 | 3.0 | 55.0 | 185,412 |
| 1995 | | 1.0 | 4.0 | 7.0 | 24.0 | 30.0 | 35.0 | ^e |
| 1996 | | ^d | 3.0 | 5.0 | 7.0 | 21.0 | 64.0 | ^e |
| 1997 | ^d | 7.0 | 5.0 | 12.0 | 11.0 | 10.0 | 55.0 | 144,887 |
| 1998 | | ^d | 4.0 | 5.0 | 10.0 | 11.0 | 70.0 | ^e |
| 1999 | ^d | ^d | 1.0 | 13.0 | 9.0 | 12.0 | 65.0 | 157,028 |
| 2000 | ^d | ^d | 1.0 | 2.0 | 17.0 | 16.0 | 63.0 | ^e |
| 2001 | | 5.0 | 21.0 | 5.0 | 4.0 | 27.0 | 39.0 | 115,155 |
| 2002 | | 1.0 | 25.0 | 28.0 | 4.0 | 5.0 | 36.0 | ^e |
| 2003 | | ^d | 3.0 | 37.0 | 25.0 | 4.0 | 31.0 | ^e |
| 2004 | | ^d | ^d | 3.8 | 43.7 | 24.6 | 27.5 | ^e |
| 2005 | | ^d | ^d | 0.8 | 11.0 | 41.4 | 46.4 | 156,727 |
| 2006 | ^d | 1.8 | 5.4 | 2.8 | 5.4 | 25.9 | 58.7 | 176,288 |
| 2007 | | 0.7 | 7.3 | 15.5 | 5.5 | 9.4 | 61.7 | 134,221 |

^a Age composition in 1984–1992 is weighted by aerial survey data and weight at age.

^b Includes commercial catch, escapement, and documented waste.

^c Includes age 1, 2 and 3 herring.

^d Contribution of age class is less than 0.5%.

^e Age contribution of the commercial purse seine harvest (by weight) was used to represent the total run for the season. Aerial surveys to determine abundance were hampered by poor weather conditions preventing estimation of total biomass estimate.

Appendix B4.—Herring spawn-on-kelp industry participation, fishing effort, area and harvest, Togiak District, 1987–2007.

| Year | Companies | Fishery | | Effort ^a | Area | Total | Herring | Openings | Average |
|----------------|-----------|------------|-------|---------------------|-----------|----------------------|-------------------------|----------|-------------------|
| | | Dates | Hours | | | Harvest in pounds | Equivalent (in tons) | | Roe % |
| 1987 | 5 | 4/29-5/4 | 6.6 | 187 | K 9, K 10 | 307,307 | 1,309 | 5 | 8.8 |
| 1988 | 10 | 5/20 | 6.0 | 259 | K 4, K 8 | 489,320 | 1,782 | 1 | 10.3 |
| 1989 | 11 | 5/14 | 4.0 | 487 | K 9 | 559,780 | 2,499 | 1 | 8.3 |
| 1990 | 7 | 5/11 | 3.0 | 481 | K 8 | 413,844 | 1,617 | 1 | 9.5 |
| 1991 | 7 | 5/13 | 2.5 | 532 | K 4 | 348,357 | 1,310 | 1 | 9.7 |
| 1992 | 5 | 5/23 | 3.3 | 386 | K 9 | 363,600 | 1,482 | 2 | 9.1 |
| 1993 | 2 | 5/1-5/2 | 7.0 | 173 | K 8 | 383,000 | 1,481 | 2 | 9.7 |
| 1994 | 3 | 5/13-5/14 | 7.5 | 204 | K 5 | 308,400 | 1,134 | 2 | 10.0 |
| 1995 | 5 | 5/11-5/14 | 14.5 | 188 | K 2, K 3 | 281,600 | 996 | 3 | 10.6 |
| 1996 | 3 | 5/9-5/10 | 12.0 | 200 | K 8, K 9 | 455,800 | 1,899 | 2 | 9.6 |
| 1997 | | no fishery | | | | | | | |
| 1998 | | no fishery | | | | | | | |
| 1999 | 1 | 5/23 | 8.0 | 130 | K 9 | 419,563 | 1,605 | 2 | 9.8 |
| 2000 | | no fishery | | | | | | | |
| 2001 | | no fishery | | | | | | | |
| 2002 | 1 | 5/14 | 2.0 | 50 | K 9 | 67,793 | 260 | 1 | 9.8 |
| 2003 | 1 | 5/3-5/4 | 3.0 | 35 | K 3 | 13884 ^b | 55 | 1 | 9.45 ^b |
| 2004 | | no fishery | | | | | | | |
| 2005 | | no fishery | | | | | | | |
| 2006 | | no fishery | | | | | | | |
| 1997-2006 Ave. | 2 | | 6.3 | 104 | | 167,080 | 640 | 1 | 10 |
| 2002-2006 Ave. | 1 | | 2.5 | 43 | | 40,839 | 158 | 1 | 10 |
| 2007 | | no fishery | | | | | | | |

Note: Blank cells represent no data.

^a 1984–1989 and 1992–1996, number of permits fished based on fish tickets. 1990 and 1991, peak aerial survey count.

^b Data confidential under Alaska Statute 16.05.815.

Appendix B5.—Aerial survey estimates of herring biomass and spawn deposition, Togiak District, 1987–2007.

| Year | Preseason Forecast ^a | Biomass Estimate | Spawn Estimates | |
|----------------|------------------------------------|----------------------|-----------------|-------|
| | | | Observations | Miles |
| 1987 | 61,100 | 88,398 | 160 | 76 |
| 1988 | 54,500 | 134,718 | 107 | 61 |
| 1989 | 80,100 | 98,965 | 69 | 53 |
| 1990 | 56,000 | 88,105 | 94 | 66 |
| 1991 | 55,000 | 83,229 | 90 | 70 |
| 1992 | 60,214 | 156,957 | 160 | 97 |
| 1993 | 148,786 | 193,847 | 76 | 53 |
| 1994 | 142,497 | 185,412 | 80 | 72 |
| 1995 | 149,093 | 149,093 ^b | 70 | 59 |
| 1996 | 135,585 | 135,585 ^b | 99 | 73 |
| 1997 | 125,000 | 144,887 | 79 | 59 |
| 1998 | 121,000 | 121,000 ^b | 42 | 33 |
| 1999 | 90,000 | 157,028 | 33 | 56 |
| 2000 | 130,904 | 130,904 ^b | 71 | 46 |
| 2001 | 119,818 | 115,155 ^b | 100 | 57 |
| 2002 | 120,196 | 120,196 ^b | 79 | 32 |
| 2003 | 126,213 | 126,213 ^b | 182 | 95 |
| 2004 | 143,124 | 143,124 ^b | 47 | 36 |
| 2005 | 96,029 | 156,727 | 106 | 28 |
| 2006 | 129,976 | 176,288 | 66 | 18 |
| 1987-2006 Ave. | 107,257 | 135,292 | 91 | 57 |
| 1997-2006 Ave. | 120,226 | 139,152 | 81 | 46 |
| 2007 | 134,566 | 134,221 | 43 | 19 |

^a 1993–2006 forecasts based on Age Structured Analysis. Previous years based on age composition, abundance, average growth and mortality rates.

^b Peak biomass estimate could not be determined, therefore, preseason forecast was used.

Appendix B6.—Exvessel value of the commercial herring and spawn-on-kelp harvest, in thousands of dollars, Togiak District, 1987–2007.

| Year | Herring | | | Total |
|----------------|---------|-----------|---------------|--------------------|
| | Sac Roe | Food/Bait | Spawn-on-Kelp | |
| 1987 | 8,614 | 49 | 166 | 8,829 |
| 1988 | 14,103 | 3 | 346 | 14,452 |
| 1989 | 4,983 | 19 | 448 | 5,450 |
| 1990 | 6,494 | 9 | 360 | 6,863 |
| 1991 | 6,173 | 21 | 383 | 6,577 |
| 1992 | 8,818 | 26 | 254 | 9,098 |
| 1993 | 5,218 | 3 | 268 | 5,489 |
| 1994 | 9,090 | 0 | 212 | 9,302 |
| 1995 | 16,713 | 0 | 362 | 17,075 |
| 1996 | 14,395 | 5 | 510 | 14,910 |
| 1997 | 4,306 | 0 | | 4,306 ^a |
| 1998 | 3,986 | 0 | | 3,986 ^a |
| 1999 | 6,211 | 0 | 315 | 6,526 |
| 2000 | 4,000 | 0 | | 4,000 ^a |
| 2001 | 3,090 | 0 | | 3,090 ^a |
| 2002 | 1,880 | 0 | | 1,900 ^b |
| 2003 | 2,797 | 0 | | 2,801 ^b |
| 2004 | 2,541 | 0 | | 2,541 ^a |
| 2005 | 2,978 | 0 | | 2,978 ^a |
| 2006 | 2,618 | 0 | | 2,618 ^a |
| 1987-2006 Ave. | 6,450 | 7 | 281 | 6,640 |
| 1997-2006 Ave. | 3,441 | 0 | 113 | 3,475 |
| 2007 | 1,869 | 0 | | 1,869 ^a |

Note: Exvessel value (value paid to the fishermen) is derived by multiplying price/ton by the commercial harvest. These estimates do not include any postseason adjustments to fishermen from processors and should therefore be treated as minimum estimates.

^a Fishery not conducted.

^b Data confidential under Alaska Statute 16.05.815.

Appendix B7.—Guideline and actual harvests of sac roe herring (tons) and spawn-on-kelp (lbs), Togiak District, 1987–2007.

| Year | Gillnet Sac Roe | | | Purse Seine Sac Roe | | | Spawn-on-Kelp | | |
|----------------|------------------------|--------|---------------------------|------------------------|---------------------|---------------------------|------------------------|---------|---------------------------|
| | Guideline ^a | Actual | % Difference ^c | Guideline ^a | Actual ^b | % Difference ^c | Guideline ^a | Actual | % Difference ^c |
| 1987 | | 2,685 | | | 12,845 | | 350,000 | 307,307 | -12 |
| 1988 | 5,647 | 3,695 | -35 | 16,943 | 10,472 | -38 | 350,000 | 489,320 | 40 |
| 1989 | 3,376 | 2,844 | -16 | 10,128 | 9,415 | -7 | 350,000 | 559,780 | 60 |
| 1990 | 2,993 | 3,072 | 3 | 8,980 | 9,158 | 2 | 350,000 | 413,844 | 18 |
| 1991 | 3,143 | 3,182 | 1 | 9,429 | 11,788 | 25 | 350,000 | 348,357 | 0 |
| 1992 | 5,662 | 5,030 | -11 | 16,985 | 20,778 | 22 | 350,000 | 363,600 | 4 |
| 1993 | 6,570 | 3,564 | -46 | 19,709 | 14,392 | -27 | 350,000 | 383,000 | 9 |
| 1994 | 6,277 | 7,462 | 19 | 18,832 | 22,853 | 21 | 350,000 | 308,400 | -12 |
| 1995 | 6,582 | 6,995 | 6 | 19,747 | 19,737 | 0 | 350,000 | 281,600 | -20 |
| 1996 | 5,956 | 6,863 | 15 | 17,868 | 18,008 | 1 | 350,000 | 455,800 | 30 |
| 1997 | 5,464 | 5,164 | -5 | 16,391 | 18,593 | 13 | 350,000 | | ^d |
| 1998 | 5,280 | 5,952 | 13 | 15,840 | 16,824 | 6 | 350,000 | | ^d |
| 1999 | 6,914 | 4,858 | -30 | 20,741 | 14,368 | -31 | 350,000 | 419,563 | 20 |
| 2000 | 5,738 | 5,464 | -5 | 17,215 | 14,957 | -13 | 350,000 | | ^d |
| 2001 | 6,268 | 6,491 | 4 | 14,624 | 15,879 | 9 | 350,000 | | ^d |
| 2002 | 6,288 | 5,216 | -17 | 14,673 | 11,833 | -19 | 350,000 | | ^e -81 |
| 2003 | 6,624 | 6,505 | -2 | 15,457 | 15,158 | -2 | 350,000 | | ^e -96 |
| 2004 | 7,568 | 4,980 | -34 | 17,658 | 13,888 | -21 | 350,000 | | ^d |
| 2005 | 5,667 | 5,841 | 3 | 13,224 | 15,071 | 14 | 350,000 | | ^d |
| 2006 | 7,059 | 7,132 | 1 | 16,471 | 16,821 | 2 | 350,000 | | ^d |
| 1990-2006 Ave. | 5,885 | 5,516 | -5 | 16,108 | 15,889 | 0 | 350,000 | 305,584 | -13 |
| 1997-2006 Ave. | 6,287 | 5,760 | -7 | 16,229 | 15,339 | -4 | 350,000 | 167,080 | -52 |
| 2007 | 7,090 | 4,012 | -43 | 16,544 | 13,120 | -21 | 350,000 | | ^d |

^a Harvest guideline derived from inseason biomass estimate when available, or preseason forecast if weather prevents an estimate. Harvest guidelines were not adopted until 1988.

^b Actual minus guideline divided by guideline.

^c Includes deadloss and test fish harvest.

^d No fishery conducted.

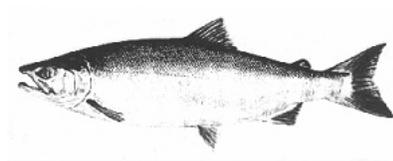
^e Data confidential under Alaska Statute 16.05.815.

APPENDIX C. 2007 BRISTOL BAY SALMON OUTLOOK

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
NEWS RELEASE



Denby S. Lloyd, Commissioner
John Hilsinger, Director



Contact:
Tim Sands, Area Biologist
Charlotte Westing, Assistant Area Biologist
Phone: (907) 842-5227
Fax: (907) 842-5937

Issuing Area Office
PO Box 230
Dillingham, Alaska, 99576
Date Issued: Monday, April 2
Time: 12:00 p.m.

BRISTOL BAY
2007 OUTLOOK FOR COMMERCIAL
SALMON FISHING

INTRODUCTION

This document is provided as a guide to fishers, processors, and the public. The intent of this document is to provide the reader with information regarding the 2007 Bristol Bay salmon season. Included is a short narrative regarding the general management approach for each of the five major districts and the 2007 salmon forecast as well as a brief summary of regulation changes adopted by the Board of Fisheries (BOF).

Bristol Bay salmon fishing announcements will be broadcast on marine VHF Channel 07A and 2509 MHz. SSB. Current fishing announcements will be aired on the local radio stations – KAKN, KDLG and KRUP. Regular announcement times that may be utilized are 9:00 a.m., 12:00 noon, 3:00 p.m., 6:00 p.m., and 8:00 p.m., unless otherwise stated. If you miss an announcement, we have two telephone information lines. For information on the east-side fisheries (Naknek-Kvichak, Egegik, and Ugashik), dial **246-INFO (4636)**. For west-side fisheries (Nushagak and Togiak) dial **842-5226**. The direct line from the Dillingham boat harbor will be operational in late April and is located on the west end of the harbormaster's house.

Blue and Green permit district registration cards will be available at the Anchorage, King Salmon, and Dillingham offices beginning May 1, and must be picked-up by the permit holder or their authorized agent. As a reminder: a permit holder may take salmon only after a department representative at one of the area offices has accepted their registration card.

Fishers and processors should be aware of the reporting requirements in 5 AAC 06.377 (b) that state **“Each commercial fisherman shall report, on an ADF&G fish ticket, at the time of landing, the number of Chinook and coho salmon taken but not sold.”**

During the 2007 season catch, escapement, and announcements will be available at the Commercial Fisheries website:

<http://www.cf.adfg.state.ak.us/region2/finfish/salmon/bbayhome.php>

-continued-

REGULATORY CHANGES

5 AAC 06.333. Requirements and specifications for use of 200 fathoms of drift gillnet in Bristol Bay. Permit holders are allowed to fish an additional **50 fathoms of gear (200 fathoms total)** when two permit-holders are fishing at the same time from the same vessel, except in Special Harvest Areas when they are in effect. Both permit holders must be registered for the same district and legal to fish at the time the gear is being deployed. Any vessel fishing 2 permits (i.e. 200 fathoms of gear) must be marked with the ADFG number followed by a D (for dual permits). The D must be the same size as the existing numbers (12" high x 1" wide) as described in 5 AAC 06.343 Vessel Identification. If only one permit holder is on board, the D must be covered or removed and normal gear limits apply.

The BOF in December 2006 expanded the grounding regulations bay wide, instituted requirements for reporting lost gear, made small boundary changes in the Ugashik and Nushagak Districts and made other district specific changes. Please review the information for the district you plan to fish in and the news release put out by the Department of Public Safety.

SALMON OUTLOOKS

BAYWIDE

The forecasted Bristol Bay sockeye salmon run for 2007 is approximately 34.4 million fish. From this total, a commercial harvest of approximately 26.3 million fish is projected (Table 1).

NAKNEK/KVICHAK DISTRICT

An inshore run of 11.5 million sockeye salmon is expected for the Naknek/Kvichak District in 2007. The forecasted harvest in the Naknek/Kvichak District is approximately 7.4 million sockeye salmon; roughly 1.9 million from the Kvichak River, 1.0 from the Alagnak River and 4.5 million from the Naknek River. The 2007 Kvichak River minimum biological escapement goal will be 2.0 million. The **preseason** point goal for the Kvichak River is the minimum 2.0 million, if the return is greater than the forecast, the **inseason** point goal will be changed to reflect the actual inseason total run. The Naknek River escapement goal is 800,000 to 1.4 million with an objective of 1.1 million. Sockeye salmon returning to the Naknek/Kvichak District will be comprised of 54% age-1.3, 23% age-1.2, 15% 2.2 and 9% 2.3 fish.

The Board of Fisheries, during its December 2006 meeting in Dillingham, passed several proposals, of which, one affects specifically the Naknek/Kvichak Special Harvest Area. The BOF adopted an allocation plan based on the number of periods fished versus percent of catch. The new allocation plan will be one set gillnet period for every three drift gillnet periods.

To begin the season, the Naknek Section only will be open to drift gillnet gear, for set gillnet gear both the Naknek and Kvichak Sections will be open beginning June 1. Fishing time during the first 3 weeks of June will be 4 days a week 9:00 a.m. Monday to 9:00 a.m. Friday beginning 12:00 a.m. Friday, June 1 and ending 9:00 a.m. Friday, June 22. Permit holders participating in the Naknek/Kvichak District salmon fishery should be advised that once sufficient run strength appears in the district they may be put on short notice.

There is the possibility of escapements falling behind schedule in the Kvichak River. In order to reduce the harvest of Kvichak stocks, the department may restrict fishing to the flood only, from the 7-foot to high water slack. This could cause the escapement in the Naknek River to exceed the 1.1 million midpoint, however the department will attempt to keep the escapement below the upper range of 1.4 million.

With limited information and abundance over the past 2 years special attention will be given to Chinook salmon run strength and effort levels early in June. Mesh size restriction of 5.5 inches or less will be in effect beginning June 1, to help in the conservation of Chinook salmon.

-continued-

During closures, there will be extensive use of district test fish boats. Additional volunteer test boats might be needed because of this increase in test fishing. Permit holders interested in getting on the roster for district test fishing in the Naknek-Kvichak District should contact Slim Morstad at (907) 246-3341 in King Salmon.

ELEGIK DISTRICT

A forecasted run of approximately 9.2 million sockeye salmon is expected for the Egegik River in 2007. The escapement goal range is 800,000 to 1.4 million sockeye with a midpoint of 1.1 million. The expected surplus potentially available for harvest is approximately 8.1 million fish. Approximately 32% of the run is expected to be age-2.2 fish, followed by age-1.3 (27%) followed by age-1.2 (25%), and age-2.3 (17%) fish.

The proportion of harvest between set gillnets and drift gillnets (during the allocation period) in 2006 was approximately 16% and 84% respectively; 2% off the percentages specified in the sockeye salmon allocation plan. In 2007, separate gear openings and extensions are tools that will be used to adjust harvest in an attempt to achieve allocation percentages. At the January 2001 BOF meeting, the Board adopted a regulation that directs the department to avoid “to the extent practicable”, continuous fishing with set gillnet gear in the Egegik District. Therefore, set gillnet fishers in Egegik should expect breaks in fishing.

Based on the forecasted run size for the Kvichak River, fishing will begin in the full Egegik District. The emergency order period starts Friday, June 1 and the season will start with a 3 day per week schedule that will be in effect through June 16. By emergency order, commercial fishing will be allowed in the Egegik District from 9:00 a.m. Monday, to 9:00 a.m. Wednesday, and from 9:00 a.m. Thursday, until 9:00 a.m. Friday. This schedule will be in effect beginning 12 Midnight Friday, June 1 and run through 9:00 a.m. Friday, June 15. After this date fishing will be scheduled according to sockeye salmon run strength. Considering the size of the forecast substantial fishing time should occur after June 15. As in previous years some openings could occur on short notice. Periods will also be adjusted to allocate harvest between drift and set gear groups.

The 2003 parent-year escapement for coho salmon was assessed using aerial surveys and produced an index count of 5,280 coho compared to the 1998-2003 average of 5,455; the commercial harvest in 2003 was approximately 40,000 coho, 33% above the recent 20-year average of approximately 31,000. Management of the fall coho fishery will be based on fishery performance.

District test fishing for inseason management may be conducted periodically depending on run characteristics. Permit holders interested in test fishing in the Egegik District should contact Paul Salomone by calling (907) 267-2229 (Anchorage) or 246-3341 (King Salmon after 5/31/07).

Ugashik District

The forecasted Ugashik sockeye salmon run is 4.2 million fish. With an escapement goal range of 500,000 to 1.2 million (mid range goal of 800,000), approximately 3.3 million fish are potentially available for harvest. Approximately 52% of the run are expected to be age-1.2 fish, 24% age-1.3, 17% age-2.2, and 7% age-2.3 fish.

The allocation of the sockeye salmon harvest between set gillnets and drift gillnets (during the allocation period) in 2006 was approximately 12% and 88% respectively, 2% off the percentages specified in the Ugashik District allocation plan. Separate gear openings and extensions will be used to adjust harvest between gear groups in 2007.

The emergency order period in the Ugashik District will begin at 12 Midnight June 1. Commercial fishing will be allowed on a 9:00 a.m. Monday to 9:00 a.m. Friday schedule through 9:00 a.m. Friday, June 15. With an expected run to the Kvichak that exceeds a 40% exploitation rate stipulated in regulation, fishing

-continued-

time after June 15 will be allowed under E.O. authority and will depend on fishery performance and run strength indicators. Permit holders should note that the regulation restricting opportunity to no more than 48 hours between June 16 and June 23 will not be in effect.

Like the Egegik District, parent-year coho salmon escapements in the Ugashik District were assessed using aerial survey methodology. The escapement index for Ugashik coho in 2003 was approximately 20,000 with a harvest of less than 1,000. Recent effort for coho salmon within the Ugashik District has been low. Directed commercial openings for coho salmon in 2007 will depend on fishery performance and run strength indicators.

Area T permit holders who fish the Cinder River and Port Heiden sections prior to July 1 and deliver their catch in the Ugashik District are reminded to report the section of catch on the appropriate fish tickets. Only the inner Port Heiden Section and the Cinder River Lagoon have fishing periods available to Area T permit holders in June, the outside waters of the Cinder River section are open after August 1. There is a closed waters area southwest of Cape Meshik as defined by 5 AAC 09.350(1). Permit holders interested in test fishing in the Ugashik District should contact Paul Salomone at (907) 267-2229 (Anchorage) or 243-3341 (King Salmon after 5/31/07). Permit holders fishing in the Ugashik District should be aware that during the 2006 Board of Fisheries meeting the following boundary change was adopted for the northern boundary of the Ugashik District see map for new boundary.

NUSHAGAK DISTRICT

The variable escapement goal adopted for the Nushagak River is contained in the Wood River Special Harvest Area (WRSHA) Management Plan. This plan directs the department to achieve sockeye salmon escapements within the escapement goal range of 340,000 to 760,000 when the preseason forecast is greater than 1 million fish. If the preseason forecast is below 1 million fish, then an Optimum Escapement Goal (OEG) minimum of 235,000 sockeye salmon is in effect when the ratio of Wood River to Nushagak River sockeye salmon is projected to exceed 3:1. The first week of July, the department assesses Nushagak River sockeye salmon run strength through July 1 and adjusts the escapement goal based on that assessment. If the forecasted sockeye salmon runs to the Wood and Nushagak Rivers for 2007, 5.85 million and 1.87 million respectively, materialize the department projects little if any fishing time in the WRSHA.

The Nushagak District Commercial Set and Drift Gillnet Sockeye Salmon Fisheries Management and Allocation Plan remains in effect. The allocation plan specifies that 74% of the sockeye salmon harvest in the Nushagak District is to be taken by drift gillnets with the remaining 26% divided geographically between the Nushagak Section set gillnets (20%) and Igushik Section set gillnets (6%). Sockeye salmon taken in the WRSHA are counted separately, but have the same allocation ratio of 74% drift and 26% set gillnet. To attain the specified allocation percentages between gear types, differential fishing time and/or single gear group openings are likely, as is primarily ebb fishing for the drift fleet. The calculation period for the sockeye salmon allocation plan ends July 17. No management action directed at allocation will occur after July 17; both gear types will then fish concurrently. The department will attempt to achieve the specified allocation percentages, but achievement of escapement goals and harvest of surplus fish are the primary objectives.

The 2007 forecast for Chinook salmon returning to the Nushagak River is 215,000 fish (78% age-1.3 and older). Nushagak River Chinook salmon are managed according to the Nushagak/Mulchatna Chinook Salmon Management Plan. This plan directs the commercial fishery to be managed for an inriver goal of 75,000 Chinook salmon, while the sport fishery is to be managed for a guideline harvest of 5,000 fish, if the projected inriver escapement is between 65,000 and 75,000 fish. Based on the preseason forecast and the inriver goal, 135,000 Chinook salmon should be available for commercial harvest. A portion of this

-continued-

surplus may be taken in the subsistence fishery (8,000 to 12,000 Chinook salmon taken on Dillingham beaches), but there should be ample fish available for directed Chinook openings in 2007. Permit holders should expect the first directed Chinook opening on June 1. Subsequent openings will follow every 2 days. After June 11, we expect to have openings on June 13, 15, 17, 19, 21 and June 23. The duration of these openings will be based on escapement information, fleet size, and harvest and will not occur if escapement is below historical levels. Nushagak escapement enumeration should begin on June 8 or 9. Openings will be announced as usual, locally on marine VHF channel 7 and broadcast on local radio stations. We will strive to provide 24 hours notice for all directed Chinook openings. For all directed Chinook openings, the Nushagak District will be open to the Chinook line the BOF instituted in 2003 and mesh size will be restricted to 7.5 inches or larger. Permit holders are reminded that either gear type can be closed if the harvest ratio of sockeye to Chinook exceeds 2:1.

The 2007 forecasted run of sockeye salmon for the Nushagak District is 8.91 million fish with distribution by river as follows: Wood River at 5.85 million with a 1.1 million midpoint goal, leaving 4.75 million available for harvest; Igushik River at 1.2 million with a 225,000 midpoint goal, leaving 970,000 available for harvest; and the Nushagak River at 1.87 million with the midpoint goal of 550,000, leaving 1.32 million available for harvest. Approximately 30% of the forecasted run is age-1.2 sockeye salmon, 1% age-2.2, 63% age-1.3, and 3% age-2.3 fish. Projected harvest for the Nushagak District is 7.04 million sockeye salmon.

Management strategies for 2007 include: 1) multiple directed Chinook salmon openings beginning June 1, 2) Igushik Section sockeye salmon openings are likely beginning in the third week of June and will likely be set gillnet only until escapement dictates otherwise, and 3) although WRSOA openings are not out of the question, fishing should begin in the regular district in late June with short openings. The management strategy for 2007 is to harvest Chinook salmon surplus to escapement needs prior to large numbers of sockeye arriving. Once sockeye escapement warrants, we will switch from Chinook to sockeye management. Openings will be scheduled based on sockeye salmon escapement levels in the Nushagak and Wood Rivers and mesh size will be limited to 5.5 inches or smaller unless Chinook escapement is above expectations. If the Nushagak sockeye salmon escapement falls below the expected 340,000 fish curve, then a strong movement of sockeye salmon into the Wood River will precipitate openings in the WRSOA. Commercial openings in the district would follow as allowed by escapement levels in the Nushagak River.

Igushik River sockeye salmon will be managed independently of the Nushagak/Wood sockeye salmon stocks. Subsistence harvest information from Igushik Beach will be our initial indicator of sockeye salmon entry into the Igushik River. When subsistence information indicates increased passage of sockeye salmon into the river, fishing periods for set gillnets will be announced. Drift gillnet openings (8–12 hours daily) in the Igushik Section will be added as needed to control sockeye salmon escapement. Igushik sockeye salmon returns can be quite variable relative to forecasted run strength as was the case in 2004. Management will incorporate a readiness to respond with early set gillnet openings, and an attempt to maintain the 6% sockeye harvest allocated to the Igushik Section set gillnet permit holders by only adding drift gillnet openings as needed. If escapement falls below what is necessary to meet the minimum escapement goal of 150,000, the department may reduce fishing area in the Nushagak Section to protect Igushik River sockeye.

In 2007, there is no expectation on the size of the coho salmon run to the Nushagak River. There was no enumeration of the spawning escapement in 2003. At this time the sonar project is not budgeted to operate after July 20, so commercial openings will be announced based on market availability, and indications of run strength from subsistence harvests. It is likely that we will have a conservative weekly schedule of 36-48 hours per week beginning in late July.

-continued-

There was a small adjustment to the south end of the line between the Nushagak and Igushik Sections during the December Board of Fisheries meeting. Permit holders should be aware of this change.

TOGIAC DISTRICT

Commercial fisheries in the Togiak District are managed under the Togiak District Salmon Management Plan (TDSMP), which was adopted by the Board of Fisheries in January 1996. The plan restricts permit holders from fishing in the Togiak District until July 24, if they have fished in any other district in Bristol Bay, and conversely, restricts permit holders from fishing in any other district until July 24, if they have fished in the Togiak District. It also increases the weekly fishing schedule between July 1 and July 16, and restricts mesh size to 5 ½ inches or smaller between June 15 and July 15 for the conservation of Chinook salmon.

Chinook salmon run strength in the Togiak River declined between 1994 and 1997, from a total run of 26,000 fish in 1994 down to 18,000 fish in 1997. For the last 5 years of complete surveys, escapement estimates have averaged over 11,300 Chinook salmon and have all exceeded 9,500, within 5% of the 10,000 fish escapement goal. Adequate yearly Chinook escapement can be attributed to reductions in the weekly fishing schedule during late June. Based on the anticipated Chinook run strength, reduction in the weekly fishing schedule is again likely for the 2007 season. These reductions will likely limit commercial fishing to not more than 72 hours of fishing time during each of the last 2 weeks of June.

The 2007 inshore run of sockeye salmon to the Togiak River is forecasted at 590,000 fish. With a mid range escapement goal of 150,000 sockeye salmon past the towers into Togiak Lake, approximately 440,000 sockeye salmon will be potentially available for commercial harvest. Approximately 27% of the run is expected to be 2-ocean fish and 73% is expected to be 3-ocean fish. The increased weekly fishing schedule in early July, specified in the TDSMP, will likely be utilized for the harvest of sockeye salmon. However, escapement will be monitored with consideration for run timing to assure achievement of escapement within the desired range.

Coho salmon returns are not formally forecasted in the Togiak District due to lack of sufficient age class information and accurate escapement data. It is difficult to predict the strength of the 2007 run of coho salmon to the Togiak District because information on parent-year escapement in 2003 is unavailable. If a market for coho is present, a very conservative harvest strategy will be utilized due to the lack of information about the returning coho salmon run.

-continued-

Table 1.- Spawning escapement goals, and expected harvests of sockeye salmon returning to Bristol Bay River systems in 2007.

| Millions of Sockeye Salmon | | | | | | | |
|-----------------------------------|---|-------------|--------------|-------------|--------------|--------------------------|--------------------------|
| District: River | Forecasted Production by Age Class | | | | Total | Spawning Goal | Total Harvest |
| | 1.2 | 2.2 | 1.3 | 2.3 | | | |
| NAKNEK-KVICHAK: | | | | | | | |
| Kvichak | 1.28 | 0.95 | 1.39 | 0.26 | 3.88 | 2.00 | 1.88 |
| Alagnak | 0.40 | 0.13 | 1.43 | 0.06 | 2.03 | 1.00 | 1.03 |
| Naknek | 0.96 | 0.61 | 3.38 | 0.68 | 5.64 | 1.10 | 4.54 |
| Total | 2.64 | 1.69 | 6.20 | 1.00 | 11.54 | 4.10 | 7.44 |
| EGEGIK | 2.29 | 2.89 | 2.47 | 1.55 | 9.20 | 1.10 | 8.10 |
| UGASHIK | 2.19 | 0.71 | 1.01 | 0.28 | 4.18 | 0.85 | 3.33 |
| NUSHAGAK | | | | | | | |
| Wood | 2.18 | 0.04 | 3.42 | 0.21 | 5.85 | 1.10 | 4.75 |
| Igushik | 0.17 | 0.01 | 0.99 | 0.03 | 1.20 | 0.23 | 0.97 |
| Nushagak | 0.29 | 0.03 | 1.23 | 0.02 | 1.87 | 0.55 | 1.32 |
| Total | 2.64 | 0.08 | 5.63 | 0.26 | 8.91 | 1.88 | 7.04 |
| TOGIAK | 0.10 | 0.06 | 0.34 | 0.09 | 0.59 | 0.15 | 0.44 |
| BRISTOL BAY | 9.86 | 5.43 | 15.65 | 3.19 | 34.42 | 8.08 | 26.34 |

APPENDIX D. 2007 TOGIAK HERRING OUTLOOK

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
NEWS RELEASE



Denby S. Lloyd, Commissioner
John Hilsinger, Director



Contact:
Tim Sands, Area Management Biologist
Charlotte Westing, Assistant Area Biologist
Phone: (907) 842-5227
Fax: (907) 842-5937

Issuing Area Office
546 Kenny Wren Road
P.O. Box 230
Dillingham, AK, 99576
Date Issued: February 28, 2007

2007 TOGIAK HERRING FISHERY INFORMATION

This notice is intended to provide information to participants in the 2007 Togiak herring fisheries. The 2007 herring biomass in Togiak District is forecasted to be 134,566 tons, a slight increase from 2006. The 2007 forecast is based on an age-structured-analysis (ASA) model, used for Togiak since 1993. Ages -9 -10 and -11 herring are expected to comprise 60% of the projected biomass (Figure 1), with ages 6-8 making up another 23% of the biomass. Average weight for age -7 and older herring should exceed 300 grams. The forecasted overall average weight of the harvested biomass is 390 grams.

The Bristol Bay Herring Management Plan (BBHMP) (**5 AAC 27.865**) sets a maximum 20% exploitation rate for the Togiak District stock. Based on a forecasted run of 134,566 tons, up to 26,913 tons will be available for harvest in 2007. Harvest allocation, in accordance with the BBHMP will be:

| Fishery | Harvest Allocation |
|----------------------------|---------------------------|
| Spawn-on-Kelp | 1,500 tons |
| Dutch Harbor Food and Bait | 1,779 tons |
| Togiak Sac Roe | 23,634 tons |
| Purse Seine (70%) | 16,544 tons |
| Gillnet (30%) | 7,090 tons |

-continued-

REGULATORY CHANGES FOR 2007

The Alaska Board of Fisheries made three changes to the Togiak sac roe fishery management plan at the meeting in December of 2006. The first change allows the allocations to be uncoupled after each gear group has harvested 50% of its allocation. This may prevent one gear group from being shut down because the other gear group can't harvest its entire quota, as happened to the gillnet fleet in 2002 and the seine fleet in 2004 and 2006. The second change allows the department to adjust the amount of time herring can be held in seines after the closure of the fishery; currently, fish may be held for 36 hours. Lastly, the earliest start date of the fishery was changed from April 25 to April 15.

SAC ROE FISHERY

Management strategies for Togiak fisheries are designed to provide for maximum sustained yield, while affording the greatest economic benefit to fishermen and processors. In 2007, sac roe fisheries will again be managed to maximize product quality by having long openings so permit holders can make smaller sets and harvest the best fish available. Processors will also have more flexibility to control harvest volume so holding time between harvest and processing is optimal. Available processing capacity will be assessed as companies register for the 2007 season. Daily freezing capacity is expected to be less than last year's capacity and will probably be between 1,700 and 1,900 tons per day. Multiple openings will occur to achieve harvest guidelines and mature roe quality will be maximized through volunteer test fisheries. The department will attempt to maximize overall production from the Togiak sac roe fishery by providing ample opportunity to harvest fish.

Purse Seine

In recent years, the seine fleet has operated in conjunction with the processing industry in cooperative groups. This is likely to be the case again in 2007. Therefore fishing time and area will be very liberal. This should allow purse seine vessels to locate high quality herring and allow each cooperative to fill their company's' daily processing capacity. This approach should result in fresher, higher quality roe, thereby maximizing product quality and value.

With the expected decrease in effort and the increasing fuel costs, the department will work closely with industry to minimize any expense from test fishing efforts to determine fish maturity. Invariably some test fishing will need to be done and the department wants to thank all the participants in advance for their willingness to help in this.

Gillnet

Management of the gillnet fishery will be similar to past years. Ample fishing time and area will be allowed to attempt to take the entire harvest guideline of 7,090 tons, while maintaining the specified 70/30-purse seine/gillnet ratio. Product quality will be a priority throughout the gillnet fishery.

In 2007, the department will primarily focus the gillnet fleet in the area east of Right Hand Point. The department will consider opening areas west of Right Hand Point to the gillnet fleet if weather conditions are unfavorable,. Test fishing becomes more of a burden with the ever dwindling number of participants in the gillnet fishery. The department hopes to discuss this

-continued-

issue with industry during a preseason teleconference, but some amount of test fishing is likely to be necessary. Managers will give full consideration for adequate test fishing and travel time to gillnet test fish vessels.

SPAWN-ON-KELP FISHERY

This fishery is restricted to individuals that hold a valid limited entry or interim-use permit. Only permit holders are permitted to pick or rake kelp, place the kelp in containers, transport containers, operate skiffs, or perform any other duties associated with the fishery while the fishery is open. At the time the fishery closes, all harvested roe-on-kelp must be in containers. ***Any crewmember participation is limited to after the closure;*** after the closure, crewmembers may assist permit holders in transporting containers and operating skiffs. Crewmembers assisting permit holders must possess a valid 2007 crewmember license or other limited entry permit.

The 2007 spawn-on-kelp fishery will be regulated similar to recent year's fisheries. The maximum guideline harvest of 175 tons (350,000 lbs.) remains unchanged. If sufficient spawning is observed throughout the district, a harvest of spawn-on-kelp will be allowed in areas with sufficient spawn deposition and plant cover. If time and weather permit, a public meeting will be held before a harvest is announced, to evaluate product samples from the kelp areas. The time and location of the meeting will be announced on marine VHF 7, with as much notice as possible.

ADF&G OPERATIONS 2007

Beginning April 17, current fishery information will be available by calling the telephone recorder in Dillingham at (907) 842-5226. Recordings will be updated regularly throughout the season, as information becomes available. The department will conduct regular aerial surveys of Togiak District beginning approximately April 15, weather permitting. Once fish are observed, the department will relocate to a new field office in Togiak. The department will monitor marine VHF channel 7 from Togiak. Fishing announcements and regular fishery updates will be broadcast over this channel and 2509 MHz. SSB. Reports will be broadcast from Togiak each evening at 6:30 p.m., and at other times as needed. Catch and opening information will be available with some delay at the Commercial Fisheries website: <http://www.cf.adfg.state.ak.us/>

Test Fish Guidelines

Gillnet and Purse Seine

- 1 Verbal approval to test fish must be obtained from ADF&G in Togiak prior to any test fishing activity. Department representatives will assign an area to each test fish volunteer, and a starting and ending time. Approval to test fish is limited to the area and time frame assigned.
- 2 The department representative, upon contact, will assign number of test sets and number of samples per set. Number of sets typically ranges from one to three sets per vessel. Number of samples per set typically ranges from one to two for gillnet sets, and up to four for purse seine sets.
- 3 Samples should weigh approximately 10 to 15kg (25 to 30 lbs), and be placed in a container (trash bag or bucket) labeled with set location, vessel name, time of set and, for gillnets, mesh size.

-continued-

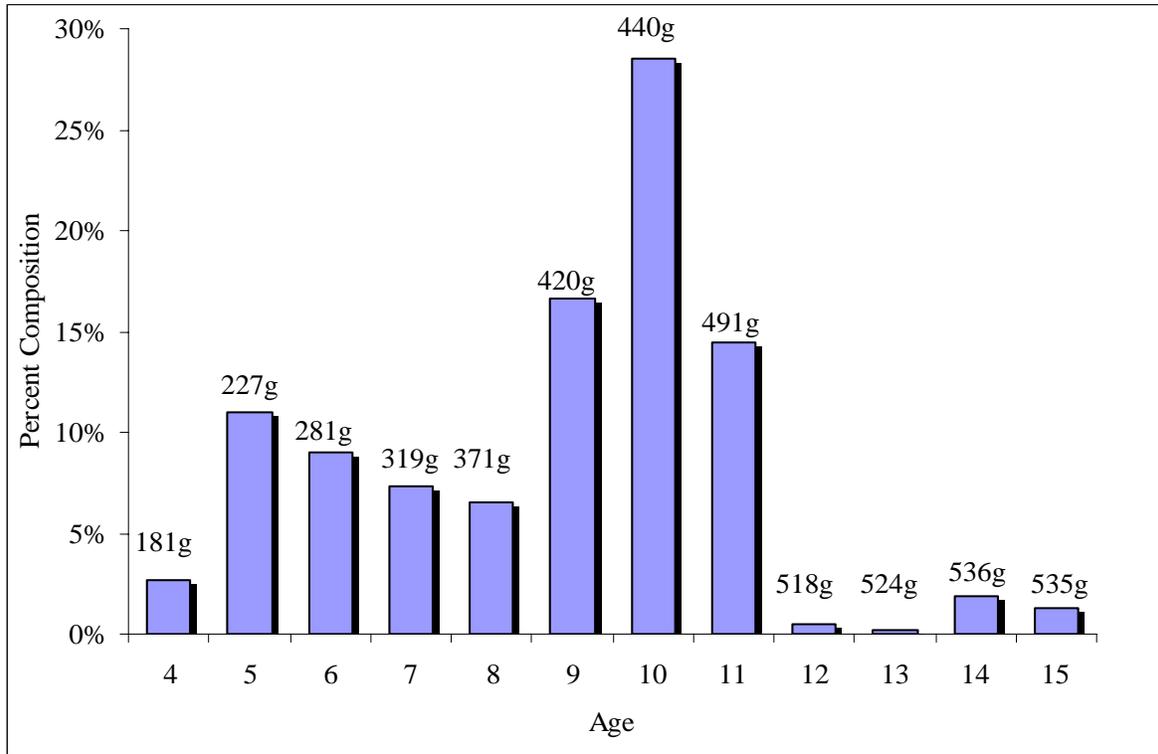


Figure 1. Forecasted age composition by weight and number for the 2007 Togiak herring return. Forecasted average weight (grams) by age is also presented.