

KODIAK MANAGEMENT AREA  
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By

Dennis Gretsch  
Kevin Brennan  
Dave Prokopowich

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## **AUTHORS**

Dennis R. Gretsch is an Assistant Area Management Biologist for Kodiak in Region IV, Alaska Department of Fish and Game, Division of Commercial Fisheries, 211 Mission Road, Kodiak, Ak. 99615.

Kevin R. Brennan is an Assistant Area Management Biologist for Kodiak in Region IV, Alaska Department of Fish and Game, Division of Commercial Fisheries, 211 Mission Road, Kodiak, Ak. 99615.

Dave L. Prokopowich is the Area Management Biologist for Kodiak in Region IV, Alaska Department of Fish and Game, Division of Commercial Fisheries, 211 Mission Road, Kodiak, Ak. 99615.

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## INTRODUCTION

### *Boundaries*

The Kodiak Management Area (KMA) comprises the entire Kodiak archipelago and that portion of the Alaska Peninsula which drains into Shelikof Strait between Cape Douglas and Kilokak Rocks of south central Alaska (Figure 1). The archipelago is approximately 150 miles long, extending from Shuyak Island south to the Trinity Islands. The Alaska Peninsula portion is over 150 miles long and is separated from the archipelago by the Shelikof Strait which averages over 30 miles in width.

### *Management Units*

Management of the KMA commercial salmon fisheries is structured around seven districts subdivided into 52 sections (Figure 2 Appendices A.1 - A.11). These sections are occasionally further subdivided inseason by emergency order (EO) to adjust fishing effort on unexpected salmon surpluses or deficits. Each section defines a traditional geographical harvest unit managed for specific stocks and/or traditional fishing patterns.

### *Production Potential*

All five species of Pacific salmon are native to the KMA. There are 440 salmon streams within the KMA; 36 support sockeye salmon (*Oncorhynchus nerka*) populations, 4 have chinook (*O. tshawytscha*) populations, 174 have coho (*O. kisutch*) populations, 150 sustain chum (*O. keta*) populations, and all 440 streams have pink (*O. gorbuscha*) populations. Of these streams, 92 are within the Alaska Peninsula (Mainland District) portion, and the remainder within the Kodiak archipelago. The archipelago has 234 streams on Kodiak Island, 84 on Afognak Island, 18 on Shuyak Island, and 12 on the Trinity Island group (Table 1).

Salmon escapement goals were developed by the Alaska Department of Fish and Game (ADF&G), Division of Commercial Fisheries, KMA management and research staff. Escapement goals have been developed for sockeye, pink, and chum salmon stocks by river system (Appendix B.1-B.3). Additionally, escapement goals have also been established for most coho populations and major chinook stocks (Appendix B.4-B.6). Achievement of salmon escapement goals by species annually for the significant production systems, a stabilized long term production should be expected. It can be expected that environmental conditions encountered throughout the life cycle of these species will create fluctuations in salmon production.

## **Processing**

During 1991 there were 11 shorebased processing facilities which bought salmon in the KMA (Table 2). Nine of these are located within the Kodiak city limits. Shorebased plants in Chignik and the Cook Inlet area occasionally process salmon harvested in the KMA. Estimated sustained processing capacity of Kodiak shorebased plants is approximately one million salmon per day which includes both canned and frozen product. Salmon processing ships generally operate in the KMA only during years when large harvests of pink salmon are expected. Two ships processed salmon in 1991.

### *Historical Perspective*

The earliest documented commercial salmon gear were the cannery owned beach seine operations that fished near the terminus of Karluk Lagoon. Prior to statehood the Kodiak commercial salmon fishery was dominated by cannery owned fish traps combined with fishermen owned set gillnet, purse seine, and beach seine gear ( in descending order of participation). During 1974 a "limited entry system" was adopted by the State of Alaska which restricted the number of individuals allowed to participate in commercial salmon fisheries. This system formally established post-statehood levels of specific gear type participation. Actual numbers of permits fished each year varies slightly (Figure 3). The majority of permits (over 75%) are owned by Alaska state residents. With ownership varying little since 1985. (Table 3)

The geographical areas currently open to specific gear types have remained unchanged since 1974 with three exceptions. First in the mid 1970's that portion of the Karluk District between Rocky Point and Cape Uyak was closed to set gillnet gear in an attempt to accelerate the rebuilding of the Karluk sockeye and pink salmon stocks. No documented gillnet gear had fished there since the early 1960's and no existing gillnetter's were affected. Several purse seine locations within that area which could impact Karluk stocks were brought under direct management control. A second gear and area adjustment occurred in the late 1970's in the Alitak District. The common boundary between the Cape Alitak, Moser-Olga Bay and Portage-Deadman Sections was adjusted. This was done in an effort to reduce gear conflicts caused by an unclear boundary description. The area open to set gillnet gear was reduced from Cape Alitak to Tanner Head and was increased in Deadman Bay to a point northwest of Fox Island. The third gear and area adjustment was made in Zachar Bay to alleviate fixed and mobile gear conflicts. Closed water sanctuary markers were reduced (moved further into the bay) and the new area was designated seine-gear-only. The creation of this small area adjacent to the closed waters within Zachar Bay was consistent with that of other major westside Kodiak bays.

## **Processing**

Commercial salmon processing within the KMA has evolved from small salting and pickling operations, to canning, and at present to multi-tasked operations producing fresh and frozen products, supplemental to canned salmon. Kodiak processors presently are exploring the marketability of various products, such as fresh and frozen whole salmon, frozen fillets, frozen minced, and salmon surimi. The physical and operational nature of Kodiak processing plants has

evolved from scattered seasonally operated canning operations, to efficient shorebased plants concentrated mostly within Kodiak's city limits. Recent technology used in processing bottom fishes have been adapted to salmon processing yielding diverse, new, high quality salmon products.

## METHODS

### *Management*

The ADF&G Commercial Fisheries Division, is responsible for the management of the salmon stocks of the state of Alaska. In the KMA, the staff responsible for regulation of the commercial salmon fishery consists of an Area Management Biologist, and two Assistant Area Management Biologists, approximately 13 seasonal employees. The Kodiak salmon research staff includes an Area Research Biologist and six seasonal employees. A Regional Management Coordinator and a Regional Research Biologist oversee each of the operations.

Preseason salmon forecasts are developed jointly by the management and research biologists. A preemergent pink salmon sac fry survival study has been conducted each spring by the KMA management staff for the past 25 years. The data collected are within a model for the pink salmon forecast (Appendix C.1-C.3). ADF&G seasonal employees at fish counting weir stations collect salmon escapement data and sockeye salmon scale, sex, and length (AWL) data which are used to develop system specific and area wide sockeye salmon forecasts (Appendix C.4-C.7).

Basic inseason management activities focus around daily evaluations of actual run strength in comparison to preseason expectations by species. The management staff's inseason duties include daily contact with all buyers to obtain current harvest information by area and species. Also, staff have daily contact with fishermen to discuss run strength and distribution along with obtaining feedback concerning inseason management activities. Salmon buildup estimates and escapement counts are collected from frequent fixed wing aircraft surveys of KMA bays and streams. Actual escapement counts are collected from up to 12 fish counting weir stations through daily single side band radio contact. Additional inseason information on returning sockeye salmon run strength is obtained from an ADF&G test fishery in the Alitak Bay District.

With analysis of the aforementioned data, the KMA Management Biologist writes an EO which describes details for upcoming or continuation of the commercial fishery. The EO describes the starting date, time, and duration of the fishery along with the geographical areas (districts or sections) which are opened or closed to fishing, and puts them into regulation. A news release (NR) is then issued which publicly announces the fishery. Guiding the KMA staff are several Board of Fisheries (BOF) approved "Management Plans" that describe biological and allocative constraints which the management staff must follow when structuring commercial salmon fisheries. These plans are part of the Kodiak Area Commercial Salmon Fishery Regulations (Appendix D.1). Currently five Board approved management plans are in effect for the KMA.

## STOCK STATUS

### *Chinook Salmon*

The Kodiak Area has two naturally occurring chinook salmon populations :the Karluk and Ayakulik stocks, and two introduced populations :the Dog Salmon and Pasagshak stocks. The natural stocks occur in major systems where escapements are monitored via fish counting weirs. The introduced stocks are in smaller systems where escapements are monitored by a weir (Dog Salmon) or aerial survey (Pasagshak). No directed chinook commercial salmon fisheries occurs on these stocks, though harvests incidental to directed fisheries on sockeye and pink salmon do occur. A moderate sport fish harvest on Karluk and Ayakulik stocks is realized, with commercially guided operations presently on the increase. No inseason assessment of the sportfish harvest is conducted and concerns exist on the impact the sport fishery is having on these stocks. However these populations appear healthy, escapement requirements are regularly met, and current regulations adequately protect these populations with the current levels of exploitation. In the Dog Salmon and Pasagshak river systems, to aid in the establishment of viable spawning populations, sport fishing for chinook salmon is prohibited. The Dog Salmon run is stable but is a relatively small population. Where as the Pasagshak population is and will likely continue to be, a minor producer of chinook.

### *Sockeye Salmon*

There are 39 known sockeye populations in the KMA. Large runs occur in four systems, including the Karluk, Ayakulik, Upper Station, and Frazer Lake Systems. These systems contribute about 90 percent of the KMA sockeye salmon production. Directed fisheries on these stocks are intense and require extensive management activities from June 9 through September 15. The Karluk and Upper Station systems have distinct early (June 9 - July 15) and late (July 16 - September 15) late runs. The Ayakulik and Frazer systems are primarily early run systems. Stocks from all the systems are considered healthy. Combined maximum production from these systems may have been reached and is the result of rebuilding efforts started in 1970.

The remaining sockeye salmon populations are considered minor, but significant. They include Afognak, Uganik, Akalura, Saltery, Kafliia, Pauls, Buskin, Swikshak, Little, Thorsheim, and Perenosa systems, in descending order of potential production). These systems account for approximately 5 percent of KMA current sockeye salmon production. Fish weirs were operated on Afognak, Uganik, Akalura, Saltery, Pauls, and Portage systems for counting escapement. Timely and accurate escapement data collected from these weirs provides the best opportunity for stock specific sockeye management. The remaining systems are monitored by aerial survey with the management more precarious. These minor stocks offer a relatively high yield per unit effort to directed commercial seine effort, and so, are vulnerable to overexploitation. These populations are considered to be marginally to moderately healthy based upon 1991 production. A more conservative management approach for these systems will prevail in upcoming years.

It is expected that enhancement and rehabilitation projects being considered for several of these systems, could boost production in future years.

The remaining 21 systems are minor systems that receive little to moderate exploitation by directed commercial effort.

Commercial sockeye salmon harvest strategies have not limited subsistence or sportfishing opportunities in the KMA. Both the Buskin and Barabara sockeye stocks receive substantial subsistence effort due to their close proximity to communities. These two systems may be approaching maximum exploitation from subsistence effort alone. Sport fish interest in Barabara is minimal while at the Buskin is seeing increasing effort. However these systems will require close monitoring in the future to ensure biological protection and that future subsistence uses will not be jeopardized.

### *Coho Salmon*

About 174 systems have been identified which support coho populations in the KMA, with 20 percent of these systems (35 streams) producing 80 percent of the total KMA production. In recent years coho salmon have experienced the largest increase in exploitation by sport, commercial, and subsistence users within the KMA. A data base is under development by ADF&G concerning escapement and production of coho, which will aid in the management of this fishery. With knowledgeable inseason management at least minimum escapements should be annually achieved. Concern exists for the remaining 80 percent (135 streams) where coho populations are relatively small and more susceptible to overexploitation. The rather precarious status of these small stocks will not improve unless a concentrated regulatory and management effort is implemented to safeguard these stocks.

### *Pink Salmon*

All 440 known salmon streams within the KMA support pink salmon populations. Aerial surveys and weirs are the primary method of counting pink salmon escapement within the KMA. Pink salmon represent the foundation of Kodiak salmon production and represent, 80 percent of the total annual KMA harvest. The historical database on harvests and escapements is extensive and a preseason forecast is annually produced. Prior to 1948, odd brood year pink salmon runs were larger than even year runs. However, from 1948 to present the pink runs have been larger during even years. With curtailment of the commercial salmon fisheries during 1989, as a result of the Exxon Valdez oilspill, all pink systems received excellent escapements. Overwinter stream and early marine environmental conditions were excellent for egg and fry survival for the 1991 and 1993 expected returns. The 1991 harvest and escapements were excellent. Combined, these factors may indicate a switch to odd brood year dominant run strengths in future years. The preemergent pink salmon fry sampling program examines egg to fry survival, annually during March and April. This data is compared to previous year's results to develop a preseason forecast of return and potential harvest. The KMA pink salmon forecasts are reliable in projecting extremes for major systems and total production. The forecast results enable fishery

managers to make decisions concerning fishing time and areas opened to fishing, especially during the early portion of the pink run. Production of pink salmon in the KMA should remain at above average levels provided that existing management strategies are retained and that adverse environmental conditions don't prevail. The long term status of this species is projected to be excellent.

### *Chum Salmon*

Chum salmon management has received increasing emphasis over the past ten years in the KMA. Difficulties in this fishery management are associated with evaluating inseason run strength. Chum salmon escapement data is primarily gathered during aerial surveys. There is a need to develop a chum salmon stock management strategy to prevent overexploitation due to directed fishing on specific stocks.

Currently, chum escapement goals, historical harvest and escapement data, and inseason harvest and escapement data are being evaluated to improve management of this species. Similarities exist between pink and chum salmon freshwater and early marine survival. Therefore it maybe possible to use pink salmon preemergent fry survival and forecasting information for chum salmon production. Combined with ADF&G's ability to take advantage of the multiple age class nature of annual chum returns to develop harvest projections (through catch sampling) the future status of this species is expected to be excellent.

## RESULTS

### *1991 Salmon Season Summary*

#### **ADF&G Management**

The 1991 KMA commercial salmon fishery was a record year for total salmon harvested, over 24 million fish. Salmon prices were low with the total exvessel value of the harvest estimated at \$31.5 million dollars. This was the sixth highest dollar value since 1970. These harvest and value figures exclude the projected estimated harvest of 26 million fish and fishery value of \$54 million, if a normal fishery would have occurred in 1989 in lieu of the oil contamination of the KMA from the Exxon Valdez disaster.

The 1991 commercial salmon season lasted 115 days, from June 9 through October 10, dates of the first and last landings. During that time, a total of 550 permit holders fished, of which 348 were purse seine, 185 set gillnet, and 17 beach seine fishermen. A total of 21,378 landings were made to 13 buyers and processors.

Historically, the 1991 harvest of 24 million salmon was more than three times the 109 year average (1882-1991) of 7 million salmon (Table 4). The 1991 harvest was approximately 9

million fish greater than the recent odd-year average (1981-1989) of 14 million fish (Table 5 ; Figure 4). Chinook harvests reached a new record of 22,200 fish, and was twice the recent five year average of 10,000. A record sockeye harvest of 5.7 million fish occurred in 1991, exceeding the 1990 record year by 450,000 fish. The coho harvest was the second largest on record at 325,000 fish, which was 1.5 times greater than the recent five year average of 220,000. Pink salmon harvests of 16.6 million fish was the fourth highest recorded return and is 2.2 times greater than the average harvest, 1948-1990. The chum harvest of 1 million fish was well above the long term average harvest of 786,000 fish (Table 4).

## **Industry**

During 1991, there were 13 fish buyers, operating processing plants (11 were shorebased and 2 floating processing facilities), in the KMA. Of the floating facilities, both were independent transient buyers who operated in Kodiak for a relatively short period of time.

The 1991 effort levels (active gear) were above average for purse seine and set gillnet gear and below average for beach seine gear (Figure 3).

The 1991 season was also noteworthy in terms of intra-area user group harmony; traditional aggravation between fixed and mobile gear groups (i.e. seine and gillnet) were at a low levels. There are six management plans used to conduct the commercial salmon fishery within the KMA (Prokopowich et al.1991). Five of these plans are BOF approved management plans; and are the Cape Igvak, Alitak Bay District, Westside Kodiak, North Shelikof Strait Sockeye, and Crescent Lake Coho Management Plans, which are part of the Kodiak Area Commercial Salmon Fishery Regulations (Appendix D.1.). These plans worked well for meeting the biological and allocative requirements during the 1991 season. The sixth management plan is associated with production of the Kitoi Bay Hatchery, and was also successful.

## **ADF&G Management**

Implementing these plans and other inseason management actions required the issuance of 35 inseason emergency orders over a 106 day period, and affected fishing time in 52 management units (Appendix D.2). This level of emergency order activity reflects the inseason action required to not only achieve the aforementioned management considerations but also the inter- and intra-gear allocation considerations crucial to a successful management program.

## **Escapement**

During 1991, overall escapements for all species exceeded historical averages (Table 6; Figure 5), and are consistent with recent annual trends in escapement magnitude for the years (1982-1991) years, (Brodie, 1991). Aerial surveys are conducted from June through September to assess salmon escapements into KMA streams and buildups within bays (Appendix E.1.). Escapements by stream or river are determined by combining peak counts from aerial surveys, foot survey counts, and hand tallied counts from those systems with fish weirs (Appendix E.2.-E.9.). Fish weir counts represent actual handtallied counts of total escapements, (Appendix E.10).

This represents a major portion of the total chinook, sockeye, and coho salmon escapement (essentially 100%, 95%, and 32%, respectively), a significant portion of pink escapements (15%), and a minor portion of the chum escapements (2%). The fish weir is the primary management tool in the Kodiak Area and has annually proved its value for guiding inseason management actions (Appendix E.11). Increased aerial survey efforts by the United States Fish and Wildlife Service (USFWS) have increased the assessment coverage of salmon escapements within the KMA on Kodiak National Wildlife Refuge lands in recent years. The USFWS aerial survey project extends beyond the time period which ADF&G utilizes to manage the commercial fisheries. USFWS personnel survey from mid-September through October to assess coho escapements, and they additionally target chum systems on federal lands more extensively than ADF&G.

A brief escapement summary by species for 1991 is as follows:

Chinook salmon escapements were excellent occurring at record levels. The 1991 escapement of 27,306 fish was over twice as high as the (1968-1990) average of 12,034 fish (Table 6). The total indexed chinook escapement is a summation of counts from the Karluk, Ayakulik and Dog Salmon weirs only.

Sockeye escapements in general were good to excellent for all major systems and ranged from fair to excellent for the minor systems. Escapement goals are established for all KMA sockeye systems and are a primary criteria used to manage the sockeye fishery. For the four major systems desired escapement goals were exceeded in the Frazer and Upper Station systems and were reached in the Ayakulik system. Early run escapement to the Karluk system fell short of the minimum escapement goal by 10,000 fish with the goal established at 250,000. The significance of these four systems and the importance of maintaining a stable level of adequate escapement into them is emphasized by the fact that these systems accounted for approximately 95% of the 1991 sockeye escapement. If these systems produced at desired levels they should be capable of providing an average harvest of approximately 2.5 million sockeye salmon annually. The minor systems on Kodiak Island and the Mainland Districts received fair to excellent escapement in 1991. Pauls Bay was the exception, where only 3,200 sockeye salmon returned with only minor commercial fishing on this stock. The minimum escapement goal for this system was 20,000 fish. All other minor systems reached minimum escapement goals or slightly exceeded desired escapement goals.

Coho escapements were good into most major systems. The indexed total escapement of 259,850 is the highest peak coho escapement assessed since 1977, (Table 6). This record escapement may be a result of increased survey efforts which may have improved coho system coverage. State funding reductions for the ADF&G KMA weir projects resulted in closing of several important coho counting weirs early into the coho run. These weir closures made coho fishery management more tenuous and accurate escapement data was unobtained. Coho minimum escapement goals were achieved into all systems which had operational fish weirs (Appendix B.5.). Minimum numbers of coho salmon had not been tallied prior to the Red River, Saltery, and the Pauls Bay-Perenosa weirs being removed due to budget restraints. Aerial surveys along with sport and commercial fishermen reports, indicated that at least minimum escapements were achieved for these systems. Most minor systems which were surveyed had good escapement. For those minor unsurveyed systems occurring adjacent to surveyed systems it is reasonable to assume that escapements were comparable.

Pink salmon escapements were generally good to excellent in most systems (Appendix E.2.-E.9.). The indexed total pink escapement of 4.3 million was the largest odd brood year escapement (1963-1987), excluding 1989 (Table 6). Prior to 1989 even brood year returns were 25-70% larger than the odd brood years. With restrictions on commercial fishing in 1989 due to oil contamination from the Exxon Valdez oilspill, an indexed 14.6 million pink salmon escaped into KMA streams. This was the largest escapement of pink salmon ever documented in the KMA and record preemergent fry densities were recorded in the spring of 1990, (Appendix C.2.). Moderate climatic conditions prevailed through the Spring of 1990 which enhanced fry survival. The opposite extreme prevailed for the even year run in 1990, with minimum escapements in most systems, low fry densities in 1991, and poor spring climatic conditions in 1991. These factors could have set the framework for establishing a switch in run strength dominance, so that a stronger odd year return could prevail in future years.

Pink escapements were well distributed in all management units, and it is estimated that approximately 85% went into the index streams (those used for forecasting and inseason management). Streams in the Eastside Kodiak and Mainland Districts had strong total returns and escapement levels for these areas were excellent.

Chum salmon escapements were considered good to excellent for almost all major systems Appendix E.2.-E.9.. The 1991 chum salmon escapement was twice the average escapement (1962-1991) and above the recent year averages (1986-1990), Table 6. It was one of the better escapements in terms of both volume and distribution historically, with Eastside Kodiak and Mainland District systems having excellent returns.

#### *Fishery Chronology (June 9 - October 10)*

The following chronology of the 1991 season depicts species specific fisheries and briefly discusses inseason harvest activities and management strategies (Figure 6). A chronology of commercial salmon fishing openings by management section and the duration of these fishing times is depicted (Figure 7). Commercial salmon fishing began on June 9 on early run sockeye and continued through October 10 on coho runs, with the peak harvest of predominantly pink salmon in early August (Figure 8). Commercial salmon harvest by day for all species and all gear types combined is shown in Table 7. The value of the KMA commercial salmon fishery by gear and salmon species for the 1991 season is shown in Table 8. Commercial salmon harvests by week, by species for purse seine, beach seine, and set gillnet gear are depicted in Tables 9-11 respectively.

#### **Chinook Salmon Harvest (June 9 - October 10)**

Chinook salmon in the Kodiak Area are not a targeted species either by commercial seine or gillnet gear or by directed ADF&G management activities. The actual harvests are incidental to targeted sockeye and pink salmon fisheries.

The 1991 Chinook harvest was of record proportions with almost half of the harvest occurring on Kodiak Island's Westside. The average weight for chinook harvested in 1991 was 12.1 pounds which is consistent with historical average weights.

A conservative exvessel value to all permit holders for chinook salmon in 1991 was \$189 thousand dollars based upon an average inseason grounds price of \$0.70/lb. This was approximately less than one percent of Kodiak's total salmon exvessel value.

Purse seine gear was the major harvester of chinook salmon (94% of total chinook harvested), yet chinook represented less than 1% of both this gear type's total salmon harvest and exvessel value. Beach seine gear was essentially an insignificant harvester of chinook salmon (< 1%), and consequently represented less than 1% of both this gear type's total salmon harvest and exvessel value. Set gillnet gear was a minor harvester of chinook salmon (5%) and represents less than 1% of both this gear type's total harvest and exvessel value.

### **Early Run Sockeye Salmon Fisheries (June 9 - July 15)**

The 1991 early run sockeye harvest exceeded preseason expectations by 791,000 fish (Table 12). The KMA has two BOF approved management plans which affect Kodiak seine permit holders ability to target on sockeye salmon which are migrating through the KMA to spawning streams in the Chignik and Cook Inlet management areas.

The Cape Igvak Management Plan which covers the time period from June 9 through July 25 for fishing activity in the Cape Igvak Section, has been in effect since 1978. The Cape Igvak Section is the southern most section of the Mainland District and is closest to the Chignik Management Area (Figure 2 and Appendix A.11). This plan allocates a percentage of the Chignik sockeye harvest (approximately 15%) to Kodiak fishermen when specific biological and harvest criteria are met in Chignik, (Figure 9). Fishing began in the Cape Igvak Section on June 12 and continued through June 19. The projected early run harvest was 69,000 sockeye less than anticipated, due to a weak early sockeye run to Chignik. The Cape Igvak management plan's allocative and biological requirements were strictly adhered to.

The early sockeye runs to Karluk, Ayakulik, Frazer and the minor systems harvests exceeded preseason expectations by 66,000, 163,000, 550,000 and 115,000 fish, respectively. A majority of the minor system surplus sockeye salmon came from a strong return to Litnik. The Upper Station sockeye harvest was approximately 56,000 fish less than projected.

Low salmon prices offered by processors to fishermen during the 1991 season created discontent statewide among commercial salmon fishermen. A majority of Bristol Bay salmon fishermen boycotted commercial fishing in late June in hopes of obtaining a higher price for sockeye. Alaska Peninsula, Chignik, Cook Inlet, and Kodiak fishermen unified and joined this boycott. In the KMA the salmon fishery stopped June 26 through July 2, in support of the boycott, which all KMA fishermen voluntarily supported. This boycott created new management problems in the KMA, and the Alitak Bay District was impacted the most. Due to no fishing, large numbers of sockeye passed the normal seine and bay gillnet fishery locations. A surplus of sockeye destined for the Frazer Lake System built up at the Dog Salmon Flats. Escapement requirements were rapidly met for the Dog Salmon River - Frazer Lake system. This surplus of sockeye salmon led to a closure of the Dog Salmon weir and the Frazer Lake fishpass to stop excessive

escapement. A fishery in the Dog Salmon Flats and lower Dog Salmon River was opened to setnet fishing to harvest surplus sockeye salmon. Other management areas experienced adjustments in both escapement timing and harvest locations as a result of the fishery boycott, but they created no severe management problems. Salmon prices remained unchanged after normal fishing resumed on July 2.

The North Shelikof Strait Sockeye Salmon Management Plan covers the time period from July 6 through July 25. This plan overlaps the timing of KMA early and late sockeye runs, which end and begin on July 15 respectively. This plan limits purse seine fishing opportunities in designated seaward zones through the use of sockeye harvest limits, commonly called "caps". These caps are intended to protect Cook Inlet bound sockeye salmon which are migrating through the southwest Afognak section, and those management units located in the North Shelikof Straits from Dakavak Bay to Cape Douglas (Mainland district) and from Cape Paramanoff to Shuyak Island in the (Afognak District), (Appendix A.8 and A.9). Evaluations of the origins of sockeye salmon harvested in these areas indicates a dominance of Cook Inlet bound sockeye present in this area when this fishery occurs (Barrett 1989; Barrett and Swanton 1991). The historical fishing effort and the importance of the North Shelikof Fishery to KMA fishermen is discussed by (Malloy 1988).

The 1991 sockeye harvest in the Southwest Afognak Section was 34,200 fish, which was 68% of the 50,000 cap for this area. Additionally, 300 chinook, 3,600 coho, 4,000 chum, and 100,700 pink salmon were harvested in this section by 55 vessels. The sockeye harvest during this fishery accounted for only 24% of the total 142,800 salmon caught in this section.

The North Shelikof Management Units had an estimated sockeye harvest of 14,000 fish inseason. However, after postseason tabulation of the fish ticket data 18,800 sockeye were actually harvested. Additionally, 76 chinook, 2,700 coho, 4,000 chum, and 44,800 pink salmon were harvested by 42 vessels.

### **Late Run Sockeye Salmon Fisheries (July 16 - September 15)**

The 1991 overall late run sockeye harvest exceeded preseason expectations by 609,000 fish Table 12.

The Cape Igvak harvest fell short of preseason projections by 44,000 fish. Fishing on late run Chignik fish began on July 11 and continued through July 15. The Cape Igvak fishery was closed for 48 hours, due to concerns for the late run escapement goals being met, but was reopened July 18 through July 25. Total Cape Igvak Section salmon harvests totalled 420,000 sockeye, 7,900 coho, 169,000 pink, 34,000 chum and 1,400 chinook.

The late sockeye runs to the Karluk, Ayakulik, Frazer, Upper Station, and minor systems had harvests exceeding preseason expectations by 260,000, 57,000, 10,000, 57,000, and 165,000 fish, respectively.

The 1991 sockeye salmon harvest was a record high for the KMA, (Figure 4). A conservative exvessel value to all permit holders for sockeye salmon in 1991 was \$23.3 million dollars, based

upon an average inseason grounds price of \$0.80/lb, (Table 8). This was approximately 74% of Kodiak's total salmon ex-vessel value.

Purse seine gear was the major harvester of sockeye salmon (67% of total sockeye harvested), yet sockeye only provided 17% of this gear type's total salmon harvest and 68% of its total exvessel value. Beach seine gear was an insignificant harvester of sockeye salmon (< 1%) and this species represented a minor contribution three percent of this gear type's total harvest and 24% of its total exvessel value. Set gillnet gear was a significant harvester of sockeye salmon (33%). This species provided a large portion 58% of this gear type's total harvest and the majority 90% of its exvessel value during 1991 (Table 8).

### **Coho Salmon Fisheries (August 1 - October 10)**

Coho harvest during 1991, exceeded preseason expectations by 95,000 fish, Table 12. This harvest level was 3.7 times greater than the 94 year average of (1897-1991). It was the second largest coho harvest on record for the Kodiak Area. Increased indexed escapements along with favorable environmental conditions have combined to improve production from the estimated 174 coho streams in this area.

Directed management for this species usually begins during the first week of August and builds in intensity through season's end. A majority of the harvest occurred between August 1 and October 10. A significant proportion of the coho harvest occurred as incidental harvest during the pink, chum, and late run sockeye fisheries. Because of the liberal amount of fishing time associated with these fisheries, reduced numbers of coho reached terminal areas in 1991. Consequently, terminal coho fisheries in 1991 were not as numerous as in past years with less fishing time. This scenario was anticipated because of the projected large pink returns, and subsequent management action necessary to ensure that adequate coho escapement was achieved.

A conservative exvessel value to all permit holders for coho salmon in 1991 was \$708 thousand dollars based upon an average inseason grounds price of \$0.30/lb, (Table 8). This was approximately two percent of Kodiak's total salmon exvessel value.

Purse seine gear was the major harvester of coho (78% of total coho harvested) yet coho only provided 2% of this gear type's total salmon harvest and only 24% of its total exvessel value in 1991. Beach seine gear was an insignificant harvester of coho (< 1%), and this species represented a very minor contribution (< 1%) of this gear type's total salmon harvest and (<1%) of its total ex-vessel value. Set gillnet gear was a significant harvester of coho 22%, yet coho salmon only represented 2% of this gear type's total salmon harvest and only 2% of its total exvessel value in 1991.

### **Pink Salmon Fishery (July 6 - September 5)**

The 1991 pink salmon return was approximately 3.8 million fish less than projected. The forecasted total return, Appendix C.1-C.3, was reasonably accurate and resulted in most desired escapement objectives being achieved. The Westside Kodiak and Eastside Kodiak systems exceeded preseason harvest forecasts by 891,000 and 1,119,000 fish respectively. The Kitoi

Hatchery, Afognak Island, Alitak, and Mainland harvests were below preseason predictions by 1,439,000, 348,000, 3,726,000, and 334,000 fish respectively, Table 12.

The total 1991 pink salmon harvest was the third largest on record. It is possible that Kitoi hatchery production may have been harvested in statistical areas other than those normally designated for hatchery production (example: Tonki area, Outer Chiniak, etc.), and could partially explain the lower than expected hatchery production.

The run timing was such that the peak harvest dates were on August 11 and 12, five to six days later than the average peak harvest date (1970-1991 all years) of August 4. Because of this late timing on a projected record pink return, considerable concern existed as the 1991 return developed. Normally by July 30, 40% of the annual pink harvest has occurred; in 1991 only 34% of the harvest had occurred by that date. The projected minimum harvest level of 17.0 million fish was not achieved.

As indicated in the preseason 1991 harvest strategy, (Prokopowich et al 1991), the projected large pink run was expected to provide liberal fishing opportunities to facilitate harvest requirements. It is important to remember that the Kodiak pink salmon inseason harvest strategy adheres to the following criteria for fishing time: directed pink salmon management begins annually on July 6 and is primarily completed by late August, and totally completed by early September. The first two fishing periods are based solely upon projected total return strength. The third fishing period is based upon a blend of projected return and some early evaluation of actual return, e.g., harvest data and bay buildups. The fourth and fifth fishing periods are based almost solely on actual return strength. And the sixth, seventh, eighth, and ninth periods are based solely upon actual return, with major consideration given to differential production, e.g. weak return areas have less fishing time, strong return areas more fishing time..

Harvest anomalies appear to have occurred and it is difficult to speculate as to which fish were caught where when the total return is of near record proportions. The escapement levels and distribution met preseason expectations, for the most part, with the Eastside and Westside systems stronger than anticipated.

A conservative exvessel value to all permit holders for pink salmon in 1991 was 5.8 million dollars based on an average inseason grounds price of \$0.12/lb, Table 8. This was approximately 18 percent of Kodiak's total salmon exvessel value.

Purse seine gear was the major harvester of pink salmon (92% of total pink harvested); and comprised a major proportion (76%) of this gear type's salmon harvest, but only (23%) of its total exvessel value. Beach seine gear was a relatively minor harvester of pink (1%); however this species comprised a major proportion (94%) of this gear type's total salmon harvest and a significant proportion (66%) of its total exvessel value. Set gillnet gear was a minor harvester of pink 7%. This species was an important contributor (34%) to this gear type's total salmon harvest and total exvessel value (28%) (Table 8).

## **Chum Salmon Fishery (July 6 - September 5)**

The 1991 actual chum salmon harvest exceeded pre-season expectations by 224,000 fish, (Table 12). It was twice the average harvest for the years (1911-1991) (Table 4). The Eastside systems of Kodiak Island's returns were excellent with harvests being 274,000 fish greater than projected. Harvests from the Afognak, Westside, Alitak, and Mainland Districts exceeded or were close to projected expectations. Processors reported excellent quality of chum harvested in 1991, especially in the north and mid Mainland sections and on the Eastside of Kodiak Island. Many of these chums would have been exposed to more fishing effort had not an abnormal shift in fishing effort to more productive fishing areas occurred during July. The chum escapements to most early and many late run major chum systems were good to excellent.

A conservative exvessel value to all permit holders for chum salmon in 1991 was \$1.4 million dollars based on an average inseason grounds price of \$0.20/lb, (Table 8). This was approximately 5% of Kodiak's total salmon exvessel value.

Purse seine gear was the major harvester of chums (83% of total chum harvest), yet chums only provided 4% of this gear type's salmon harvest, and 5% of its exvessel value in 1991.

Beach seine gear was a very minor harvester of chums (<1%) and represented 3% of this gear type's total salmon harvest along with 9% of its total exvessel value.

Set gillnet gear was a significant harvester of chums (17%), yet chums only represented 5% of this gear type's total salmon harvest and only (3%) of its total exvessel value, (Table 8).

Average earnings by gear type were comparable to previous seasons (Figure 10). However due to the low salmon prices the poundage necessary to obtain these earnings was greater than previous season.

Information on the 1991 commercial salmon season, including harvest statistics and harvest breakdowns by date, area, and gear type, are reported in (Appendices G.1.- G.3.). Kodiak District tides are reported in, (Appendix H.1.).

### *Subsistence Harvest*

The KMA staff issues subsistence salmon permits annually in an attempt to obtain harvest data (Table 13). In 1986, a program was instituted to build a computerized address list of permit users. In 1989 KMA staff began to mail out permits, in order to cut down office traffic. The mailing list was made up of all the permit users from 1986 through 1988. State regulations in effect during 1989 limited permit holders to only those Alaskans permanently domiciled within the Kodiak Island Borough. Regulations also excluded members of the United States Coast Guard (USCG) living on the USCG base or government provided housing in Kodiak. In 1990 regulations changed again allowing anyone who qualifies as a resident of Alaska as eligible for a subsistence salmon permit for the KMA. Permits were mailed out, and predictably many were returned to ADF&G as undeliverable. Over 600 permits were sent back to the office, with 2,300 permits actually issued.

Subsistence fishermen are requested to return their permits to ADF&G after the salmon season, with a listing of areas fished by date and salmon harvest by species. Approximately 1,200 permits were returned and a total of 32,000 salmon were harvested, (Table 13). The most utilized subsistence fishery areas include the North Kodiak Island and the South Afognak Island (Appendix I.1.). Subsistence regulations which describes fishing seasons, gear specifications, and permit requirements are shown in (Appendix I.2.).

### *1992 Issues and Plans*

#### **Local User Groups**

The North Shelikof Strait fishery will be closely followed by all KMA and Cook Inlet salmon fishermen. In 1992, fishing time is expected to be similar to that experienced in 1990 in areas where pinks are the targeted management species ( 2-3 days a week) and similar to that experienced since 1987 where chums are the targeted management species (2-3 days a week). It may be necessary to change the Karluk early run sockeye salmon escapement goals, which may have an effect on the June fishing time in the Westside fishery.

The 1992 projected salmon harvest by species and broad geographical area is listed (Table 14). These projections are for above average harvests for most species and are presented with a reasonable degree of confidence. The accuracy of Kodiak's annual harvest projections have been reliable in terms of relative abundance, although improved precision of these projections is an ongoing goal.

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Table 1. Estimated number of salmon production systems per district,<sup>a</sup> with species distribution<sup>b</sup>, Kodiak Management Area, 1991.

Management District	Number of Streams	Number of Streams with Each Species				
		Chinook	Sockeye	Coho	Pink	Chum
Afognak	102	0	13	48	102	5
N.W. Kodiak	63	0	4	22	63	23
S.W. Kodiak	11	2	2	10	11	6
Alitak	30	1	5	15	30	14
Eastside Kodiak	116	1	8	32	116	47
N.E. Kodiak	26	0	1	20	26	9
Mainland	92	0	6	27	92	46
<b>TOTAL</b>	<b>440</b>	<b>4</b>	<b>39</b>	<b>174</b>	<b>440</b>	<b>150</b>

<sup>a</sup> The total number of streams identified in this table are depicted on the 1991 Kodiak Area Salmon District Map.

<sup>b</sup> These estimates are based on current knowledge and, in fact, are expected to change as more system specific data is collected.

Table 2. Commercial salmon buyers and processors, Kodiak Management Area, 1991.

Buyers/Processors	Shorebased Processors			Floating Processors			Product	
	Kodiak City	Kodiak Borough	Other Areas	Kodiak City	Kodiak Borough	Other Areas	Canned	Frozen
Alaska Fresh Seafoods	X							X
All Alaskan Seafoods	X							X
Alaska Pacific Seafoods	X						X	X
WACO's Cove Packing -Alitak		X					X	X
WACO's Cove Packing-Port Baily		X					X	X
Cook Inlet Processors	X	X					X	X
East Point Seafoods	X							X
International Seafoods	X							X
Golden Age Fisheries					X			X
Kodiak King Crab, Inc.	X						X	X
Kodiak Salmon Company-Larsen Bay		X					X	X
Pallisades Fisheries					X			X
Western Alaska Seafoods	X							X
<b>TOTALS</b>	<b>8</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>6</b>	<b>13</b>

Table 3. Resident vs non-resident Kodiak salmon limited entry permit ownership, Kodiak Management Area, 1985-1991.

	PERMIT GEAR TYPE						TOTAL	
	PURSE SEINE		BEACH SEINE		SET GILLNET		Number	%
	Number	%	Number	%	Number	%	Number	%
<b>1985</b>								
RESIDENT	291	76.0	31	88.0	148	79.0	470	77.0
NON-RESIDENT	89	23.0	2	6.0	40	21.0	131	22.0
UNKNOWN	<u>4</u>	1.0	<u>2</u>	6.0	<u>0</u>	-	<u>6</u>	1.0
TOTAL	384		35		188		607	
<b>1986</b>								
RESIDENT	286	74.0	28	80.0	148	79.0	462	76.0
NON-RESIDENT	80	21.0	3	9.0	39	21.0	122	20.0
UNKNOWN	<u>19</u>	5.0	<u>4</u>	11.0	<u>0</u>	-	<u>23</u>	4.0
TOTAL	385		35		187		607	
<b>1987</b>								
RESIDENT	282	73.0	29	83.0	151	80.0	462	76.0
NON-RESIDENT	84	22.0	2	6.0	35	19.0	121	20.0
UNKNOWN	<u>20</u>	5.0	<u>4</u>	11.0	<u>2</u>	1.0	<u>26</u>	4.0
TOTAL	386		35		188		609	
<b>1988</b>								
RESIDENT	287	74.0	30	86.0	149	79.0	466	76.0
NON-RESIDENT	93	24.0	2	6.0	39	21.0	134	22.0
UNKNOWN	<u>7</u>	2.0	<u>3</u>	8.0	<u>0</u>	-	<u>10</u>	2.0
TOTAL	387		35		188		610	
<b>1989</b>								
RESIDENT	285	73.0	29	83.0	146	77.0	460	75.0
NON-RESIDENT	96	25.0	4	11.0	43	23.0	143	23.0
UNKNOWN	<u>7</u>	2.0	<u>2</u>	6.0	<u>0</u>	-	<u>9</u>	2.0
TOTAL	388		35		189		612	
<b>1990</b>								
RESIDENT	285	73.0	29	83.0	144	76.0	458	75.0
NON-RESIDENT	98	25.0	4	11.0	46	24.0	148	24.0
UNKNOWN	<u>6</u>	2.0	<u>2</u>	6.0	<u>0</u>	-	<u>8</u>	1.0
TOTAL	389		35		190		614	
<b>1991</b>								
RESIDENT	274	71.0	28	80.0	141	75.0	443	73.0
NON-RESIDENT	99	25.0	2	6.0	48	25.0	149	24.0
UNKNOWN	<u>15</u>	4.0	<u>5</u>	14.0	<u>0</u>	-	<u>20</u>	3.0
TOTAL	388		35		189		612	

Table 4. Historical salmon harvest by species, Kodiak Management Area, 1882-1991<sup>a</sup>.

YEAR	CHINOOK	SOCKEYE	COHO	PINK	CHUM	TOTAL
1882	-	59,000	-	-	-	59,000
1883	-	189,000	-	-	-	189,000
1884	-	282,000	-	-	-	282,000
1885	-	469,000	-	-	-	469,000
1886	-	646,000	-	-	-	646,000
1887	-	1,005,000	-	-	-	1,005,000
1888	-	2,781,000	-	-	-	2,781,000
1889	-	3,755,000	-	-	-	3,755,000
1890	-	3,593,000	-	-	-	3,593,000
1891	-	3,846,000	-	-	-	3,846,000
1892	-	3,126,000	-	-	-	3,126,000
1893	-	3,245,000	-	-	-	3,245,000
1894	-	3,830,000	-	-	-	3,830,000
1895	-	2,247,000	8,000	-	-	2,255,000
1896	-	3,329,000	-	-	-	3,329,000
1897	-	2,786,000	2,000	-	-	2,788,000
1898	-	2,033,000	19,000	-	-	2,052,000
1899	1,000	1,935,000	32,000	-	-	1,968,000
1900	5,000	3,450,000	32,000	-	-	3,487,000
1901	4,000	4,826,000	-	2,000	-	4,832,000
1902	3,000	3,868,000	35,000	-	-	3,906,000
1903	1,000	1,826,000	120,000	10,000	-	1,957,000
1904	3,000	2,875,000	103,000	5,000	-	2,986,000
1905	2,000	2,142,000	87,000	-	-	2,231,000
1906	4,000	3,980,000	24,000	-	-	4,008,000
1907	4,000	4,232,000	38,000	-	-	4,274,000
1908	3,000	2,488,000	74,000	286,000	-	2,851,000
1909	4,000	1,915,000	52,000	154,000	-	2,125,000
1910	2,000	1,955,000	44,000	215,000	-	2,216,000
1911	1,000	2,686,000	22,000	230,000	6,000	2,945,000
1912	1,000	2,246,000	17,000	547,000	25,000	2,836,000
1913	1,000	1,663,000	28,000	590,000	4,000	2,286,000
1914	1,000	1,255,000	32,000	1,726,000	13,000	3,027,000
1915	1,000	1,664,000	52,000	252,000	20,000	1,989,000
1916	1,000	3,373,000	50,000	3,182,000	29,000	6,635,000
1917	1,000	3,646,000	30,000	225,000	16,000	3,918,000
1918	2,000	1,894,000	78,000	2,467,000	82,000	4,523,000
1919	2,000	1,619,000	104,000	283,000	60,000	2,068,000
1920	2,000	1,958,000	89,000	1,977,000	55,000	4,081,000
1921	1,000	2,858,000	46,000	68,000	25,000	2,998,000
1922	1,000	1,097,000	120,000	2,766,000	224,000	4,208,000
1923	2,000	1,090,000	78,000	929,000	39,000	2,138,000
1924	1,000	1,408,000	121,000	5,435,000	118,000	7,083,000
1925	2,000	1,693,000	93,000	2,674,000	212,000	4,674,000
1926	1,000	3,015,000	174,000	4,607,000	325,000	8,122,000
1927	4,000	1,155,000	152,000	5,297,000	418,000	7,026,000
1928	3,000	1,592,000	291,000	1,535,000	726,000	4,147,000
1929	3,000	712,000	144,000	6,108,000	1,058,000	8,025,000
1930	5,000	466,000	229,000	1,651,000	419,000	2,770,000

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Table 4. (page 2 of 3)

YEAR	CHINOOK	SOCKEYE	COHO	PINK	CHUM	TOTAL
1931	2,000	1,183,000	170,000	6,840,000	184,000	8,379,000
1932	2,000	1,058,000	52,000	4,720,000	237,000	6,069,000
1933	1,000	1,428,000	91,000	6,574,000	537,000	8,631,000
1934	3,000	1,829,000	86,000	7,642,000	662,000	10,219,000
1935	2,000	1,614,000	63,000	10,781,000	382,000	12,842,000
1936	5,000	2,658,000	163,000	5,648,000	329,000	8,803,000
1937	2,000	1,882,000	134,000	16,788,000	346,000	19,152,000
1938	3,000	1,966,000	133,000	8,398,000	640,000	11,140,000
1939	4,000	1,786,000	64,000	11,741,000	641,000	14,236,000
1940	3,000	1,318,000	163,000	9,997,000	674,000	12,155,000
1941	5,000	1,730,000	208,000	7,601,000	445,000	9,989,000
1942	3,000	1,281,000	106,000	6,093,000	565,000	8,048,000
1943	2,000	1,991,000	61,000	12,480,000	454,000	14,988,000
1944	2,000	1,818,000	45,000	4,956,000	507,000	7,328,000
1945	4,000	2,041,000	79,000	9,045,000	559,000	11,728,000
1946	1,000	839,000	71,000	9,546,000	298,000	10,755,000
1947	1,000	994,000	72,000	8,857,000	295,000	10,219,000
1948	1,000	1,260,000	32,000	5,958,000	331,000	7,582,000
1949	1,000	892,000	54,000	4,928,000	700,000	6,575,000
1950	2,000	921,000	41,000	5,305,000	685,000	6,954,000
1951	2,000	470,000	48,000	2,006,000	422,000	2,948,000
1952	1,000	631,000	36,000	4,554,000	984,000	6,206,000
1953	3,000	392,000	39,000	4,948,000	490,000	5,872,000
1954	1,000	329,000	56,000	8,325,000	1,140,000	9,851,000
1955	2,000	164,000	35,000	10,794,000	480,000	11,475,000
1956	1,000	306,000	54,000	3,349,000	660,000	4,370,000
1957	1,000	234,000	35,000	4,691,000	1,152,000	6,113,000
1958	2,000	288,000	21,000	4,039,000	931,000	5,281,000
1959	2,000	330,000	15,000	1,800,000	734,000	2,881,000
1960	2,000	362,000	54,000	6,685,000	1,133,000	8,236,000
1961	1,000	408,000	29,000	3,296,000	519,000	4,883,000
1962	1,000	785,000	54,000	14,189,000	795,000	15,824,000
1963	-	407,000	57,000	5,480,000	305,000	6,249,000
1964	1,000	478,000	36,000	11,862,000	932,000	13,309,000
1965	1,000	346,000	27,000	2,887,000	431,000	3,692,000
1966	1,000	632,000	68,000	10,756,000	763,000	12,220,000
1967	1,000	284,000	10,000	188,000	221,000	704,000
1968	2,000	760,000	56,000	8,761,000	750,000	10,329,000
1969	2,000	604,000	35,000	12,493,000	537,000	13,671,000
1970	1,000	917,000	66,000	12,045,000	919,000	13,949,000
1971	1,000	478,000	23,000	4,333,000	1,541,000	6,378,000
1972	1,000	222,000	14,000	2,486,000	1,165,000	3,883,000
1973	1,000	167,000	4,000	512,000	318,000	1,001,000
1974	1,000	409,000	14,000	2,635,000	248,000	3,329,000
1975	-	137,000	25,000	2,945,000	85,000	3,187,000
1976	1,000	641,000	24,000	11,078,000	740,000	12,485,000
1977	1,000	623,000	28,000	6,252,000	1,072,000	7,977,000
1978	3,000	1,072,000	49,000	15,004,000	814,000	16,942,000
1979	2,000	632,000	141,000	11,287,000	358,000	12,420,000
1980	1,000	651,000	139,000	17,290,000	1,076,000	19,157,000

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Table 4. (page 3 of 3)

YEAR	CHINOOK	SOCKEYE	COHO	PINK	CHUM	TOTAL
1981	1,000	1,289,000	122,000	10,337,000	1,345,000	13,094,000
1982	1,000	1,205,000	344,000	8,076,000	1,266,000	10,892,000
1983	4,000	1,232,000	158,000	4,603,000	1,085,000	7,082,000
1984	5,000	1,951,000	230,000	10,884,000	649,000	13,678,000
1985	5,000	1,843,000	284,000	7,335,000	431,000	9,898,000
1986	4,000	3,155,000	168,000	11,504,000	1,126,000	16,304,000
1987	5,000	1,793,000	192,000	5,073,000	682,000	7,747,000
1988	22,000	2,698,000	303,000	14,262,000	1,426,000	19,010,000
1989 <sup>b</sup>	5,000	2,629,000	141,000	22,649,000	836,000	26,259,000
1990	19,000	5,248,000	294,000	5,984,000	577,000	12,122,000
1991	22,000	5,704,000	325,000	16,643,000	1,029,000	23,723,000
<b>Average All Years</b>						
	2,700	1,640,000	87,000	5,930,000	552,000	6,827,000
<b>(43 years 1948-1991)</b>						
	2,900	1,008,000	90,000	7,392,000	786,000	9,279,000
<b>Odd Year (21 years 1949-1991)</b>						
				5,849,000		
<b>Even Year (22 years 1948-1990)</b>						
				8,865,000		

<sup>a</sup> DATA SOURCE: For the period 1882-1947, the harvest data was derived from "casepack" information supplied by commercial buyers and processors. For the period 1948 - present, the harvest data was derived from "fish ticket" information summarized by ADF&G.

<sup>b</sup> The 1989 harvest data shown is unique from all other years in that the total harvest by species in this table is the summation of the actual harvest which did occur and the projected harvest which would have occurred if there had not been restrictions on the 1989 fishery because of the presence of oil-contaminated waters in the Kodiak Area due to the 4/24/89 "Exxon Valdez" oil spill. The 1989 harvest data is not included in the harvest averages.

Table 5. Estimated salmon harvest and value by gear type, Kodiak Management Area, 1970-1991.

Year	Total		Average		
	Harvest <sup>a</sup>	Value <sup>b</sup>	Purse Seine	Beach Seine	Set Net
1970	13,949,000	\$21,658,000	\$41,880	\$10,470	\$21,083
1971	6,378,000	4,973,000	13,397	2,919	3,015
1972	3,883,000	3,909,000	9,233	647	1,451
1973	1,001,000	2,094,000	5,075	251	852
1974	3,329,000	4,808,000	15,993	4,406	4,828
1975	3,187,000	3,831,000	13,300	5,600	3,849
1976	12,485,000	16,976,000	43,017	11,035	14,481
1977	7,977,000	21,000,000	48,382	12,434	19,351
1978	16,942,000	32,000,000	72,158	15,731	25,495
1979	12,420,000	25,000,000	48,906	18,839	23,000
1980	19,157,000	31,000,000	69,117	7,710	21,578
1981	13,094,000	33,000,000	75,257	17,312	26,231
1982	10,892,000	16,230,000	31,868	10,549	30,554
1983	7,082,000	14,530,000	32,832	5,886	19,338
1984	13,678,000	26,202,000	72,018	12,577	26,777
1985	9,898,000	20,782,000	45,303	6,451	31,296
1986	16,305,000	39,106,000	92,933	9,517	69,644
1987	7,747,000	28,113,000	71,170	12,780	38,000
1988	19,010,000	103,749,000	252,231	47,016	118,285
1989 <sup>c</sup>	26,209,000	54,114,000	130,000	30,000	100,000
1990	12,123,000	53,407,000	123,024	10,292	72,414
1991	23,723,000	31,489,000	65,442	4,518	46,662
<b>Average - Previous Decades</b>					
1970-79	8,155,100	\$13,624,900	\$31,134	\$8,233	\$11,741
1980-89	14,307,200	\$36,682,600	\$87,273	\$15,980	\$48,170
<b>Average - Previous 5 Years</b>					
1986-90	16,278,800	\$55,697,800	\$133,872	\$21,921	\$79,669

<sup>a</sup> Includes total commercial harvest and test fishery and Kitoi cost-recovery fishery harvests. These figures are in numbers of fish.

<sup>b</sup> Value is an "exvessel value" based upon inseason grounds prices. It may not include additional value associated with dock deliveries and postseason settlements.

<sup>c</sup> Actual harvest was limited in 1989 due to the PWS oil spill. Harvest figures for 1989 include actual and projected harvest on wild stocks, and actual harvest of hatchery stocks from a supplemental cost recovery fishery. The 1989 total value is estimated by expanding average inseason prices for actual wild harvests to estimate total wild harvest, and uses the inseason bid price for actual hatchery harvest. The 1989 exvessel value by gear type is estimated by using 1988 gear levels and proportional harvest by gear type, as if a normal fishery had occurred on a normal distribution of fish.

Table 6. Indexed peak salmon escapement by species, Kodiak Management Area, 1962-1991.

Year	Chinook	Sockeye	Coho	Pink	Chum
1962		922,500		4,600,000	297,900
1963		502,227		1,026,075	75,520
1964		600,346		3,360,000	261,429
1965		561,980		772,874	67,156
1966		652,578		2,100,000	143,700
1967		720,683		698,710	136,079
1968	703	645,612		2,800,000	121,000
1969	7,752	592,020		1,581,335	77,285
1970	3,900	573,603		3,392,577	123,150
1971	4,524	456,197		1,070,173	249,327
1972	3,049	605,491		1,053,391	335,115
1973	4,762	543,111		604,592	258,044
1974	1,622	995,925		2,041,099	86,383
1975	3,059	704,801		1,100,555	156,761
1976	8,411	1,075,226		3,105,320	312,914
1977	13,824	1,269,374	59,095	2,212,488	742,384
1978	14,677	1,000,353	37,479	5,006,273	482,956
1979	14,441	1,410,800	94,000	3,067,647	607,430
1980	5,850	1,831,748	28,000	6,492,822	830,070
1981	15,720	1,391,593	59,000	3,188,869	741,981
1982	10,773	1,603,692	86,000	5,370,049	1,023,923
1983	27,445	1,300,506	104,000	2,089,704	824,954
1984	14,429	1,467,780	123,000	4,512,124	682,936
1985	13,876	2,574,539	191,417	3,168,197	727,883
1986	11,046	2,001,279	170,000	4,068,615	655,817
1987	23,744	1,551,543	153,000	2,978,510	641,579
1988	35,000	1,650,000	105,000	4,400,000	720,000
1989 <sup>a</sup>	26,131	3,022,886	166,622	14,642,587	1,432,609
1990 <sup>b</sup>	25,700	1,880,000	92,000	5,000,000	400,000
1991 <sup>c</sup>	27,306	2,513,659	259,850	4,317,610	934,336
<b>Total</b>	317,744	36,624,052	1,728,463	99,822,196	13,216,285
<b>Average All Years</b>	12,034	1,220,802	115,231	3,327,407	455,734
<b>Recent Year Average (1986-1990)</b>	24,324	2,021,142	137,324	6,217,942	770,001

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Table 6. (page 2 of 2)

Year	Chinook	Sockeye	Coho	Pink	Chum
<b>Odd Year Average (1981-1991)</b>				5,064,246	
<b>Even Year Average (1980-1990)</b>				4,973,935 <sup>c</sup>	

- <sup>a</sup> Limited commercial fisheries were conducted due to contamination from the Exxon Valdez oil spill. Not included in averages.
- <sup>b</sup> Preliminary numbers, subject to revision.
- <sup>c</sup> Additional surveys were flown by USFWS during September and October, which may not necessarily suggest an increase in coho abundance in the Kodiak Management Area in 1991.

Table 7. Harvest by day, by species, and total salmon harvest by numbers of fish and poundage, Kodiak Management Area, 1991.

DATE	PERMITS	LNDGS	CHINOOK		SOCKEYE		COHO		PINK		CHUM		TOTAL SALMON	
			#	LBS	#	LBS	#	LBS	#	LBS	#	LBS	#	LBS
05/29 <sup>a</sup>	1	1	0	0	26	134	0	0	0	0	0	0	12	64
05/31	1	1	0	0	26	130	0	0	0	0	0	0	29	151
06/01	1	1	0	0	29	138	0	0	0	0	0	0	54	275
06/04	1	2	0	0	76	390	0	0	0	0	0	0	50	282
06/07	1	1	0	0	60	292	0	0	0	0	0	0	89	447
06/08	1	1	0	0	52	269	0	0	0	0	0	0	45356	226457
06/09	118	121	179	1450	27607	139097	6	40	23	60	165	1182	77046	378610
06/10	273	320	183	2355	76573	381999	11	72	509	1227	2072	13338	39883	194614
06/11	7	7	1	3	3682	18404	0	0	3	6	85	676	66307	328085
06/12	180	181	1110	21499	72963	372953	0	0	367	845	371	2660	68944	338500
06/13	239	260	669	10933	101281	524363	1	6	1159	2429	694	4810	62004	299193
06/14	219	229	495	9515	99512	515237	0	0	1484	3426	1015	7270	78554	377440
06/15	309	365	497	8902	162937	844159	50	346	3552	7960	2642	18920	14672	71707
06/16	127	144	95	1635	66978	362294	0	0	3526	8179	1249	8581	90672	428437
06/17	162	165	271	5045	119040	629013	32	233	6014	13248	1415	10263	104038	488180
06/18	223	251	367	7073	158880	831216	0	0	10726	21804	2357	17286	67571	324772
06/19	244	270	307	5951	136554	685488	0	0	4926	9919	2505	17712	33341	172815
06/20	220	236	459	8802	117254	567581	1	10	2889	6685	1497	10844	64187	323081
06/21	207	240	353	6658	113414	543500	0	0	1888	4344	826	5842	50794	245775
06/22	208	226	418	6840	115777	558511	24	92	2398	5566	6117	39149	57886	278264
06/23	97	102	198	3448	80239	389805	2	10	1605	3704	3902	24771	83361	398414
06/24	154	158	144	2370	85954	405961	7	35	3430	8035	1357	9137	82750	388630
06/25 <sup>b</sup>	10	11	6	102	10343	50547	0	0	392	876	191	1233	108512	508239
06/26	3	3	0	0	3218	14836	0	0	100	239	89	583	108963	511162
06/27	1	1	0	0	108	532	0	0	0	0	0	0	45775	218791
06/28	1	1	0	0	96	459	0	0	0	0	0	0	34550	163917
06/30	1	2	0	0	134	645	0	0	0	0	3	20	40189	190966
07/01	1	1	0	0	53	252	0	0	0	0	0	0	63338	305254
07/02	1	1	0	0	122	598	0	0	0	0	1	6	71592	339192
07/03	2	2	0	0	382	2098	0	0	98	456	3	21	56292	263949
07/04	62	108	6	122	131990	658361	0	0	107	352	556	4318	72835	355298
07/05	205	246	93	1656	171926	835311	22	164	4271	11418	1121	8558	96374	461619
07/06	308	372	202	2752	180350	888924	72	446	32076	89930	5927	41397	122165	639151
07/07	349	433	444	5017	172284	838778	631	4000	61625	162833	17247	108523	131329	703644
07/08	372	438	840	7657	144871	696841	1546	9347	106225	267351	34665	215195	105216	570490
07/09	347	401	692	5830	108628	528342	1499	9327	102309	272970	24889	158834	35452	177502

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Table 7. (page 2 of 4)

DATE	PERMITS	LNDGS	CHINOOK		SOCKEYE		COHO		PINK		CHUM		TOTAL SALMON	
			#	LBS	#	LBS	#	LBS	#	LBS	#	LBS	#	LBS
07/10	329	376	534	4589	92135	457735	2860	16341	115045	299312	33403	201314	57218	295891
07/11	207	217	427	3275	58716	284803	1255	6829	41748	111987	13846	87471	74393	393556
07/12	189	199	188	1628	53393	258438	143	1056	29538	86879	4012	29302	64917	353069
07/13	314	336	192	1844	85328	433888	3619	20780	115643	303040	13584	83813	84580	436537
07/14	370	445	910	6642	102733	534566	8037	45394	204743	549919	21411	134439	154215	817593
07/15	341	414	1087	6737	104299	547465	7290	40354	214655	604790	16741	105418	178162	962554
07/16	317	369	230	2227	94132	507285	2964	16912	227534	638477	10671	75290	160339	844849
07/17	329	390	329	3795	91516	485505	2509	15538	241556	681236	12278	84082	72922	386577
07/18	119	147	182	1821	75693	408835	2351	15225	145705	418451	7692	52957	55710	300291
07/19	96	100	109	1395	38837	212476	1063	7613	116176	347909	4149	30486	68022	361350
07/20	294	300	255	2657	60159	329004	3936	25111	211343	606710	13441	95965	151815	754633
07/21	362	422	568	5937	80753	435930	9917	60910	338385	948422	15514	108471	206340	1001146
07/22	369	434	1125	9207	82356	437048	10271	66099	326870	922228	19963	136357	189308	881524
07/23	309	352	812	5913	50561	265482	5583	35284	234009	650256	12990	93179	303955	1050114
07/24	378	412	297	3255	44005	233796	5877	37560	319043	864727	25188	174393	394410	1313731
07/25	39	39	330	3240	3845	20232	1613	10879	35409	99556	4070	29215	14394	69211
07/26	5	5	16	159	1289	6503	256	1801	12886	28786	1109	6695	19142	92250
07/27	321	326	98	1175	32216	175842	2392	15247	425800	1191547	11051	78507	199796	826649
07/28	398	475	194	2588	49862	268406	4599	30811	732086	2067970	26456	181593	413014	1702691
07/29	367	439	202	2474	53115	283045	3901	27088	570348	1620454	19568	140791	351425	1381424
07/30	371	435	349	4100	61645	328999	5211	34547	731224	2116752	27032	188329	358353	1411480
07/31	307	345	131	1827	47370	253585	4180	27226	497234	1428533	21958	153004	107746	446224
08/01	214	227	148	2416	31531	162557	4487	30001	624911	1757888	18577	125111	49553	257535
08/02	199	206	196	2269	45845	234017	4277	27360	568540	1654795	17811	122706	213352	885142
08/03	291	302	136	1691	36802	196868	3858	26401	541680	1602727	16377	118602	399136	1502026
08/04	379	447	201	2503	65968	359411	8959	62401	833400	2437360	36254	258297	394923	1421434
08/05	369	434	283	3394	55680	297400	8951	70157	807153	2351877	33104	242290	436238	1626160
08/06	358	430	258	3079	45175	239368	8962	65082	746093	2165011	38358	276558	258635	967110
08/07	407	468	223	2842	73350	397739	7281	52171	881164	2483453	28867	209969	219680	783793
08/08	24	25	4	58	710	3693	681	4443	134340	344312	3980	28272	170502	601047
08/09	2	2	0	0	474	2602	29	270	8656	25699	257	1803	219175	879502
08/10	292	298	107	1296	58142	316452	3395	25024	611743	1816821	27976	202546	336928	1339679
08/11	376	447	239	2632	92389	486533	6969	46901	924483	2779366	58408	427002	238038	995951
08/12	380	439	202	2398	85833	458579	8918	63079	843413	2569014	50653	374250	258497	1025281
08/13	313	357	229	2840	57991	308869	7497	54174	442852	1374544	39273	292150	276673	1125309
08/14	277	327	160	2048	36406	192725	6348	46974	336948	1049732	21858	161330	110035	438810
08/15	318	391	383	4565	63631	335571	5746	43404	320471	1001177	25930	194985	88350	372322
08/16	340	434	287	3219	75895	401114	8142	58928	362406	1131621	21782	161207	237365	1106146

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Table 7. (page 3 of 4)

DATE	PERMITS	LNDGS	CHINOOK		SOCKEYE		COHO		PINK		CHUM		TOTAL SALMON	
			#	LBS	#	LBS	#	LBS	#	LBS	#	LBS	#	LBS
08/17	246	291	427	4769	62184	330311	8286	60304	264534	827927	39548	267870	544412	2299488
08/18	274	329	198	2711	104153	548099	8053	58773	288747	919603	21849	153553	543490	2286018
08/19	242	286	191	2295	55977	292708	8579	62537	240919	755212	20387	150937	242056	975701
08/20	306	347	221	2593	96940	498642	7905	59222	180776	583359	16942	120754	274303	1182562
08/21	269	325	255	3202	95170	491697	6654	49762	142520	462961	11822	83945	194333	827624
08/22	230	268	324	3473	75818	395518	6870	50679	144003	461150	9973	70357	234828	964516
08/23	19	19	125	1331	11163	56942	1791	12522	28460	83845	1321	8556	40458	164198
08/25	1	1	0	0	67	324	0	0	104	368	2	18	2173	9256
08/26	99	99	86	570	21389	113107	1778	15148	10674	35528	1244	8916	122764	583375
08/27	143	176	19	173	43573	227706	5368	44259	24392	81584	2607	18564	142287	694392
08/28	128	167	211	2417	31828	161609	8131	59597	24830	79093	2807	19550	136294	655233
08/29	93	114	67	804	13702	70132	4828	35070	11243	37914	1298	8854	57784	302291
08/30	101	132	107	1328	15871	80920	4914	40266	10603	35126	3638	26227	46018	252634
08/31	78	91	21	222	11603	59757	2958	24794	8883	28452	805	5562	58982	322451
09/01	73	93	32	417	9179	47308	3045	25586	7851	27325	724	4890	36822	210205
09/02	49	58	12	210	9004	46304	3037	26586	6290	20115	467	3047	28602	160463
09/03	63	84	10	106	11853	63115	4619	40052	4946	15967	812	5287	26948	158411
09/04	53	58	9	108	7531	38544	1779	16213	2866	9488	322	2112	9459	58155
09/05	40	59	1	21	17959	91518	3774	29909	3004	10468	243	1491	5687	36294
09/06	60	76	28	352	25281	128653	4852	41411	3276	11702	569	3615	6033	37280
09/07	63	80	8	129	35050	177877	3738	32522	2683	9428	439	2900	8169	47488
09/08	78	92	5	93	60757	295826	6094	53485	2517	7897	1357	9504	16300	99971
09/09	71	89	13	197	32165	153478	3735	32992	1024	3550	400	2450	15201	93608
09/10	56	63	42	635	28934	135805	4930	41641	208	617	163	1093	8282	54011
09/14	31	40	13	183	11643	52515	947	8482	0	0	72	509	5615	35557
09/15	39	44	4	82	13695	62173	1875	17228	4	16	49	308	2977	18321
09/16	33	36	71	933	8630	39778	669	6175	0	0	30	203	1830	9717
09/17	23	29	1	23	6939	32177	335	2881	0	0	24	150	3105	16863
09/18	40	44	16	207	21641	102180	1897	15829	0	0	36	206	558	3755
09/19	20	21	9	175	9758	45235	526	4902	0	0	39	263	255	1382
09/20	18	20	8	119	5724	27603	974	8803	0	0	39	247	233	1875
09/21	25	26	10	159	10693	46767	950	8986	103	301	14	78	1056	6093
09/22	6	6	0	0	453	1936	73	681	0	0	1	6	503	2891
09/23	4	4	0	0	2432	12375	64	434	0	0	1	8	303	1508
09/24	3	3	7	90	3617	16680	181	1699	0	0	193	1294	114	812
09/25	3	3	4	58	5495	24962	138	987	0	0	6	46	81	760
09/26	8	8	4	47	5749	24392	269	2777	0	0	2	16	6024	27232
09/27	*c	*	0	0	91	465	0	0	0	0	0	0	91	465

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Table 7. (page 4 of 4)

DATE	PERMITS	LNDGS	CHINOOK		SOCKEYE		COHO		PINK		CHUM		TOTAL SALMON	
			#	LBS	#	LBS	#	LBS	#	LBS	#	LBS	#	LBS
09/28	7	7	2	12	4024	17102	800	6843	0	0	0	0	4826	23957
09/29	5	5	1	16	1398	5713	41	401	0	0	0	0	1440	6130
09/30	c	c	0	0	553	2184	50	362	0	0	0	0	603	2546
10/01	c	c	0	0	657	2928	69	577	0	0	0	0	726	3505
10/05	c	c	0	0	0	0	158	1185	0	0	0	0	158	1185
10/07	c	c	0	0	93	465	0	0	0	0	0	0	93	465
TOTAL	551	21378	22233	269904	5704084	29162288	324860	2359566	16642841	48547552	1029071	7184473	23723089	87523783
AVG.WT.				12.14		5.11		7.26		2.92		6.98		

- a Exclusive harvest from the ADF&G test fishery project (May 29 to June 6).
- b Comercial fishery boycott, due to low salmon prices, (June 25 to July 3).
- c Due to confidentiality rules this information may not be released.

Table 8. Commercial salmon harvest and value by gear type, Kodiak Management Area, 1991<sup>a</sup>.

	Chinook	Sockeye	Coho	Pink	Chum	Total	Percent
<b>Purse Seine</b>							
Total No.s	20,979	3,818,673	254,464	15,382,910	851,421	20,328,447	85.70
Avg. Wt.	12.14	5.10	7.13	2.87	6.96		
Total Lbs.	254,591	19,462,000	1,815,303	44,135,407	5,927,246	71,594,547	81.81
Avg. \$/Lb.	0.70	0.80	0.30	0.12	0.20		
Ex-Vessel \$	178,213.70	15,569,600.00	544,590.90	5,296,248.84	1,185,449.20	22,774,102.64	72.34
<b>No. of permits 348</b>							
Average Value	512.11	44,740.23	1,564.92	15,219.11	3,406.46	65,442.82	
Percent	0.78	68.37	2.39	23.26	5.21	100.00	
<b>Beach Seine</b>							
Total No.s	29	5,386	49	148,648	4,468	158,580	0.67
Avg. Wt.	13.03	4.31	7.96	2.86	7.74		
Total Lbs.	378	23,212	390	424,503	34,587	483,070	0.55
Avg. \$/Lb.	0.70	0.80	0.30	0.12	0.20		
Ex-Vessel \$	264.60	18,569.60	117.00	50,940.36	6,917.40	76,808.96	0.24
<b>No. of permits 17</b>							
Average Value	15.56	1,092.33	6.88	2,996.49	406.91	4,518.17	
Percent	0.34	24.18	0.15	66.32	9.01	100.00	
<b>Set Gillnet</b>							
Total No.s	1,225	1,878,584	70,347	1,111,241	173,167	3,234,564	13.64
Avg. Wt.	12.19	5.15	7.73	3.59	7.06		
Total Lbs.	14,935	9,669,912	543,873	3,987,512	1,222,531	15,438,763	17.64
Avg. \$/Lb.	0.70	0.80	0.30	0.12	0.20		
Ex-Vessel \$	10,454.50	7,735,929.60	163,161.90	478,501.44	244,506.20	8,632,553.64	27.42
<b>No. of permits 185</b>							
Average Value	56.51	41,815.84	881.96	2,586.49	1,321.66	46,662.45	
Percent	0.12	89.61	1.89	5.54	2.83	100.00	

-Continued-

Table 8. (page 2 of 2)

	Chinook	Sockeye	Coho	Pink	Chum	Total	Percent
<b>Total All Gear</b>							
Total No.s	22,233	5,702,643	324,860	16,642,799	1,029,056	23,721,591	100.00
Avg. Wt.	12.14	5.11	7.26	2.92	6.98		
Total Lbs.	269,904	29,155,124	2,359,566	48,547,422	7,184,364	87,516,380	100.00
Avg. \$/Lb.	0.70	0.80	0.30	0.12	0.20		
Ex-Vessel \$	188,932.80	23,324,099.20	707,869.80	5,825,690.64	1,436,872.80	31,483,465.24	100.00
% of Total Value	0.60	74.08	2.25	18.50	4.56		100.00
<b>Test Fishery</b>							
Total No.s	0	1,398	0	5	14	1,417	
Avg. Wt.	0.00	4.96	0.00	3.60	7.29		
Total Lbs.	0	6,940	0	18	102	7,060	
Avg. \$/Lb.	0.70	0.80	0.30	0.12	0.20		
Ex-Vessel \$	0.00	5,552.00	0.00	2.16	20.40	5,574.56	

<sup>a</sup> Numbers and pounds of fish are derived from fish ticket summaries. There were 22,233 fish tickets generated in 1991; each fish ticket represents a "landing". Each gear type had the following number of landings: Purse Seine: 12,606, Beach Seine: 284, and Set Gillnet: 8,453. Average \$/lb. figures are derived from in season estimated average prices and do not reflect any additional payments which might be made for dock deliveries or any post-season settlements.

Table 9. Commercial salmon harvest by statistical week for purse seine gear, Kodiak Management Area, 1991.

GEAR	STAT WEEK	WEEK ENDING	CHINOOK			SOCKEYE			COHO			PINK			CHUM		
			#	LBS	AVG.	#	LBS	AVG.	#	LBS	AVG.	#	LBS	AVG.	#	LBS	AVG.
PURSE SEINE																	
	23	06/08	0	0	0.0	17,753	92,381	5.2	271	1,822	6.7	21,171	48,713	2.3	8,834	50,656	5.7
	24	06/15	3,025	53,170	17.6	379,842	1,974,126	5.2	58	403	6.9	7,087	15,824	2.2	5,230	36,220	6.9
	25	06/22	2,262	41,813	18.5	694,115	3,520,774	5.1	56	325	5.8	32,343	69,662	2.2	15,366	104,901	6.8
	26	06/29	348	5,920	17.0	175,713	841,633	4.8	9	45	5.0	5,520	12,847	2.3	5,517	35,475	6.4
	27	07/06	269	4,093	15.2	119,580	587,938	4.9	74	475	6.4	30,802	82,137	2.7	4,338	30,392	7.0
	28	07/13	3,175	28,073	8.8	454,237	2,256,871	5.0	10,557	61,238	5.8	500,547	1,282,052	2.6	114,114	699,804	6.1
	29	07/20	3,029	24,316	8.0	473,536	2,509,952	5.3	25,953	152,258	5.9	1,233,462	3,407,959	2.8	72,050	479,701	6.7
	30	07/27	3,164	27,921	8.8	226,902	1,197,833	5.3	31,863	201,103	6.3	1,582,872	4,325,830	2.7	73,908	509,179	6.9
	31	08/03	1,302	16,569	12.7	252,022	1,310,707	5.2	26,158	173,326	6.6	4,093,397	11,661,996	2.8	124,216	855,933	6.9
	32	08/10	906	11,279	12.4	193,101	1,026,092	5.3	31,520	230,159	7.3	3,752,880	10,692,154	2.8	136,760	989,639	7.2
	33	08/17	1,763	20,432	11.6	260,326	1,351,807	5.2	38,998	277,929	7.1	3,177,287	9,602,086	3.0	216,033	1,590,910	7.4
	34	08/24	1,121	13,373	11.9	277,686	1,420,212	5.1	30,927	225,565	7.3	881,279	2,738,796	3.1	68,184	493,886	7.2
	35	08/31	371	4,265	11.5	41,092	203,112	4.9	14,982	112,416	7.5	47,736	144,935	3.0	5,072	37,976	7.5
	36	09/07	59	816	13.8	38,778	189,605	4.9	13,993	119,389	8.5	14,071	43,340	3.1	310	2,183	7.0
	37	09/14	64	930	14.5	139,076	644,877	4.6	21,231	188,147	8.9	2,390	6,887	2.9	1,214	8,558	7.0
	38	09/21	104	1,414	13.6	50,857	227,187	4.5	5,989	54,894	9.2	103	301	2.9	74	476	6.4
	39	09/28	17	207	12.2	21,488	96,203	4.5	1,511	13,318	8.8	0	0	0.0	202	1,364	6.8
	40	10/05	0	0	0.0	2,519	10,449	4.1	314	2,491	7.9	0	0	0.0	0	0	0.0
	41	10/12	0	0	0.0	93	465	5.0	0	0	0.0	0	0	0.0	0	0	0.0
	TOTAL		20,979	254,591	12.1	3,818,716	19,462,224	5.1	254,464	1,815,303	7.1	15,382,947	44,135,519	2.9	851,422	5,927,253	7.0

Table 10. Comercial salmon harvest by statistical week for beach seine gear, Kodiak Management Area, 1991.

GEAR	STAT WEEK	WEEK ENDING	CHINOOK			SOCKEYE			COHO			PINK			CHUM		
			#	LBS	AVG.	#	LBS	AVG.	#	LBS	AVG.	#	LBS	AVG.	#	LBS	AVG.
BEACH SEINE																	
	24	06/15	1	18	18.0	414	2,041	4.9	0	0	0.0	2	5	2.5	2	26	13
	25	06/22	0	0	0.0	565	2,165	3.8	0	0	0.0	0	0	0.0	3	12	4
	26	06/29	0	0	0.0	746	2,948	4.0	0	0	0.0	7	7	1.0	2	10	5
	27	07/06	4	42	10.5	233	1,055	4.5	0	0	0.0	281	1,008	3.6	9	78	9
	28	07/13	5	54	10.8	1,442	6,566	4.6	1	7	7.0	4,032	11,031	2.7	81	664	8
	29	07/20	2	23	11.5	1,044	4,406	4.2	0	0	0.0	20,020	53,061	2.7	400	2,919	7
	30	07/27	5	53	10.6	477	1,576	3.3	3	21	7.0	13,652	39,456	2.9	1,354	10,594	8
	31	08/03	2	46	23.0	75	410	5.5	3	16	5.3	32,527	89,130	2.7	576	4,553	8
	32	08/10	1	13	13.0	36	195	5.4	3	12	4.0	42,893	123,462	2.9	889	6,989	8
	33	08/17	1	4	4.0	48	263	5.5	10	71	7.1	29,309	89,203	3.0	1,024	7,875	8
	34	08/24	8	125	15.6	111	574	5.2	13	87	6.7	5,916	18,107	3.1	128	867	7
	35	08/31	0	0	0.0	2	12	6.0	2	20	10.0	9	33	3.7	0	0	0
	37	09/14	0	0	0.0	193	1,001	5.2	14	156	11.1	0	0	0.0	0	0	0
TOTAL			29	378	13.0	5,386	23,212	4.3	49	390	8.0	148,648	424,503	2.9	4,468	34,587	8

Table 11. Commercial salmon harvest by statistical week for set gillnet gear, Kodiak Management Area, 1991.

GEAR	STAT WEEK	WEEK ENDING	CHINOOK			SOCKEYE			COHO			PINK			CHUM		
			#	LBS	AVG.	#	LBS	AVG.	#	LBS	AVG.	#	LBS	AVG.	#	LBS	AVG.
SET GILLNET																	
	24	06/15	108	1,469	13.6	164,186	819,463	5.0	10	61	6.1	183	596	3.3	1,827	12,709	7.0
	25	06/22	8	191	23.9	133,079	653,997	4.9	1	10	10.0	24	83	3.5	597	4,764	8.0
	26	06/29	0	0	0.0	3,200	16,096	5.0	0	0	0.0	0	0	0.0	20	239	12.0
	27	07/06	28	395	14.1	357,465	1,758,189	4.9	20	135	6.8	4,623	16,684	3.6	3,181	23,134	7.3
	28	07/13	137	1,713	12.5	249,031	1,179,177	4.7	724	4,613	6.4	47,053	164,429	3.5	18,667	133,812	7.2
	29	07/20	71	935	13.2	92,781	510,740	5.5	2,197	13,889	6.3	108,226	386,456	3.6	13,937	96,048	6.9
	30	07/27	77	912	11.8	67,646	375,424	5.5	4,043	26,656	6.6	95,878	340,236	3.5	14,623	107,044	7.3
	31	08/03	52	750	14.4	74,073	416,360	5.6	4,352	30,092	6.9	140,099	497,993	3.6	22,987	169,650	7.4
	32	08/10	169	1,880	11.1	106,362	590,378	5.6	6,735	49,377	7.3	226,776	808,917	3.6	31,147	223,107	7.2
	33	08/17	163	2,035	12.5	213,955	1,161,632	5.4	12,898	95,764	7.4	288,511	1,042,092	3.6	40,395	280,009	6.9
	34	08/24	185	2,107	11.4	161,424	862,820	5.3	8,912	67,843	7.6	138,230	509,227	3.7	13,982	93,349	6.7
	35	08/31	140	1,249	8.9	96,939	510,431	5.3	12,993	106,698	8.2	42,984	153,097	3.6	7,329	49,715	6.8
	36	09/07	41	527	12.9	77,079	403,714	5.2	10,851	92,890	8.6	16,845	61,153	3.6	3,266	21,159	6.5
	37	09/14	30	472	15.7	54,679	280,680	5.1	5,356	45,798	8.6	1,805	6,533	3.6	1,051	6,807	6.5
	38	09/21	15	284	18.9	26,223	128,726	4.9	1,237	9,910	8.0	4	16	4.0	157	979	6.2
	39	09/28	0	0	0.0	373	1,709	4.6	14	103	7.4	0	0	0.0	1	6	6.0
	40	10/05	1	16	16.0	89	376	4.2	4	34	8.5	0	0	0.0	0	0	0.0
TOTAL			1,225	14,935	12.2	1,878,584	9,669,912	5.1	70,347	543,873	7.7	1,111,241	3,987,512	3.6	173,167	1,222,531	7.1

Table 12. Commercial salmon fishery projected and actual harvests by species and fishery, Kodiak Management Area, 1991<sup>a</sup>.

FISHERY	Projection Harvest	Actual Harvest
<b>Early Run Sockeye Salmon Fisheries (6/9-7/15)</b>		
Cape Igvak	430,000	361,000
Karluk	150,000	216,000
Ayakulik	731,000	894,000
Fraser	561,000	1,111,200
Upper Station	177,000	120,800
Minor Systems	50,000	72,000
Other	70,000	185,000
<b>Subtotal</b>	<b>2,169,000</b>	<b>2,960,000<sup>b</sup></b>
<b>Late Run Sockeye Salmon Fisheries (7/16-10/15)</b>		
Afognak (Hatchery)	0	0
Cape Igvak	100,000	66,000
Karluk	900,000	1,160,000
Ayakulik	487,000	544,000
Fraser	140,000	150,000
Upper Station	458,000	515,000
Minor Systems	20,000	185,000
Other	30,000	124,000
<b>Subtotal</b>	<b>2,135,000</b>	<b>2,744,000<sup>b</sup></b>
<b>TOTAL SOCKEYE</b>	<b>4,304,000</b>	<b>5,704,000<sup>b</sup></b>
<b>Coho Salmon Fisheries (8/1-10/1)</b>		
Afognak	30,000	39,000
Westside	110,000	155,000
Alitak	30,000	25,000
Eastside/Northend Kodiak	25,000	64,000
Mainland	35,000	42,000
<b>Subtotal</b>	<b>230,000</b>	<b>325,000</b>
<b>Pink Salmon Fisheries (7/6-9/5)</b>		
Afognak (Hatchery)	2,830,000	1,391,000
Afognak (Natural)	950,000	602,000
Westside Kodiak	4,100,000	4,991,000
Alitak	6,100,000	2,374,000
Eastside/Northend Kodiak	5,050,000	6,169,000
Mainland	1,500,000	1,166,000
<b>Subtotal</b>	<b>20,530,000</b>	<b>16,643,000</b>

-Continued

Table 12. (page 2 of 2)

FISHERY	Projection Harvest	Actual Harvest
<b><i>Chum Salmon Fisheries (6/6-9/5)</i></b>		
Afognak (Hatchery)	50,000	30,000
Afognak (Natural)	40,000	42,000
Westside Kodiak	300,000	267,000
Alitak	70,000	83,000
Eastside/Northend Kodiak	110,000	384,000
Mainland	235,000	223,000
<b>Subtotal</b>	<b>805,000</b>	<b>1,029,000</b>
<b>GRAND TOTAL</b>	<b>25,884,000<sup>c</sup></b>	<b>23,884,000<sup>d</sup></b>

<sup>a</sup> All numerical values represent numbers of fish.

<sup>b</sup> Actual harvest estimates by fishery as of 12/20/91. Sockeye salmon harvest estimates by fishery could change as further stock composition work is completed.

<sup>c</sup> Includes 15,000 chinook salmon - projected harvest.

<sup>d</sup> Includes 22,200 chinook salmon - actual harvest.

Table 13. Subsistence harvest by species and area, Kodiak Management Area, 1991.

Area	Chinook	Sockeye	Coho	Pink	Chum	Total
<b>Kizhuyak Section</b>						
Ouzinkie Narrows	0	415	210	47	27	699
Spruce Island	2	432	38	67	6	545
Camel Rock	0	10	120	30	125	285
Shakmanof	0	27	0	1	1	29
Anton Larsen Bay	0	50	6	30	47	133
Sheratin Bay	0	194	0	2	1	197
Kizhuyak	0	152	185	67	4	408
Barabara Cove	0	653	177	2	13	845
Doctor River	0	0	15	15	0	30
Settlers Cove	0	70	1,465	12	21	1,568
<b>Chiniak Section</b>						
Monashka Bay	0	15	85	10	3	113
Buskin River	7	4,301	1,469	208	56	6,041
Woman's Bay	0	30	24	19	14	87
Cliff Point	0	0	10	0	0	10
Kalsin Bay	1	9	247	70	57	384
Roslyn Beach	0	0	159	39	17	215
Chiniak	0	0	37	0	0	37
Mayflower	0	0	1	0	0	1
Middle Bay	0	0	60	3	6	69
<b>Ugak Bay Section</b>						
Unknown	0	19	0	2	0	21
Saltery Cove	2	406	3	27	78	516
Pasagshak	2	1,645	216	60	10	1,933
Ugak Bay	1	130	6	33	0	170
Portage Bay	0	0	27	0	0	27
<b>Sitkalidak Section</b>						
Midway Creek (Big Creek)	2	15	1,382	144	45	1,588
Old Harbor	0	50	40	35	2	127
Barling Bay	0	10	446	402	34	892
Sitkalidak Island	0	0	0	0	25	25
Kiliuda Bay	0	0	5	18	2	25
<b>Alitak Bay Section</b>						
Olga Bay	2	769	114	0	0	885
Moser Bay	0	1,162	75	89	29	1,355
Deadman's Bay	0	1	0	11	8	20
Alitak Unknown	0	246	1	0	2	249
<b>Red River Section</b>						
Red River (Bumble Bay)	2	25	0	0	0	27
<b>Sturgeon River Section</b>						
Halibut Bay	0	25	0	0	0	25

-Continued-

Table 13. (page 2 of 2)

Area	Chinook	Sockeye	Coho	Pink	Chum	Total
<b>Karluk Section</b>						
Karluk	57	1,532	170	23	20	1,802
<b>Uyak Bay Section</b>						
7 Mile Beach	0	25	0	0	0	25
Larsen Bay	5	235	25	42	1	308
Uyak Bay	34	351	1	2	5	393
Spiridon Bay	10	44	15	9	2	80
Brown's Lagoon	0	20	0	0	0	20
<b>Uganik Bay Section</b>						
Kupreanof	0	210	0	16	2	228
Onion Bay	0	87	1	8	3	99
Viekoda Bay	1	265	0	13	2	281
Uganik Bay	7	973	66	45	27	1,118
Village Islands	10	38	14	22	0	84
<b>Afognak Section</b>						
Afognak Bay	11	5,886	557	100	4	6,558
Raspberry Straits	5	126	141	16	8	296
Selief	0	0	185	0	0	185
Malina Bay	0	212	10	0	0	222
Perenosa Bay	0	60	0	0	0	60
Pauls Bay	0	122	0	0	0	122
Kitoi Bay	0	0	75	0	0	75
Little Afognak	4	285	46	3	5	343
Duck Bay	10	38	0	0	0	48
Danger Bay	0	0	40	0	0	40
Marka Bay	0	0	39	0	0	39
Kazakof Bay	0	0	12	0	0	12
<b>Grand Totals</b>	<b>175</b>	<b>21,370</b>	<b>8,020</b>	<b>1,742</b>	<b>712</b>	<b>32,019</b>

Table 14. Projected commercial salmon harvests for 1991 and 1992, actual harvests for 1991, Kodiak Management Area.<sup>a</sup>

	Chinook	Sockeye	Coho	Pink	Chum	Total
1991 Projected Harvest	15,000	4,304,000	230,000	20,538,000	805,000	25,884,000
1991 Actual Harvest	22,200	5,704,000	324,900	16,642,800	1,026,100	23,723,000
1992 Projected Harvest <sup>b</sup>	10,000	3,247,000	250,000	9,220,000	870,000	14,042,000

FISHERY	1991 HARVEST		1992 HARVEST	
	Projection	Actual <sup>c</sup>	Projected	(as of 12/25/91)
<b>Early Run Sockeye Salmon Fisheries (6/9-7/15)</b>				
Cape Igvak	430,000	361,000	262,500	
Karluk	150,000	216,000	150,000	
Ayakulik	731,000	894,000	250,000	
Fraser	561,000	1,111,200	704,000	
Upper Station	177,000	120,800	50,000	
Minor Systems	50,000	72,000	75,000	
Other	70,000	185,000	70,000	
Sub-Total	2,169,000	2,960,000	1,561,500	
<b>Late Run Sockeye Salmon Fisheries (7/16-10/15)</b>				
Afognak (Hatchery)	0	0	12,000	
Cape Igvak	100,000	66,000	97,500	
Karluk	900,000	1,160,000	1,000,000	
Ayakulik	487,000	544,000	170,000	
Fraser	140,000	150,000	176,000	
Upper Station	458,000	515,000	125,000	
Minor Systems	20,000	185,000	75,000	
Other	30,000	124,000	30,000	
Sub-Total	2,135,000	2,744,000	1,685,500	
TOTAL SOCKEYE	4,304,000	5,704,000	3,247,000	
<b>Coho Salmon Fisheries (8/1-10/1)</b>				
Afognak	30,000	39,000	20,000	
Westside	110,000	155,000	145,000	
Alitak	30,000	25,000	20,000	
Eastside/Northend Kodiak	25,000	64,000	25,000	
Mainland	35,000	42,000	40,000	
Sub-Total	230,000	325,000	250,000	
<b>Pink Salmon Fisheries (7/6-9/5)</b>				
Afognak (Hatchery)	2,830,000	1,391,000	2,320,000	
Afognak (Natural)	950,000	602,000	700,000	
Westside Kodiak	4,100,000	4,991,000	4,600,000	
Alitak	6,100,000	2,374,000	200,000	
Eastside/Northend Kodiak	5,050,000	6,169,000	600,000	
Mainland	1,500,000	1,166,000	800,000	
Sub-Total	20,530,000	16,643,000	9,220,000	
<b>Chum Salmon Fisheries (6/6-9/5)</b>				
Afognak (Hatchery)	50,000	30,000	25,000	
Afognak (Natural)	40,000	42,000	30,000	
Westside Kodiak	300,000	267,000	300,000	
Alitak	70,000	83,000	60,000	
Eastside/Northend Kodiak	110,000	384,000	180,000	
Mainland	285,000	1,029,000	870,000	
Sub-Total	805,000	1,029,000	870,000	
GRAND TOTAL	25,884,000 <sup>d</sup>	23,884,000 <sup>e</sup>	13,597,000 <sup>f</sup>	

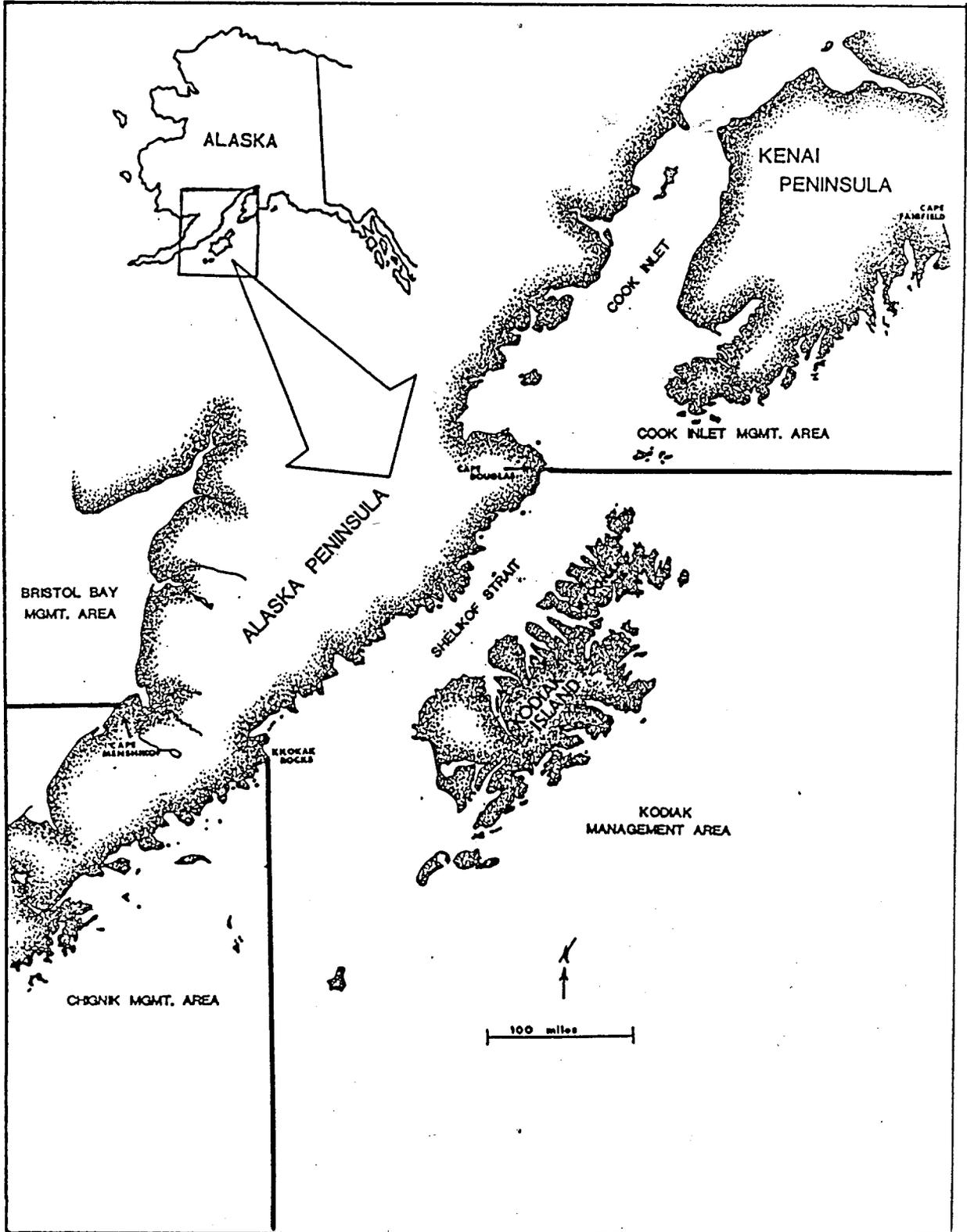
-Continued-

Table 14. (page 2 of 2)

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- a All numerical values represent numbers of fish.
- b 1992 harvest projections as of 12/20/91.
- c Actual harvest estimates by fishery as of 12/20/91. Sockeye harvest estimates by fishery could change as further stock composition work is completed.
- d Includes 15,000 kings - projected harvest.
- e Includes 22,200 kings - actual harvest.
- f Includes 10,000 kings - projected harvest.

Figure 1. Geographic location of the Kodiak Management Area, 1991.





## Number of Active Permits, Kodiak Area 1975-1991

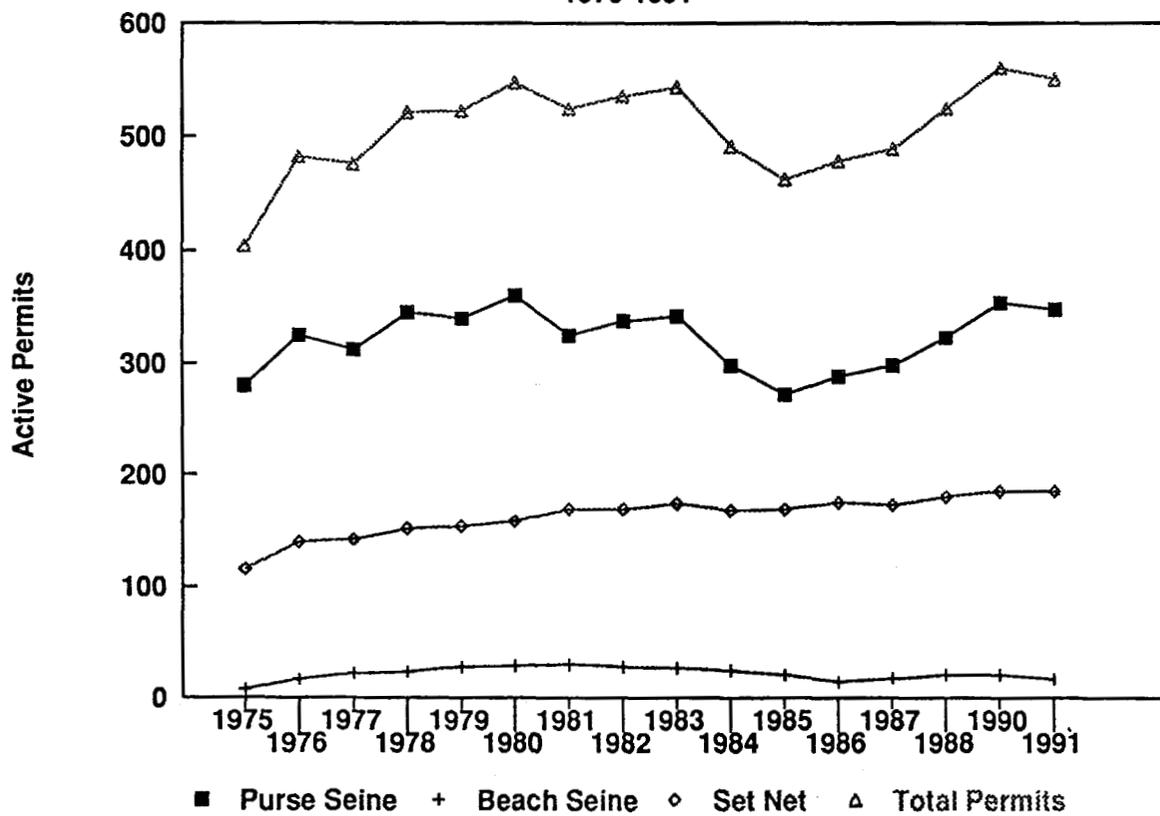


Figure 3. Number of active commercial salmon permits in the Kodiak Management Area, 1975-1991.

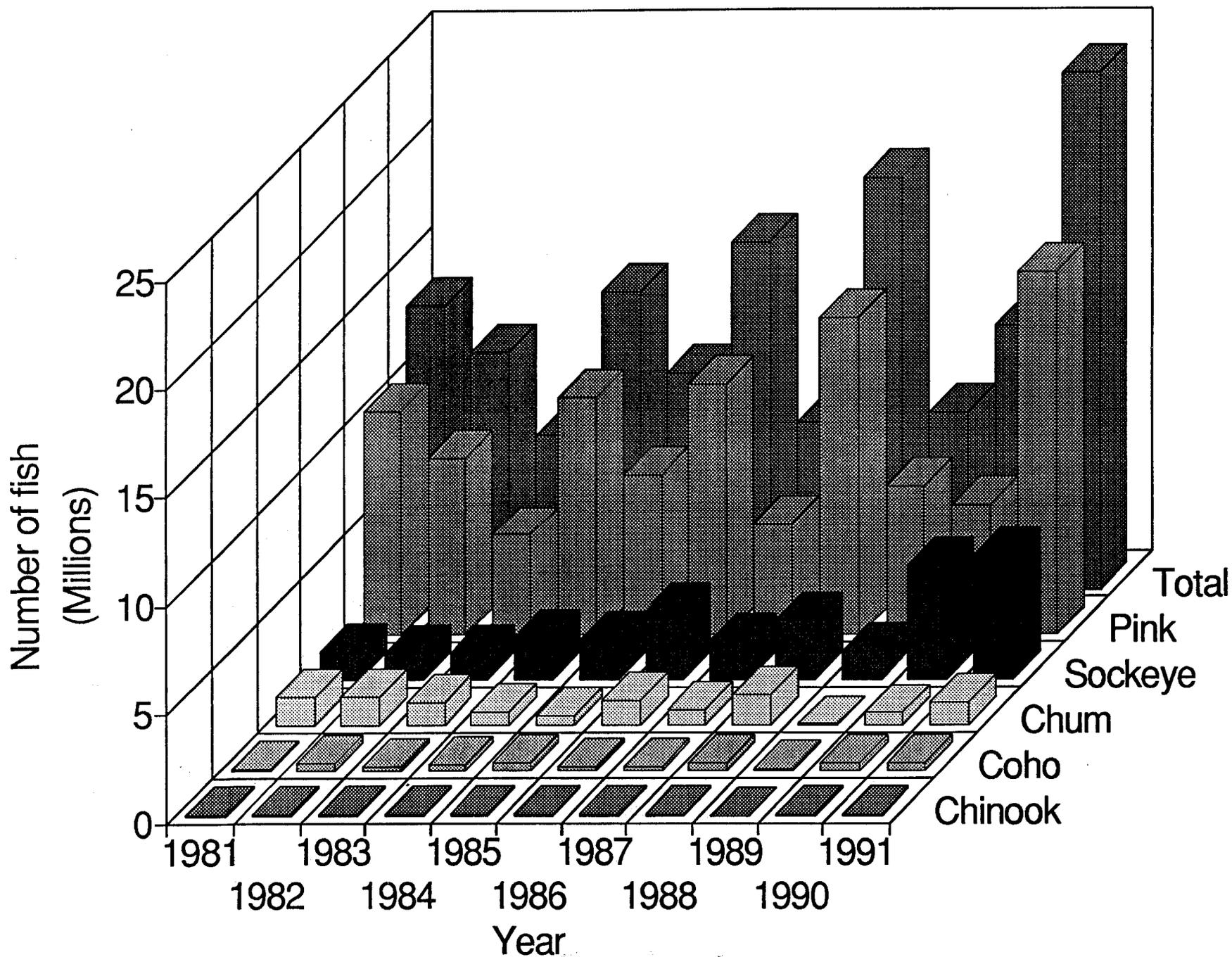


Figure 4. Commercial salmon harvest by species and total for the Kodiak Management Area, 1981-1991.

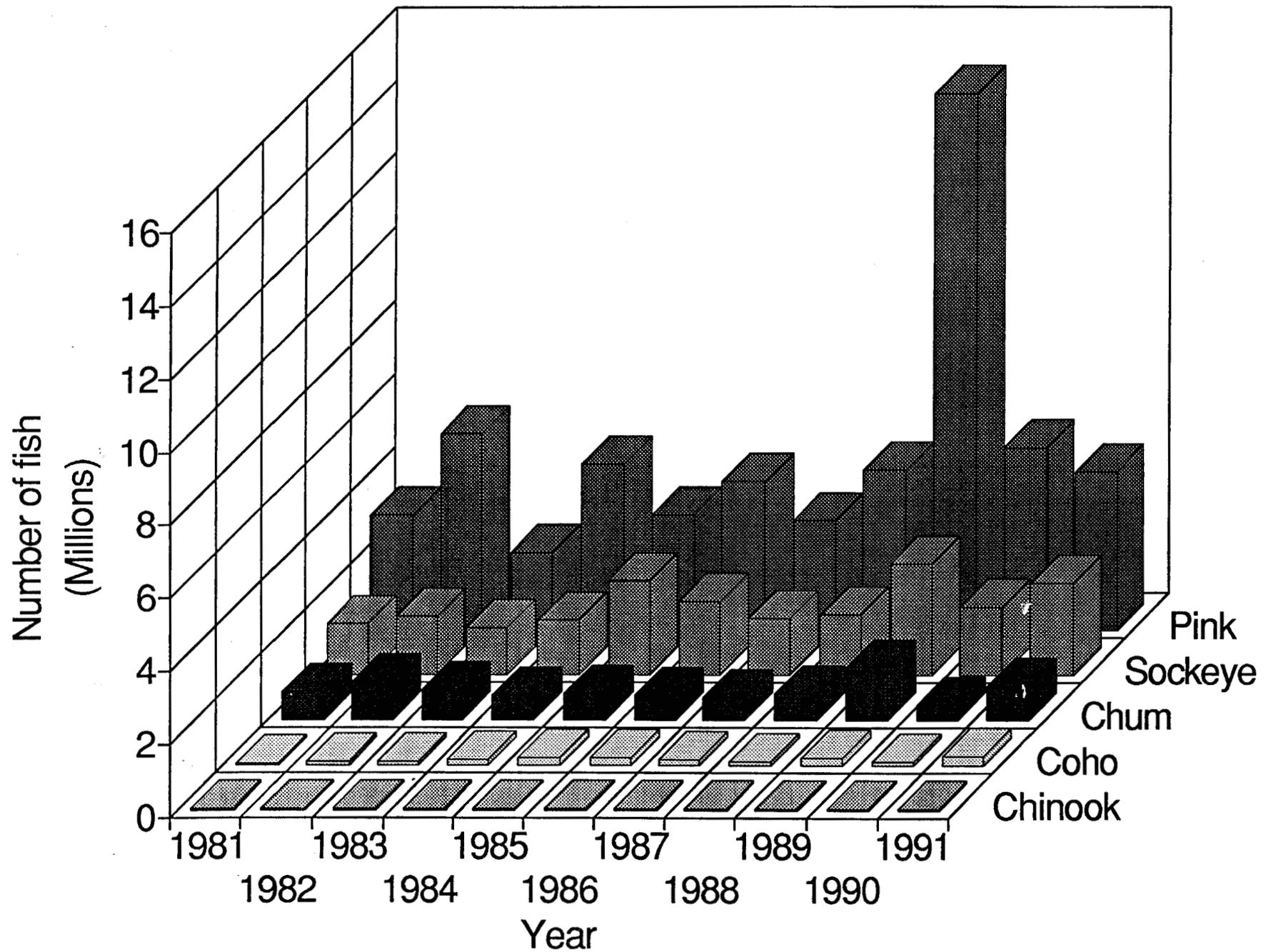
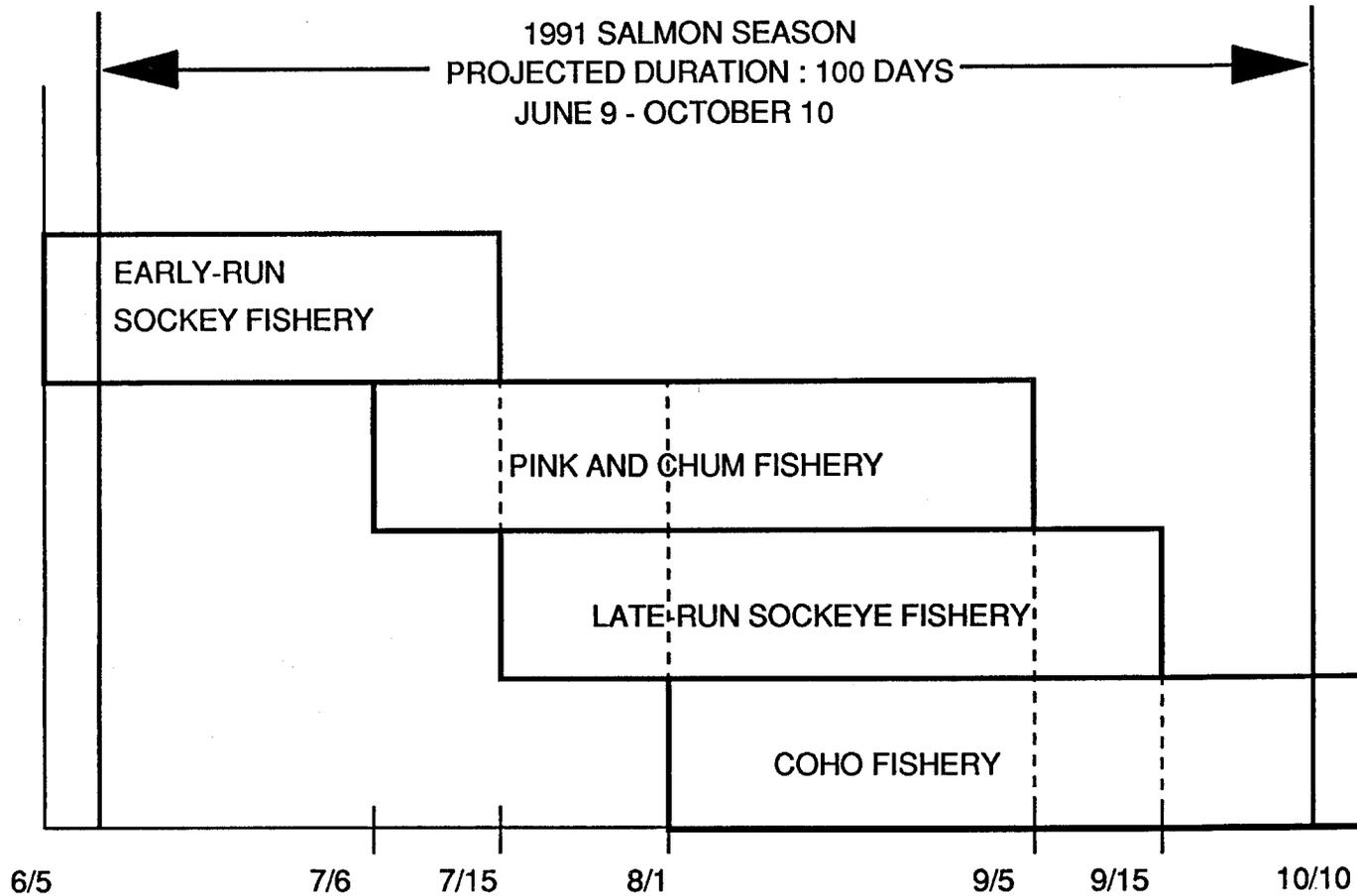


Figure 5. Salmon escapement by species for the Kodiak Management Area, 1981-1991.

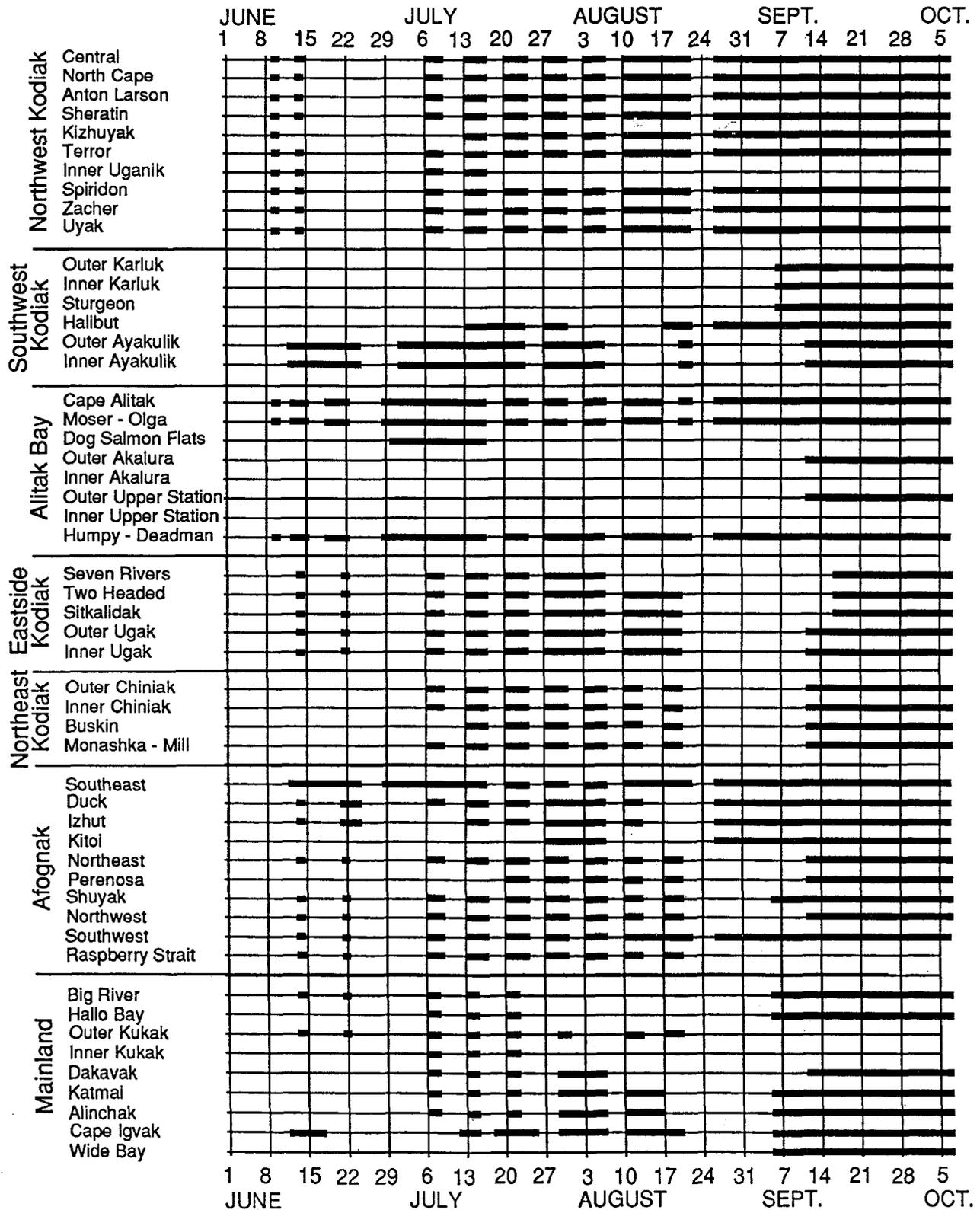
# KODIAK COMMERCIAL SALMON FISHERIES MANAGEMENT CHRONOLOGY



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Figure 6. Chronology of commercial salmon fisheries by species, in the Kodiak Management Area, 1991.

Figure 7. Commercial fishing time by District and Section for the Kodiak Management Area, 1991.



# KODIAK MANAGEMENT AREA

## 1991 SALMON HARVEST BY SPECIES

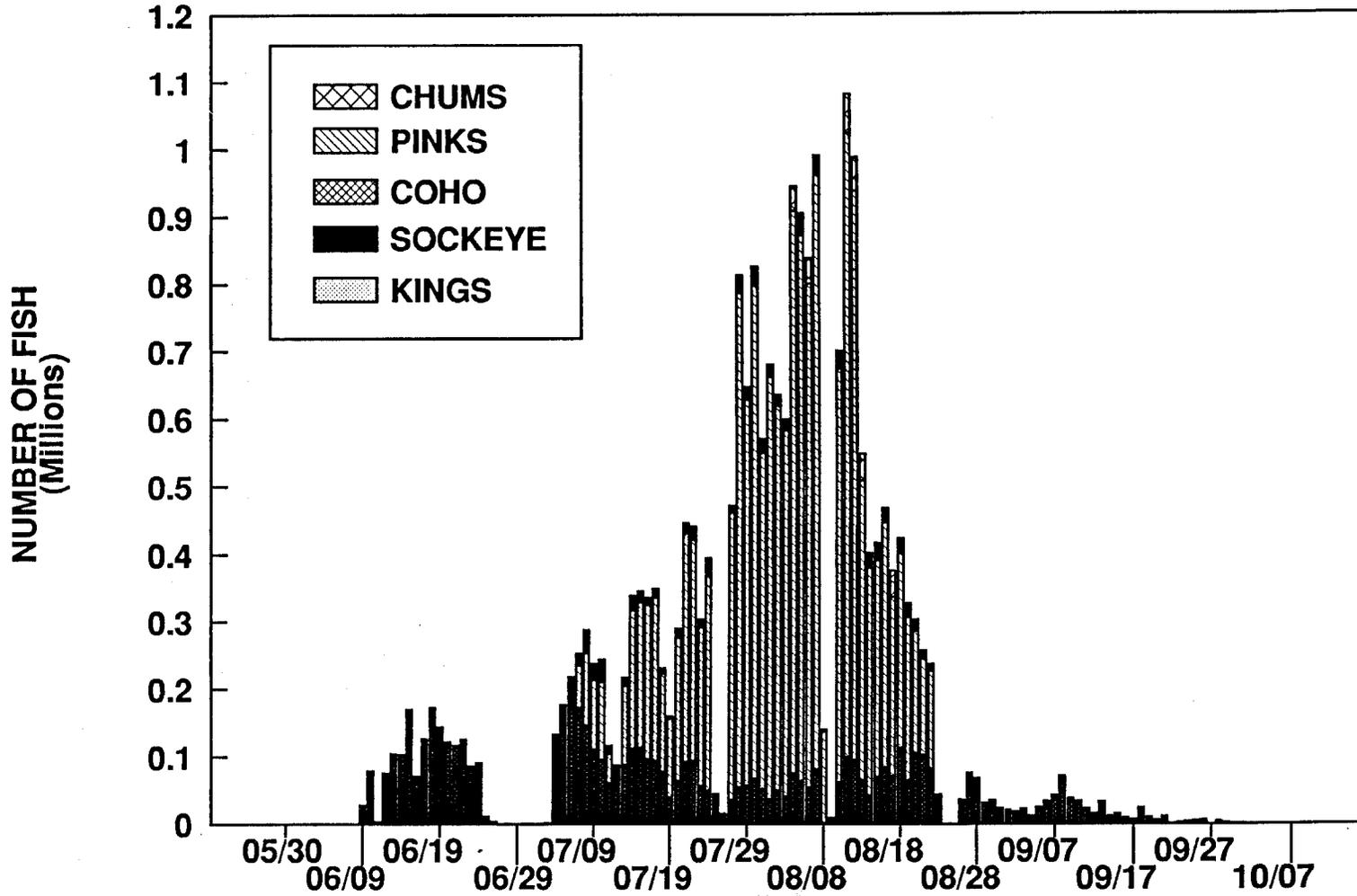
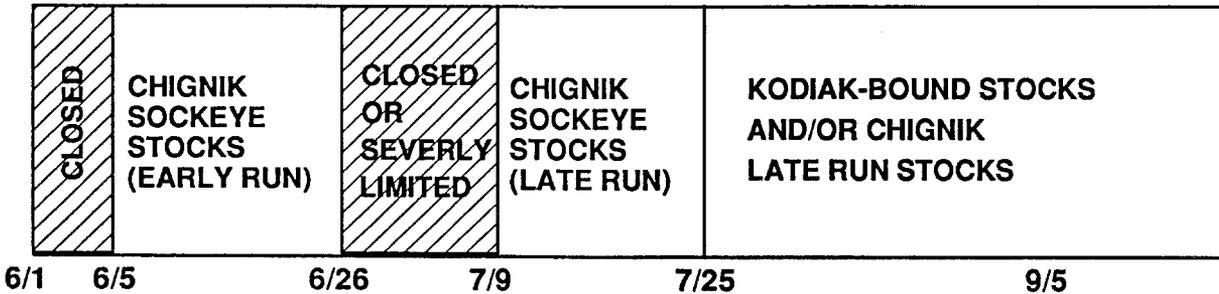


Figure 8. Commercial salmon harvest by species and date for the Kodiak Management Area, 1991.

Figure 9. Management chronology and criteria used for the Chignik bound sockeye, within the Kodiak Management Area, 1991.

THE REGULATORY REQUIREMENTS OF THIS PLAN ARE DESCRIBED IN THE 1992 COMMERCIAL FINFISH REGULATION BOOK. A DIAGRAM OF THE CHRONOLOGICAL REQUIREMENTS OF THIS PLAN IS SHOWN BELOW ALONG WITH THE BIOLOGICAL AND ALLOCATION CRITERIA OF THIS PLAN. THE HARVEST PROJECTIONS FOR THE CHIGNIK SOCKEYE RETURN INDICATES THAT THE EARLY-PRODUCTION WILL BE ABOVE AVERAGE AND THAT THE LATE PRODUCTION SHOULD CONTINUE AT OR ABOVE AVERAGE. THE CAPE IGVAK HARVEST PROJECTIONS FOR THE 1992 SEASON ARE SHOWN ON PAGE 3 OF THIS DOCUMENT.

MANAGEMENT CHRONOLOGY FOR CHIGNIK-BOUND SOCKEYE AND KODIAK SALMON



BIOLOGICAL AND ALLOCATIVE CRITERIA FOR MANAGING THE CAPE IGVAK FISHERY ON CHIGNIK-BOUND SOCKEYE

BIOLOGICAL REQUIREMENTS			ALLOCATIVE REQUIREMENTS		
REGULATION 5AAC 18.360	ESCAPEMENT NEEDS		REGULATION 5AAC 18.360	CHIGNIK MINIMUM HARVEST	IGVAK %
	CHIGNIK (EARLY RUN)	CHIGNIK (LATE RUN)			
(a) (b) (c)	THROUGH 6/30 350,000-400,000	-	(a)	EXPECTATIONS OF LESS THAN 600,000	CLOSED
-	-	-	(b)	EXPECTATIONS OF 600,000 ARE IN DOUBT	CLOSED
(a) (b) (c)	-	THROUGH 7/30 195,000-200,000	(c)	EXPECTATIONS OF 600,000 OCCUR	OPEN TO ACHIEVE 15%
-	-	-	(d)	CHIGNIK SALMON % INTERCEPTION CALCULATIONS	80% OF CATCH AT IGVAK ARE CHIGNIK SOCKEYE
-	-	-	(e)	ALLOCATION PERIOD 600,000	6/5 - 7/25 % NOT APPLICABLE
(f)	FROM JUNE 26 - JULY 9 CAPE IGVAK SECTION CLOSED OR SEVERLY LIMITED UNTIL CHIGNIK LAKE RUN EVALUATED		-	-	-
-	-	-	(g)	-	ONE DAY ADVANCE NOTICE
	400,000	250,000		600,000 MINIMUM	15 %

## Average Ex-Vessel Value by Gear Type Kodiak Area, 1975-1991

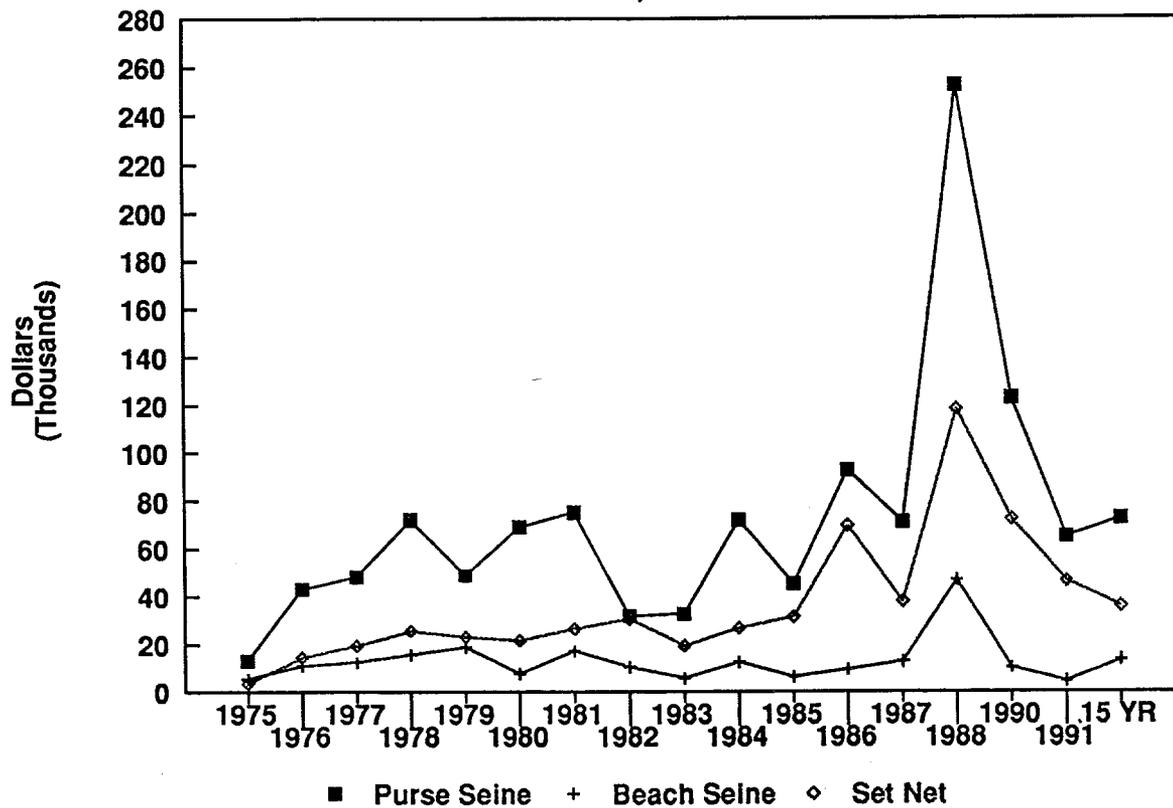


Figure 10. Average ex-vessel earnings by gear type in the Kodiak Management Area, 1975-1991.





ALASKA DEPARTMENT OF FISH AND GAME

**KODIAK AREA SALMON STATISTICAL AREAS**

Fifth Revision - May 1991

Prepared by J. Brodie

Approved by D. Prokopowich and K. Brennan

This map is intended as a general guide for fishermen, tender operators, and other industry personnel. For exact descriptions of the district and section boundaries, closed waters, legal gear, etcetera, please consult the current issue of the Alaska Commercial Fish Regulations for the Kodiak Area (See Chapter 18-Articles 1,2, and 3, and Chapter 39 -Articles 1, 2, and 9).

The approximate location of each salmon stream, areas normally closed to salmon fishing, areas open to each gear type, district and section boundaries, and the statistical areas used in reporting catches are depicted on this map and are designated as follows:

Salmon streams with 500 yard saltwater closures - Streams may have ADF&G markers deployed which designate area closed.

Salmon streams without 500 yard saltwater closures - Streams without ADF&G markers deployed are open seaward of the exposed tideland banks.

Bays and lagoons closed to commercial fishing -

Seaward boundaries of districts and sections adjacent to the territorial sea boundary. (State 3 mile limit) -

District boundaries -

Section boundaries -

Statistical area boundaries -



\*In the Kodiak Area, salmon may not be taken within the designated freshwater salmon streams and rivers, and all saltwater within 500 yards of all points of a straight line extending between the seaward extremities of the exposed tideland banks, or as marked by ADF&G regulatory markers...Where regulatory markers have been deployed by the department to aid fishermen in determining closed waters, the marker will be placed as close as possible to the described locations or in a location deemed necessary...it is illegal to fish on the streamward side of the marker (5 AAC 18.350.(a),(10) and (b)).

\*According to Title 50, Part 674, of the Code of Federal Regulations, it is unlawful to engage in commercial fishing for salmon in the waters lying beyond the seaward boundary of the state (the "three mile limit") west of Cape Suckling.

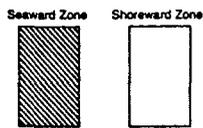
**\*\* NORTH SHELKOF STRAITS SOCKEYE SALMON MANAGEMENT PLAN \*\***

\* Effective time period: July 6 - July 25.

\* Management units affected by this plan:

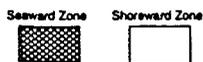
- North Shelkof Management Unit:

- N.W. Afognak Section
- Shuyak Section
- Big River Section
- Hallo Bay Section
- Outer Kukak Bay Section
- Inner Kukak Bay Section
- Dukavak Bay Section



- S.W. Afognak Management Unit:

- S.W. Afognak Section

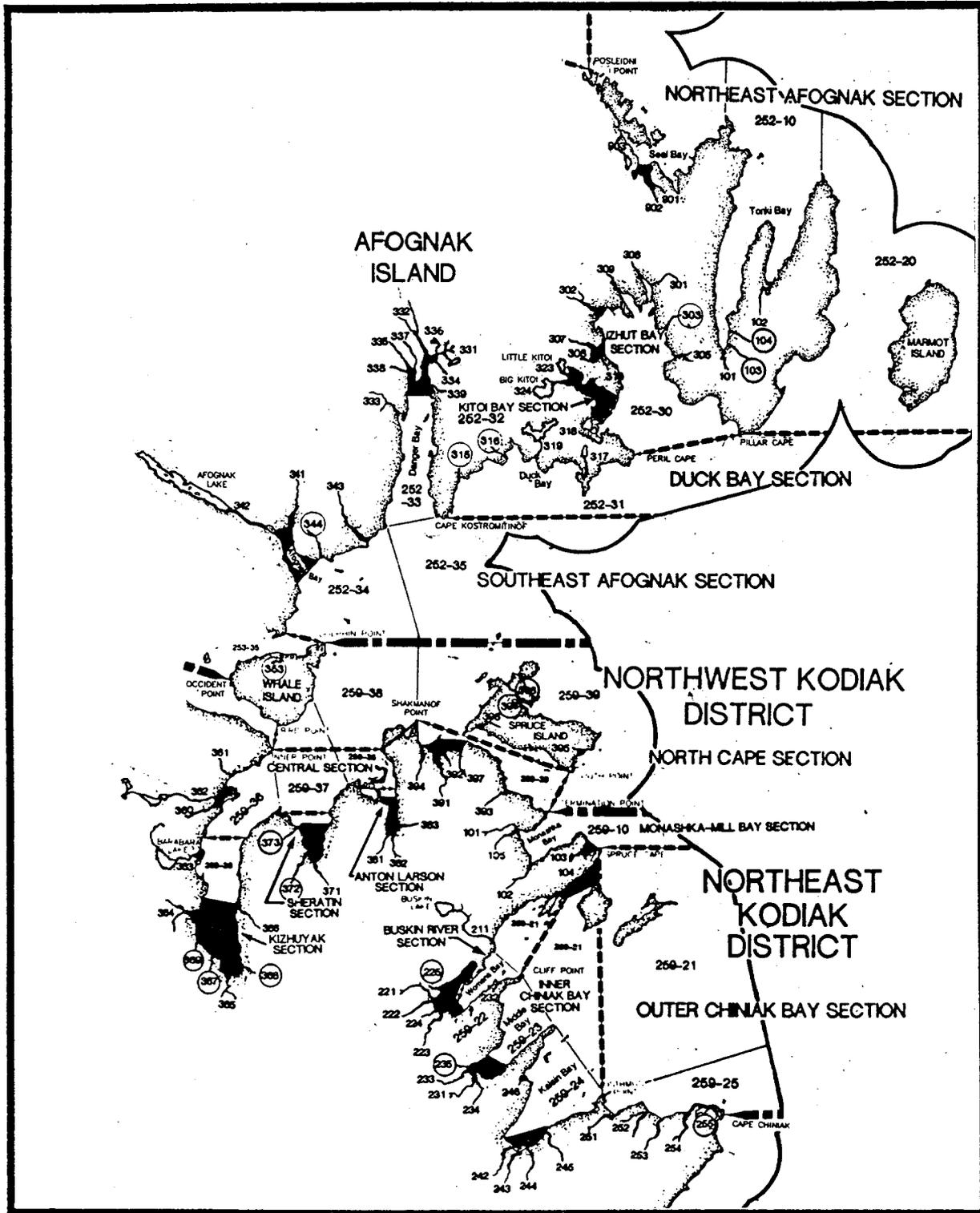


\* Specific information regarding this plan is detailed in the Harvest Strategy and in the Commercial Fish Regulations.

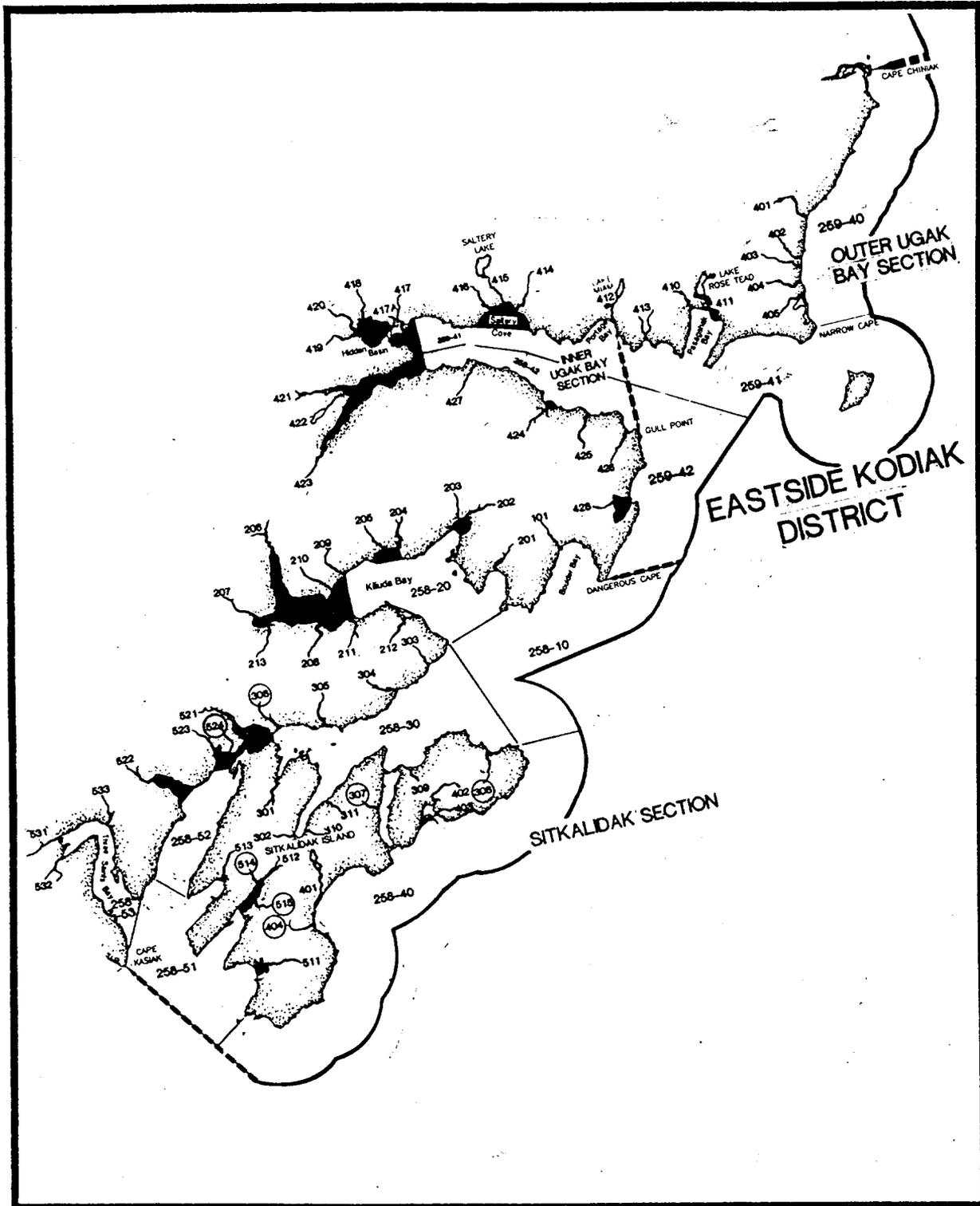
**\* REGARDING LEGAL GEAR IN THE KODIAK AREA PLEASE NOTE THE FOLLOWING:**

- In the Central Section of the Northwest Kodiak District, set gillnet, purse seine, and beach seine gear are legal (5 AAC 18.330(b)).
- The Moser/Olga Bay Section, the Dog Salmon Flats Section, the Inner and Outer Akulura Sections, and the Inner and Outer Upper Station Sections, are exclusively for set gillnet gear prior to 5 September (5 AAC 18.330(d)).
- All other salmon fishing sections in the Kodiak Area are exclusively for purse seine and beach seine gear (5 AAC 18.330(a),(c),(e),(f) and (g)).

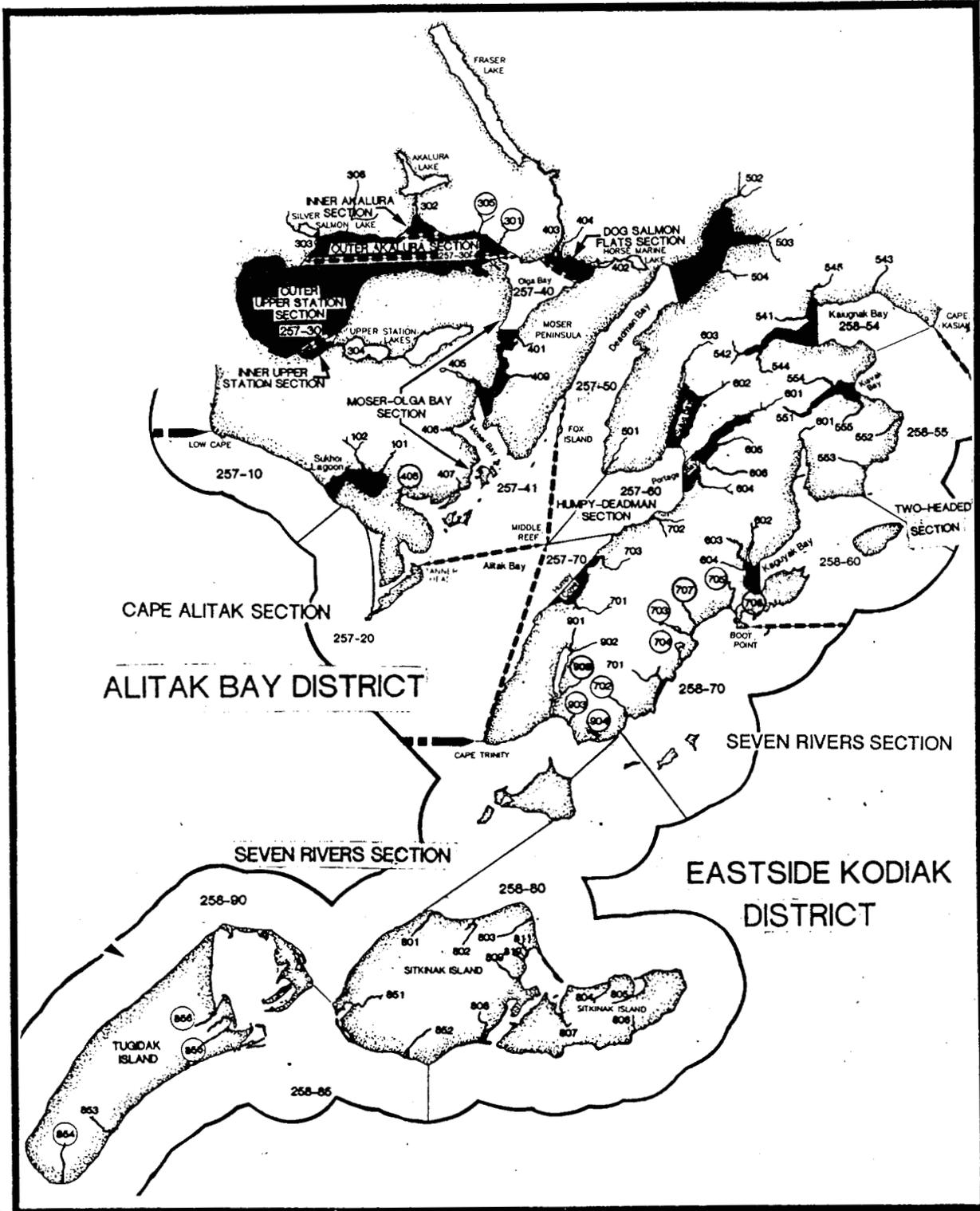
KODIAK SALMON MANAGEMENT UNITS	
<b>NORTHWEST KODIAK DISTRICT - 10</b>	<b>NORTHEAST KODIAK DISTRICT - 4</b>
Central Section	Outer Chirikof Bay Section
North Cape Section	Buakh River Section
Anton Larsen Section	Monsieha-Hill Bay Section
Shawish Section	
Kishuyak Section	<b>AFOGNAK DISTRICT - 10</b>
Terror Bay Section	Southeast Afognak Section
Inner Upperk Bay Section	Duck Bay Section
Section Bay Section	Ishai Bay Section
Zachar Bay Section	Kid Bay Section
Uyak Bay Section	Northwest Afognak Section
<b>SOUTHWEST KODIAK DISTRICT - 6</b>	Perenosa Bay Section
Outer Karkak Section	Shuyak Island Section
Inner Karkak Section	Northwest Afognak Section
Sturgeon Section	Southeast Afognak Section
Halbit Bay Section	Raspberry Strait Section
Outer Apyakak Section	<b>MAINLAND DISTRICT - 9</b>
Inner Apyakak Section	Big River Section
<b>ALITAK BAY DISTRICT - 8</b>	Halo Bay Section
Cape Alitak Section	Outer Kukak Bay Section
Moser-Olga Bay Section	Inner Kukak Bay Section
Dog Salmon Flats Section	Dukavak Bay Section
Outer Akulura Section	Kabnal Section
Inner Akulura Section	Alzhak Bay Section
Outer Upper Station Section	Cape Iyvak Section
Inner Upper Station Section	Wide Bay Section
Humpy-Deadman Section	
<b>EASTSIDE KODIAK DISTRICT - 5</b>	
Seven Rivers Section	
Two-Headed Section	
Shushak Section	
Outer Upperk Bay Section	
Inner Upperk Bay Section	



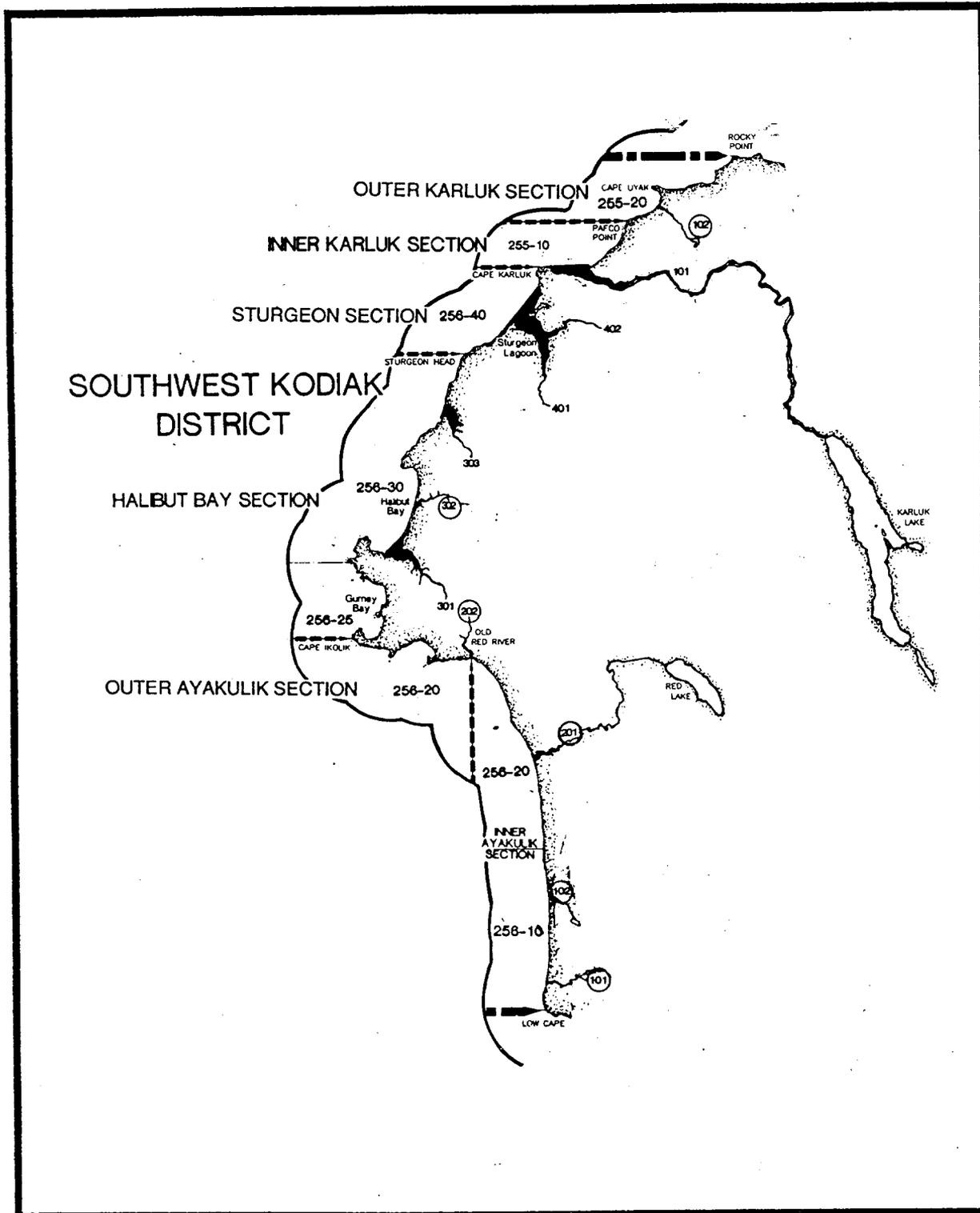
Appendix A.3. Whale Pass to Cape Chiniak to Seal Bay, #1, Kodiak Management Area, 1991.



Appendix A.4. Cape Kasiak north to Cape Chiniak, #2, Kodiak Management Area, 1991.

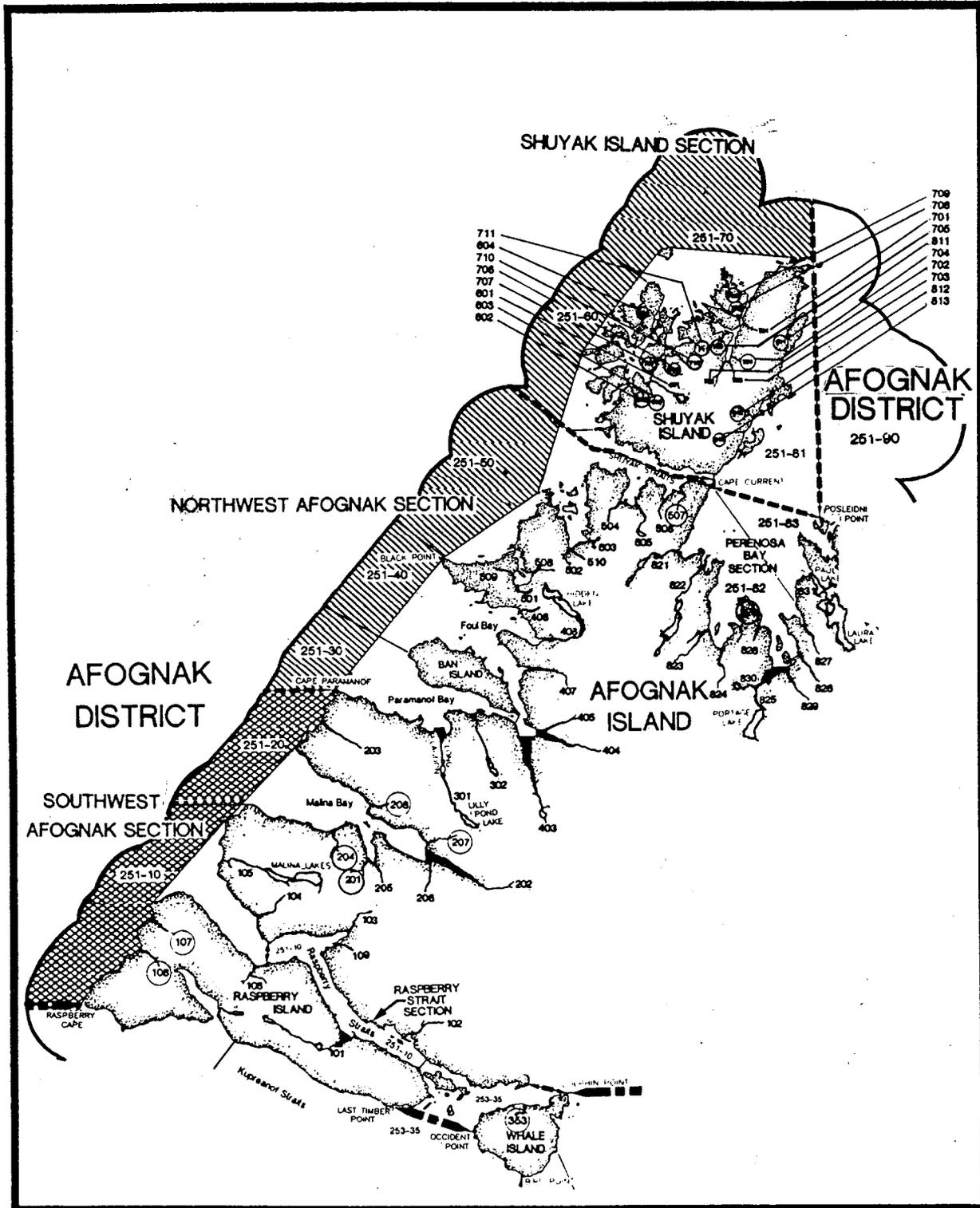


Appendix A.5. Cape Kasiak south to Low Cape, #3, Kodiak Management Area, 1991.

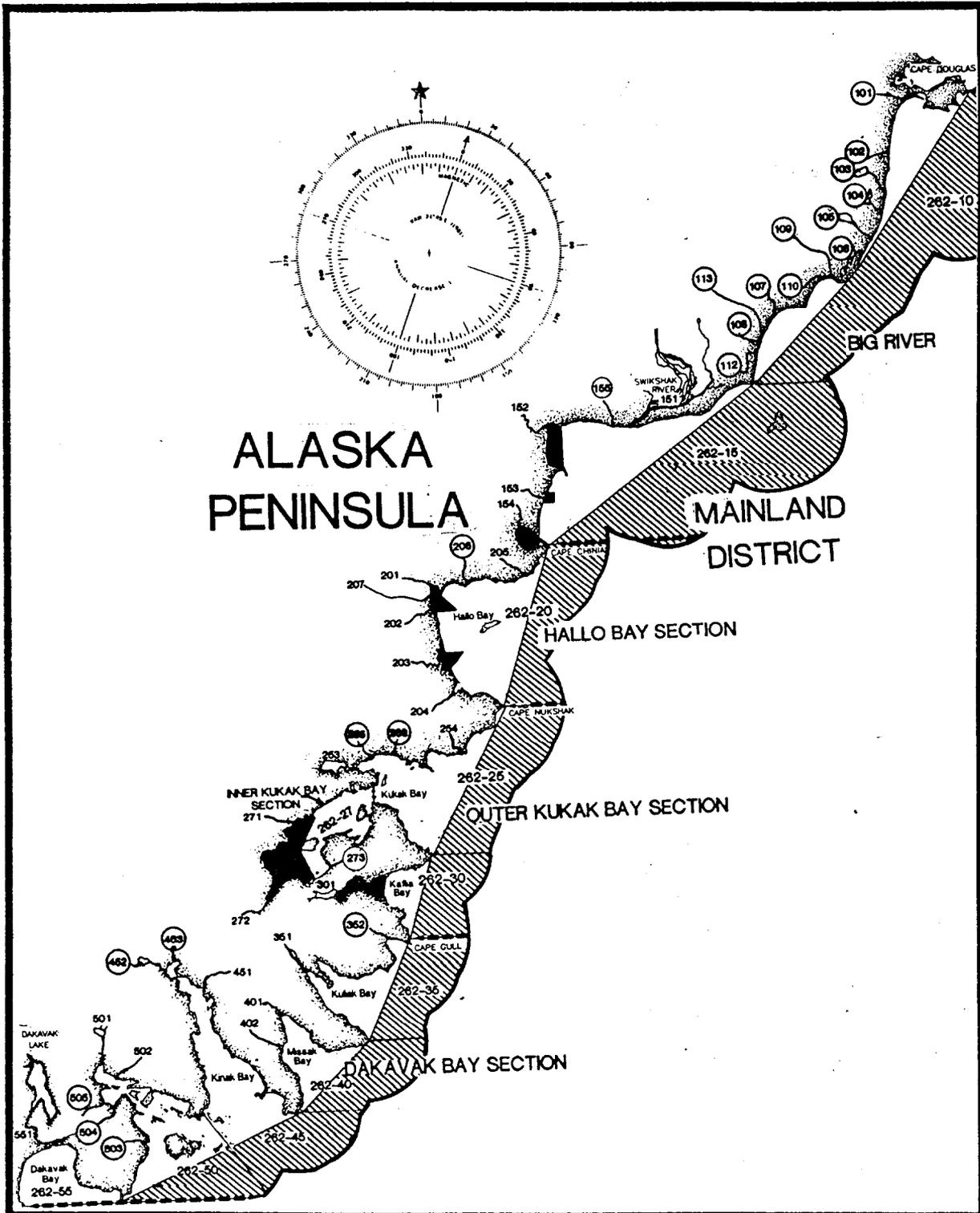


Appendix A.6. Low Cape north to Rocky Point, #4, Kodiak Management Area, 1991.

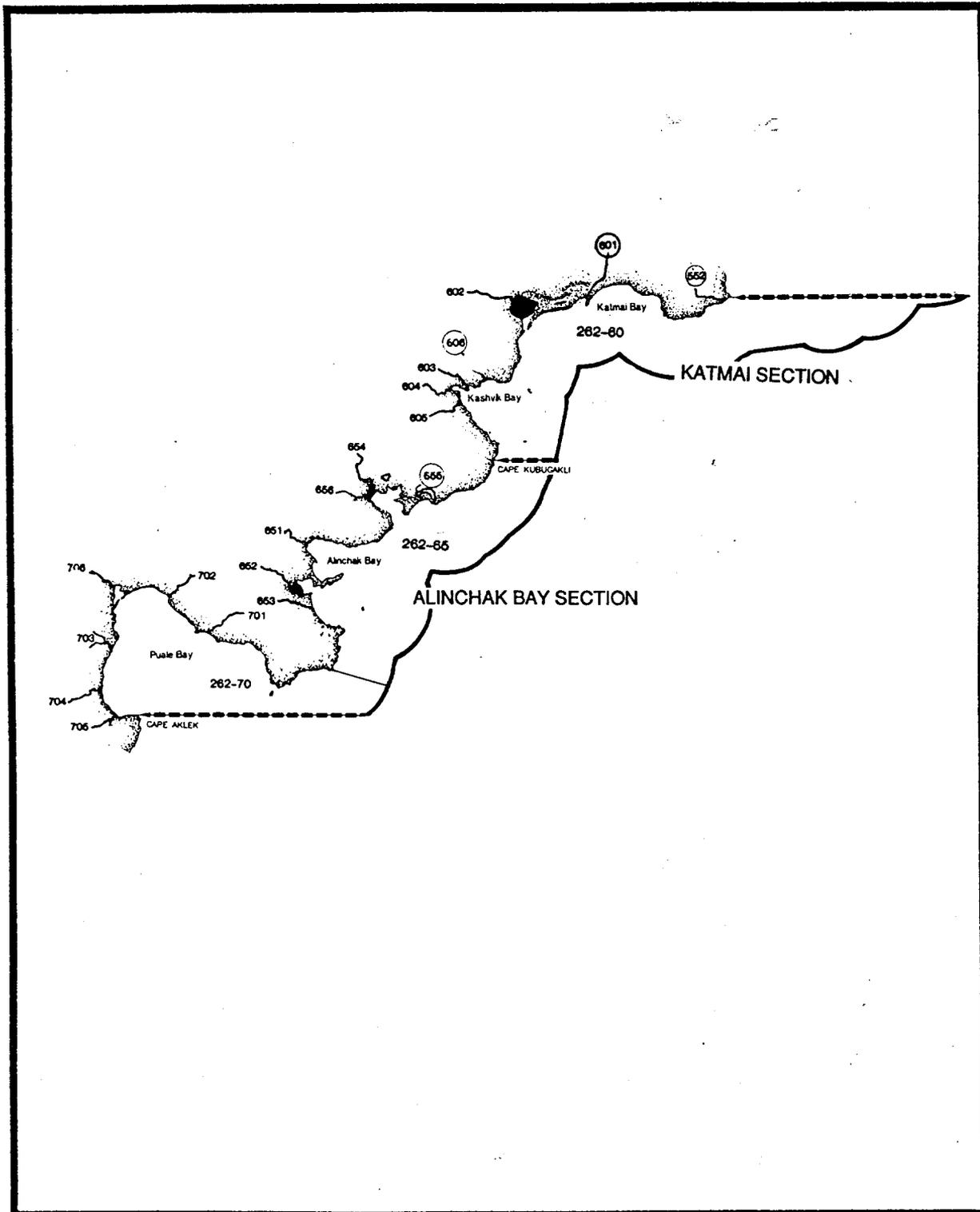




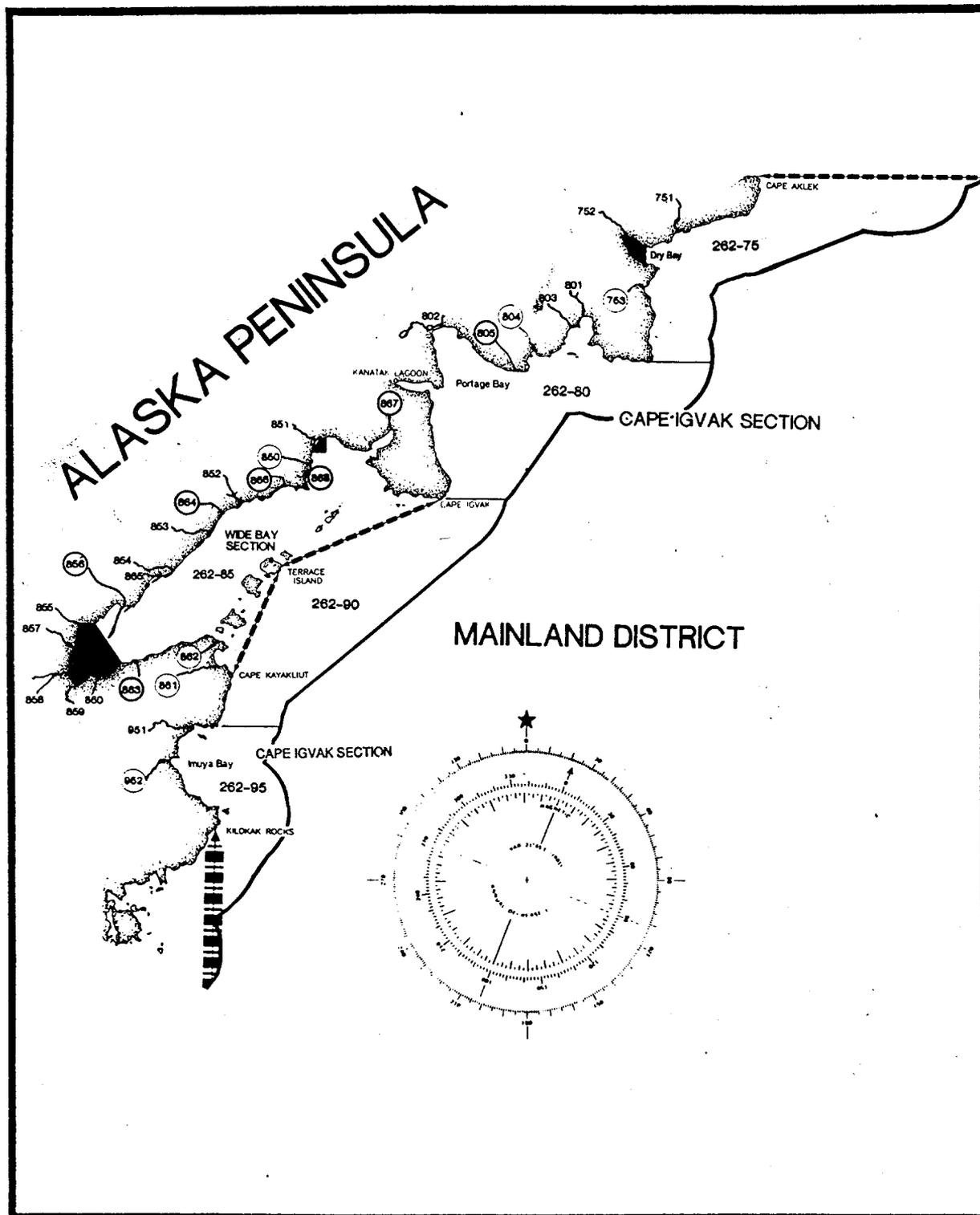
Appendix A.8. Raspberry Cape north to Shuyak Island, #6, Kodiak Management Area, 1991.



Appendix A.9. Cape Douglas south to Dakavak Bay, #7, Kodiak Management Area, 1991.



Appendix A.10. Katmai Bay south to Cape Aklek, #8, Kodiak Management Area, 1991.



Appendix A.11. Cape Aklek south to Kilokak Rocks, #9, Kodiak Management Area, 1991.

Appendix B.1. Sockeye salmon escapement goals by spawning system for the Kodiak Management Area<sup>a</sup>.

Name	System Number	Escapement (in 1,000's of fish)		
		Minimum	Mid Pt.	Desired
<b>Weirs</b>				
Karluk	255-101	560	730	900
Ayakulik	256-201	200	250	300
Upper Station	257-304	200	238	275
Frazer	257-401	140	170	200
Litnik	252-342	40	50	60
Saltery	259-415	20	30	40
Pauls	251-831	20	30	40
Buskin	259-211	10	13	15
Akalura	257-302	40	50	60
Uganik Lake	253-122	40	50	60
	Subtotal	1,270	1,611	1,950
<b>Non weir (indexed escap.<sup>b</sup>)</b>				
Barabara Cove	259-363	1	3	5
Bear Lake	262-655	1	3	5
Big Bay	251-601	1	3	5
Horse Marine	257-402	5	8	10
Kaflia	262-301	15	20	25
Kaguyak	258-706	0.5	1	1
Kanatak	262-802	1	3	5
Kuliak	262-351	1	3	5
Little Afognak	252-319	1	3	5
Little Danger	252-331	1	1	1
Little Kitoi	252-323	1	1	1
Little River	253-116	15	20	25
Long Lagoon Cr.	251-301	1	3	5
Malina	251-105	5	8	10
Matfay	257-704	0.5	1	1
Miam	259-412	1	3	5
Ocean Beach	258-401	5	8	10
Old Red River	258-202	0.5	1	1
Paramonof	251-301	1	1	1
Pasagshak	259-411	1	3	5
Perenosa	251-825	5	8	10
Pivot Point	258-212	0.5	1	1
Red Fox	251-505	1	1	1
Russian Harbor	258-901	1	1	1
Selief	251-101	1	3	5
Silver Salmon	257-303	1	3	5

-Continued-

Appendix B.1. (page 2 of 2)

Name	System Number	Escapement (in 1,000's of fish)		
		Minimum	Mid Pt.	Desired
Swikshak	262-151	15	20	25
Slough Crk.	262-105	0.5	1	1
Thorsheim	251-302	5	8	10
<b>Total indexed escap.<sup>b</sup></b>		88.5	143	190.0
<b>Estimated total escapement for indexed systems<sup>c</sup></b>		177	286	380
<b>Estimated total escapement for systems with weirs and indexed by aerial surveys</b>		1,447	1,754	2,140

<sup>a</sup> Source: Barrett et al. (1990) and Malloy et al. (1992).

<sup>b</sup> Indexed escapement represents a peak aerial escapement count.

<sup>c</sup> Indexed escapement expanded by a factor of 2.0 for an estimate of total escapement (Barrett et al. 1985).

## Appendix B.2.

Pink salmon odd and even year index stream escapement goals, estimated odd year index stream total escapement goals and the estimated total odd year escapement goals by stream for the Kodiak Management Area<sup>a</sup>.

Index Stream	Stream Number	Even Year Indexed <sup>b</sup>		Indexed <sup>a</sup>		Odd Year		
		Minimum	Desired	Minimum	Desired	Minimum	Est. Total	Mid Point
<b>AFOGNAK DISTRICT</b>								
Malina	(251-105)	20,000	60,000	5,000	15,000	9,209	27,626	18,418
Paramanof	(251-404)	10,000	30,000	5,000	15,000	9,209	27,626	18,418
Little Waterfall <sup>c</sup>	(251-822)	15,000	45,000	15,000	45,000	15,000	45,000	30,000
Discoverer	(251-830)	20,000	60,000	20,000	60,000	36,835	110,506	73,671
Pauls Bay <sup>c</sup>	(251-831)	3,000	9,000	3,000	9,000	3,000	9,000	6,000
Seal Bay	(251-901)	5,000	15,000	5,000	15,000	9,209	27,626	18,418
Big Danger	(252-332)	15,000	45,000	10,000	30,000	18,418	55,253	36,835
Marka	(252-334)	30,000	90,000	10,000	30,000	18,418	55,253	36,835
Litnik <sup>c</sup>	(252-342)	30,000	90,000	10,000	30,000	10,000	30,000	20,000
Subtotal		148,000	444,000	83,000	249,000	129,297	387,891	258,594
<b>N.W. KODIAK DISTRICT</b>								
Sheratin	(253-371)	15,000	45,000	10,000	30,000	18,418	55,253	36,835
Baumans	(253-333)	5,000	15,000	5,000	15,000	9,209	27,626	18,418
Terror	(253-331)	40,000	120,000	30,000	90,000	55,253	165,759	110,506
Uganik	(253-122)	80,000	240,000	70,000	210,000	128,923	386,770	257,847
Little	(253-115)	40,000	120,000	15,000	45,000	27,626	82,879	55,253
Zachar	(254-301)	40,000	120,000	20,000	60,000	36,835	110,506	73,671
Browns	(254-204)	40,000	120,000	5,000	15,000	9,209	27,626	18,418
Uyak	(254-202)	50,000	150,000	50,000	150,000	92,088	276,264	184,176
Uyak	(259-203)	5,000	15,000	15,000	45,000	27,626	82,879	55,253
Subtotal		315,000	945,000	220,000	660,000	405,188	1,215,563	810,376
<b>S.W. KODIAK DISTRICT</b>								
Karluk <sup>c</sup>	(255-101)	800,000	1,600,000	20,000	60,000	20,000	60,000	40,000
Sturgeon	(256-401)	50,000	150,000	5,000	15,000	9,209	27,626	18,418
Ayakulik <sup>c</sup>	(256-201)	400,000	800,000	5,000	15,000	5,000	15,000	10,000
Subtotal		1,250,000	2,550,000	30,000	90,000	34,209	102,626	68,418

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Appendix B.2. (page 2 of 3)

Index Stream	Stream Number	Even Year Indexed <sup>b</sup>		Indexed <sup>a</sup>		Odd Year		
		Minimum	Desired	Minimum	Desired	Minimum	Est. Total	Mid Point
<b>ALITAK DISTRICT</b>								
Narrows	(257-401)	2,000	6,000	2,000	6,000	3,684	11,051	7,367
Dog Salmon <sup>c</sup>	(257-403)	50,000	150,000	60,000	180,000	60,000	180,000	120,000
Deadman	(257-502)	40,000	120,000	60,000	180,000	110,506	331,517	221,012
Humpy	(257-701)	70,000	210,000	90,000	270,000	165,759	497,276	331,517
Subtotal		162,000	486,000	212,000	636,000	339,948	1,019,844	679,896
<b>N.E. KODIAK DISTRICT</b>								
Sid Olds	(259-242)	30,000	90,000	30,000	90,000	55,253	165,759	110,506
American	(259-231)	30,000	90,000	30,000	90,000	55,253	165,759	110,506
Buskin <sup>c</sup>	(259-211)	60,000	180,000	50,000	150,000	50,000	150,000	100,000
Subtotal		120,000	360,000	110,000	330,000	160,506	481,517	321,012
<b>EASTSIDE KODIAK DISTRICT</b>								
7-Rivers	(258-701)	40,000	120,000	40,000	120,000	73,671	221,012	147,341
Kalugnak	(258-542)	10,000	30,000	10,000	30,000	18,418	55,253	36,835
Barling	(258-522)	30,000	90,000	30,000	90,000	55,253	165,759	110,506
Kiliuda	(258-207)	20,000	60,000	10,000	30,000	18,418	55,253	36,835
Saltery <sup>c</sup>	(259-415)	20,000	60,000	30,000	90,000	30,000	90,000	60,000
Miam	(259-412)	20,000	60,000	10,000	30,000	18,418	55,253	36,835
Hurst	(259-414)	10,000	30,000	10,000	30,000	18,418	55,253	36,835
Subtotal		150,000	450,000	140,000	420,000	232,594	697,782	465,188
<b>MAINLAND KODIAK DISTRICT</b>								
Big River	(262-152)	10,000	30,000	10,000	30,000	18,418	55,253	36,835
Village	(262-153)	15,000	45,000	15,000	45,000	27,626	82,879	55,253
Cape Chiniak	(262-205)	5,000	15,000	3,000	9,000	5,525	16,576	11,051
Big Hallo	(262-203)	2,000	6,000	2,000	6,000	3,684	11,051	7,367
Kukak	(262-271)	3,000	9,000	2,000	6,000	3,684	11,051	7,367
Missak	(262-402)	5,000	15,000	3,000	9,000	5,525	16,576	11,051
Kinak	(262-451)	20,000	60,000	20,000	60,000	36,835	110,506	73,671
Geographic	(262-501)	4,000	12,000	4,000	12,000	7,367	22,101	14,734
Dakavak	(262-551)	25,000	75,000	20,000	60,000	36,835	110,506	73,671

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Appendix B.2. (page 3 of 3)

Index Stream	Stream Number	Even Year Indexed <sup>b</sup>		Indexed <sup>a</sup>		Odd Year		
		Minimum	Desired	Minimum	Desired	Minimum	Est. Total Desired	Mid Point
Kashvik	(262-604)	25,000	75,000	25,000	75,000	46,044	138,132	92,088
Big Alinchak	(262-651)	30,000	90,000	20,000	60,000	36,835	110,506	73,671
Portage	(262-702)	15,000	45,000	10,000	30,000	18,418	55,253	36,835
Oil	(262-751)	15,000	45,000	10,000	30,000	18,418	55,253	36,835
Jute	(262-801)	2,000	6,000	1,000	3,000	1,842	5,525	3,684
Kanatak	(262-802)	10,000	30,000	10,000	30,000	18,418	55,253	36,835
Big Creek	(262-851)	70,000	210,000	60,000	180,000	110,506	331,517	221,012
Subtotal		256,000	768,000	215,000	645,000	395,979	1,187,937	791,958
GRAND TOTAL		2,401,000	6,003,000	1,010,000	3,030,000	1,697,720	5,093,161	3,395,440
Est. Total Kodiak Management Area Escapement <sup>d</sup>						2,335,253	7,005,759	4,670,506

<sup>a</sup> Source: Barrett et al. (1990) and Malloy et al. (1992).

<sup>b</sup> Index escapement for non weir systems are peak counts.

<sup>c</sup> Systems where the escapement is counted through weirs.

<sup>d</sup> The 51 listed index streams average 72.70% of the total KMA escapement based on 1969-87 odd year escapement distribution data. The estimated total KMA escapements are derived by expanding the minimum desired, and mid point total estimated escapements for the index streams by a factor of 1.38.

Appendix B.3. Chum salmon indexed escapement goals and estimated total escapement goals for selected streams<sup>a</sup>.

Index Stream	Stream Number	Indexed		Est. Total		Mid Point
		Minimum	Desired	Minimum	Desired	
<b>N.W. KODIAK DISTRICT</b>						
Red Cloud	(259-382)	3,000	9,000	4,173	12,518	8,345
Slough Trail	(259-383)	1,000	3,000	1,391	4,173	2,782
Sheratin	(259-371)	5,000	15,000	6,954	20,863	13,908
Kizhuyak	(259-365)	8,000	24,000	11,127	33,380	22,253
Terror	(253-331)	5,000	15,000	6,954	20,863	13,908
Uganik	(253-122)	10,000	30,000	13,908	41,725	27,817
Spiridon	(254-401)	15,000	45,000	20,863	62,588	41,725
Zachar	(254-301)	15,000	45,000	20,863	62,588	41,725
Uyak	(254-202)	10,000	30,000	13,908	41,725	27,817
Subtotal		72,000	216,000	100,140	300,421	200,281
<b>S.W. KODIAK DISTRICT</b>						
Sturgeon	(256-401)	50,000	150,000	69,542	208,626	139,084
Subtotal		50,000	150,000	69,542	208,626	139,084
<b>ALITAK DISTRICT</b>						
Big Sukhoi	(257-102)	20,000	60,000	27,817	83,450	55,633
Dog Salmon <sup>b</sup>	(257-403)	2,000	6,000	2,000	6,000	4,000
Narrows	(257-401)	2,000	6,000	2,782	8,345	5,563
Deadman	(257-502)	5,000	15,000	6,954	20,863	13,908
Sulua	(257-603)	8,000	24,000	11,127	33,380	22,253
Portage	(257-601)	1,000	3,000	1,391	4,173	2,782
Subtotal		38,000	114,000	52,070	156,210	104,140
<b>N.E. KODIAK DISTRICT</b>						
Kalsin River	(259-243)	1,000	3,000	1,391	4,173	2,782

-Continued-

Index Stream	Stream Number	Indexed		Est. Total		
		Minimum	Desired	Minimum	Desired	Mid Point
Sid Olds	(259-242)	6,000	18,000	8,345	25,035	16,690
American	(259-231)	6,000	18,000	8,345	25,035	16,690
Salt Creek	(259-233)	2,000	6,000	2,782	8,345	5,563
Salonie Creek	(259-223)	1,000	3,000	1,391	4,173	2,782
Russian River	(259-222)	2,000	6,000	2,782	8,345	5,563
Sargent Creek	(259-221)	2,000	6,000	2,782	8,345	5,563
Subtotal		20,000	60,000	27,817	83,450	55,633
<b>EASTSIDE KODIAK DISTRICT</b>						
Sitkinak Chum	(258-807)	3,000	9,000	4,173	12,518	8,345
Kaguyak	(258-602)	5,000	15,000	6,954	20,863	13,908
Kiavak Portage	(258-551)	1,000	3,000	1,391	4,173	2,782
Kaiugnak	(258-603)	3,000	9,000	4,173	12,518	8,345
Barling	(258-522)	3,000	9,000	4,173	12,518	8,345
Midway	(258-521)	5,000	15,000	6,954	20,863	13,908
Newman	(258-513)	3,000	9,000	4,173	12,518	8,345
Natalia	(258-512)	3,000	9,000	4,173	12,518	8,345
Rolling	(258-511)	4,000	12,000	5,563	16,690	11,127
Amee	(258-301)	1,000	3,000	1,391	4,173	2,782
McCord Beach	(258-302)	1,000	3,000	1,391	4,173	2,782
Pivot Point	(258-212)	1,000	3,000	1,391	4,173	2,782
Marker Grove	(258-211)	1,000	3,000	1,391	4,173	2,782
Dukaluk	(258-208)	2,000	6,000	2,782	8,345	5,563
W. Kiliuda	(258-207)	8,000	24,000	11,127	33,380	22,253
E. Kiliuda	(258-206)	3,000	9,000	4,173	12,518	8,345
Burn's Spit	(258-210)	1,000	3,000	1,391	4,173	2,782
Coxcomb Point	(258-205)	6,000	18,000	8,345	25,035	16,690
Dog Bay	(258-204)	6,000	18,000	8,345	25,035	16,690
Shearwater	(258-202)	1,000	3,000	1,391	4,173	2,782
Gull Cape	(259-428)	8,000	24,000	11,127	33,380	22,253
Eagle Harbor	(259-424)	4,000	12,000	5,563	16,690	11,127
Kiliuda Pass	(259-423)	2,000	6,000	2,782	8,345	5,563
Hidden Basin	(259-418)	4,000	12,000	5,563	16,690	11,127

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Index Stream	Stream Number	Indexed		Est. Total		Mid Point
		Minimum	Desired	Minimum	Desired	
Wild Creek	(259-417)	2,000	6,000	2,782	8,345	5,563
Rough Creek	(259-416)	3,000	9,000	4,173	12,518	8,345
Saltery <sup>D</sup>	(259-415)	2,000	6,000	2,000	6,000	4,000
Miam	(259-412)	2,000	6,000	2,782	8,345	5,563
Subtotal		88,000	264,000	121,612	364,836	243,224
<b>MAINLAND KODIAK DISTRICT</b>						
Productive Forks	(262-108)	1,000	3,000	1,391	4,173	2,782
Swikshak	(262-151)	2,000	6,000	2,782	8,345	5,563
Big River	(262-152)	40,000	120,000	55,633	166,900	111,267
Village Creek	(262-153)	10,000	30,000	13,908	41,725	27,817
Chiniak Lagoon	(262-154)	8,000	24,000	11,127	33,380	22,253
Ninagiak	(262-201)	5,000	15,000	6,954	20,863	13,908
Serpent	(262-203)	10,000	30,000	13,908	41,725	27,817
Cape Chiniak	(262-205)	1,000	3,000	1,391	4,173	2,782
Kukak River	(262-271)	60,000	180,000	83,450	250,351	166,900
Kukak Valley	(262-272)	3,000	9,000	4,173	12,518	8,345
Kinak Creek	(262-451)	2,000	6,000	2,782	8,345	5,563
Dakavak	(262-551)	10,000	30,000	13,908	41,725	27,817
Alagogshak	(262-602)	25,000	75,000	34,771	104,313	69,542
Kashvik	(262-604)	5,000	15,000	6,954	20,863	13,908
Big Alinchak	(262-651)	2,000	6,000	2,782	8,345	5,563
Little Alinchak	(262-652)	1,000	3,000	1,391	4,173	2,782
East Bear	(262-654)	8,000	24,000	11,127	33,380	22,253
West Bear	(262-656)	3,000	9,000	4,173	12,518	8,345
Portage	(262-702)	1,000	3,000	1,391	4,173	2,782
Teresa	(262-703)	8,000	24,000	11,127	33,380	22,253
Trail Creek	(262-704)	8,000	24,000	11,127	33,380	22,253
Dry Bay	(262-752)	8,000	24,000	11,127	33,380	22,253
Jute	(262-801)	1,000	3,000	1,391	4,173	2,782
Kanatak	(262-802)	1,000	3,000	1,391	4,173	2,782

-Continued-

Index Stream	Stream Number	Indexed		Est. Total		
		Minimum	Desired	Minimum	Desired	Mid Point
Big Creek	(262-851)	10,000	30,000	13,908	41,725	27,817
Kialagvik	(262-858)	8,000	24,000	11,127	33,380	22,253
Icy Peak	(262-859)	1,000	3,000	1,391	4,173	2,782
Subtotal		242,000	726,000	336,583	1,009,748	673,165
GRAND TOTAL		510,000	1,530,000	707,764	2,123,291	1,415,528
Estimated Total Kodiak Management Area Escapement <sup>c</sup>				784,440	2,353,321	1,568,881

a Source: Barrett et al. (1990) and Malloy et al. (1992)

b Systems where the escapement is counted through weirs.

c The 78 listed index streams supported 90.2% of the total KMA chum escapement in 1989. The estimated total KMA escapement goal minimum, desired, and mid point values were determined from this relationship.

Appendix B.4. Coho salmon escapement goals for fish weir systems in the Kodiak Management Area, 1991<sup>a</sup>.

Weir Site	Interim Goals	Interim Dates															
		8/15		8/20		8/25		8/31		9/5		9/10		9/15		9/20	
		Weir	(Bldup)	Weir	(Bldup)	Weir	(Bldup)	Weir	(Bldup)	Weir	(Bldup)	Weir	(Bldup)	Weir	(Bldup)	Weir	(Bldup)
Karluk (255-101)	Min. Des.	-	-	50	-	100	(1,400)	300	(2,200)	1,500	(3,500)	3,000	(7,000)	8,000	(5,000)	10,000	(5,000)
		-	-	500	-	1,000	(2,000)	3,000	(4,000)	3,000	(6,000)	6,000	(9,000)	9,000	(8,000)	20,000	(5,000)
Ayakulik (256-201)	Min. Des.	500	(1,000)	3,000	(2,000)	4,000	(3,500)	7,000	(5,000)	10,000	(7,000)	12,000	(6,000)	-	(6,000)	-	(2,000)
		2,000	(1,500)	6,000	(2,500)	7,000	(5,000)	13,000	(6,000)	15,000	(8,000)	18,000	(9,000)	-	(8,000)	-	(4,000)
Dog Salmon (257-403)	Min. Des.	-	(100)	50	-	500	-	1,500	-	2,000	-	2,500	-	3,500	-	-	(1,000)
		-	(200)	200	-	1,500	-	3,000	-	4,500	-	4,500	-	5,500	-	-	(3,000)
Upper Station (257-304)	Min. Des.	-	-	50	-	500	-	1,500	-	2,000	-	2,500	-	3,500	-	-	-
		-	-	200	-	1,500	-	3,500	-	4,000	-	4,500	-	5,500	-	-	-
Akalura (257-302)	Min. Des.	-	-	-	-	50	-	250	-	500	-	1,000	-	1,500	-	-	-
		-	-	-	-	200	-	1,000	-	1,500	-	2,500	-	3,500	-	-	-
Horse Marine (257-402)	Min. Des.	-	-	-	-	50	-	200	-	400	-	800	-	1,000	-	-	-
		-	-	-	-	100	-	400	-	800	-	1,600	-	2,500	-	-	-
Saltery (259-415)	Min. Des.	-	-	-	(100)	50	(500)	300	(1,000)	1,000	(1,000)	2,000	(1,000)	2,500	(2,000)	3,000	(2,000)
		-	-	-	(500)	100	(1,000)	1,000	(2,000)	2,000	(2,000)	3,000	(2,000)	4,000	(3,000)	5,000	(5,000)
Buskin (259-211)	Min. Des.	25	-	100	-	300	-	400	-	1,000	-	2,000	-	2,000	-	3,000	(3,000) <sup>b</sup>
		100	-	300	-	500	-	1,000	-	2,000	-	3,500	-	4,000	-	5,000	(4,000)
Litnik (252-342)	Min. Des.	500	-	1,000	-	1,500	-	2,000	-	2,500	-	3,000	-	3,500	-	-	-
		2,000	-	3,000	-	4,000	-	5,000	-	6,000	-	7,000	-	8,000	-	-	-
Pauls (251-831)	Min. Des.	500	-	1,500	-	3,000	-	3,500	-	4,500	-	5,500	-	6,500	-	-	-
		2,000	-	3,000	-	5,000	-	6,000	-	7,000	-	8,000	-	9,000	-	-	-
Perenosa (251-830)	Min. Des.	50	-	500	-	1,000	-	1,300	-	1,500	-	1,700	-	2,000	-	-	-
		500	-	1,000	-	3,000	-	2,800	-	3,000	-	3,200	-	3,500	-	-	-
Big Bay (251-601)	Min. Des.	20	-	100	-	150	-	200	-	250	-	300	-	400	(600)	600	(400)
		100	(200)	200	(300)	300	(300)	400	(400)	500	(600)	600	(1,000)	800	(1,200)	1,300	(700)
Bear Creek (251-706)	Min. Des.	10	-	50	-	100	-	125	-	150	-	175	-	150	-	350	-
		50	(50)	150	(100)	200	(150)	250	(200)	300	(400)	350	(600)	500	(500)	700	(400)

<sup>a</sup> Source: Malloy et al. (1992)

<sup>b</sup> Includes 2,000 coho for sport fish harvest.

Appendix B.5. Peak indexed coho salmon escapement goals for Northeast District non-fish weir systems in the Kodiak Management Area, 1991.<sup>a,b</sup>

Geographical Location	Stream		Escapement Goals	
	Name	Number	Minimum	Desired
<b>Monashka/Mill Bay</b>	Monashka	(259-101)	20	35
	Virginia	(259-105)	30	45
	Pillar	(259-102)	30	45
	Island Lake	(259-103)	40	60
Subtotal	4 Streams		120	180
<b>Woman's Bay<sup>c</sup></b>	Buskin	(259-211)	2,000 <sup>d</sup>	4,210 <sup>d</sup>
	Sargent	(259-221)	65	100
	Russian	(259-222)	40	60
	Paramanof	(259-224)	20	30
	Salonie	(259-223)	350	500
	Cliff Point	(259-232)	10	20
Subtotal	6 Streams		2,485	4,210
<b>Middle Bay</b>	Short	(259-235)	10	20
	Salt	(259-233)	20	30
	American	(259-231)	300	400
	Slough	(259-234)	100	200
Subtotal	4 Streams		430	650
<b>Kalsin Bay</b>	Mayflower	(259-246)	30	45
	Sid Olds	(259-242)	450	675
	Kalsin	(259-243)	100	150
	Frank	(259-244)	10	20
	Myrtle	(259-245)	30	45
Subtotal	5 Streams		620	935
<b>Outer Chiniak Bay</b>	Rosalyn	(259-251)	600	1,200
	Twin	(259-252)	40	60
	Capelin	(259-253)	20	30
	Chiniak	(259-254)	100	150
	Chiniak Lagoon	(259-255)		10 20
Subtotal	5 Streams		770	1,460

-Continued-

Appendix B.5. (page 2 of 2)

Geographical Location	Stream		Escapement Goals	
	Name	Number	Minimum	Desired
<b>Coastal Chiniak</b>	Sacramento	(259-401)	40	60
	Twin Peaks	(259-402)	10	20
	Valley	(259-403)	10	20
	Barry's	(259-405)	10	20
	Burton's	(259-404)	10	20
Subtotal	5 Streams		70	120
GRAND TOTAL	29 Streams		4,475	7,555

<sup>a</sup> Total indexed escapement as of October and November aerial and foot surveys.

<sup>b</sup> Source: Malloy et al. (1992). These escapement goals were developed by Kodiak Area fishery biologists, Frank VanHulle and Pete Murray with the Sport Fish Division, and Ken Manthey, Larry Malloy and Dave Prokopowich with the Commercial Fisheries Division. The basis for these goals is the annual escapement and subsequent return data derived from approximately 1970 through 1988.

<sup>c</sup> Includes the Buskin River actual total escapement obtained by fish weir count.

<sup>d</sup> Buskin River actual weir escapement as of 9/10, an important date for management of the freshwater sport fisheries in Buskin River.

Appendix B.6. Chinook salmon escapement goals<sup>a</sup>, by week, for systems with fish weirs, Kodiak Management Area.

River	Interim Goals	Interim Dates							
		5/30	6/06	6/13	6/20	6/27	7/04	7/11	7/18
Karluk	Minimum	100	500	1,500	2,500	3,000	3,500	4,000	4,500
(255-101)	Desired	300	800	2,800	4,500	6,000	7,000	7,500	8,000
Ayakulik	Minimum	500	1,000	3,500	4,500	5,000	5,500	6,000	6,500
(256-201)	Desired	1,500	3,000	5,000	6,000	7,000	8,000	9,000	10,000
Dog Salmon	Minimum	-	-	-	20	40	80	100	110
(257-403)	Desired	-	-	-	60	120	240	300	330

<sup>a</sup> Escapement goals shown in this table are based upon historical escapement database for 10 year period 1980-1989 and the subsequent return from those escapements. As additional research is conducted on the nature of these chinook salmon populations as well as the carrying capacity/production potential for chinook salmon in these systems, adjustments in these goals may be recommended.

Appendix C.1. Preliminary forecast of the pink salmon return<sup>a</sup> for the Kodiak Management Area, 1991.

	Total Return	Escapement	Harvest
<b>Point Estimate</b>			
Natural Production	19.7 Million	2.0 Million	17.7 Million
Hatchery Production	3.1 Million	.27 Million	2.83 Million
Total Production	22.8 Million	2.27 Million	20.53 Million
<b>Range Estimate</b>			
Natural Production	18.2-21.1 Million	2.0 Million	16.2-19.1 Million
Hatchery Production	1.08-6.08 Million	.27 Million	.81-5.81 Million
Total Production	19.28-27.18 Million	2.27 Million	17.01-24.91 Million

<sup>a</sup> Hatchery production forecast is for Kitoi Bay Hatchery and was prepared by Tim Joyce. See Afognak District for additional description. All numerical values represent numbers of pink salmon.

<sup>b</sup> With the exception of hatchery production all escapement values represent indexed escapement.

**Forecast Methods**

The 1991 pink salmon forecast return for Kodiak's natural return was determined as follows: A point estimate for the total management area return was calculated from a linear least squares regression analysis of the past 25 years per-emergent data. Variables used in the analysis were the indexed live fry densities and the combined March-April "departure from the norm" ambient air temperatures taken in Kodiak. The upper and lower ranges are the 80% confidence intervals.

Average survival rates from 1978-1990 were used to compute the Kitoi Bay hatchery pink return point estimate. The low range estimate was calculated by using the average survival rate of the lowest four years and the high range was calculated by using the average survival rate of the highest four years.

**Discussion of the 1991 Forecast**

Pre-emergent fry sampling this spring (1990) indicated fair to excellent overwinter survival from the brood year escapement in 1989 in which the vast majority of pink salmon returning to Kodiak Management Area streams were utilized as "escapement" due to extensive commercial fishery closures as a result of the 1989 Exxon Valdez oil spill.

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Sampling resulted in an unweighted live fry index of 275.01 live fry/M<sup>2</sup>. This fry index is the highest on record for an odd year return. Sampling conditions during March and April (1990) were generally good. The record high live fry density and moderate spring conditions were the main factors which resulted in the 1991 pink return being forecasted to return at record high levels. However, for planning purposes, actual harvest expectations may approach the lower end of the range at 17 million pinks and may not exceed the point estimate of 20.5 million pinks. Pink salmon returned in 1990 at lower than expected levels and at near record low average weights from Lower Cook Inlet to the Alaska Peninsula including the Kodiak and Chignik Management Areas. If the marine condition factors which may have affected the 1990 returns haven't improved, the 1991 pink return may also be less than expected.

**Afognak District:** The pre-emergent fry index for this district is above average. Fry production from Portage Creek and Little Waterfall was less than expected. Due to the excellent early marine conditions, a total of 1.1 million pink salmon are expected to return. The escapement goal is 150,000 pinks leaving 950,000 pinks available for harvesting.

**Afognak District Supplemental Production:** The Kitoi Bay Hatchery total pink return point estimate is 3.1 million fish from a release of 84 million reared fry and 960,000 emergent fry. 270,000 pinks are needed for escapement and brood stock requirements, leaving 2.83 million pinks available for harvesting. According to Hatchery Manager, Tim Joyce, a higher return should not be expected due to egg to fry survival problems and additional survival problems after release.

**Westside District:** Overall, live fry densities for this district were one of the highest on record mainly due to the exceptionally high level of live fry sampled in the Uyak River. Live fry indexes were lower than expected in the Terror and Uganik rivers which appeared to have scouring damage from flooding conditions in the fall of 1989. Due to the high numbers of pinks which spawned in areas less prone to scouring combined with the excellent early marine rearing conditions 4.5 million pinks are expected to return to this district. The escapement goal is 400,000 pinks leaving 4.1 million pink salmon available for harvesting.

**Alitak District:** Live fry densities for this district were excellent even though some scouring and freezing damage was evident in all streams sampled. As a result of the high fry densities and the very favorable early marine conditions, 6.5 million pinks are expected to return to this district. The escapement goal is 400,000 pinks leaving 6.1 million pink salmon available for harvesting.

**General District:** The overall live fry densities for this district is one of the highest on record. Damage from freezing and scouring was evident on most streams sampled. Barling, Kiliuda and Buskin Rivers had much lower than expected fry densities. Excellent early marine conditions combined with the overall excellent fry index should result in 5.7 million pinks returning to this district. The escapement goal is 650,000 pinks leaving 5.05 million pink salmon available for harvesting.

**Mainland District:** Twelve streams were sampled between Kukak and Wide Bay. Most streams sampled appeared to have some scouring and freezing damage. Based on overall good fry densities and the very good early marine conditions 1.9 million pinks are expected to return to this district. 400,000 pinks are required for escapement leaving 1.5 million pinks available for harvesting.

Prepared by: David Prokopowich  
Acting Area Management Biologist  
Kodiak Management Area

Appendix C.2. Pink salmon forecast based on established methodology in the Kodiak Management Area, 1991.

The standard approach for the estimate of pink salmon for Kodiak in 1991 yields an estimate of approximately 20 million pink salmon.

The standard approach in uses a Stepwise Regression to select the variables that are important to the model and use those variables in a linear regression so that 80% prediction and confidence intervals can be computed. The choice is usually the model with the highest  $R^2$  and lowest MSE. The variables that entered the model were the weighted fry index and sum of the norms of the April and March temperatures (Table 1).

The models provide point estimates of return strength varying from 18 to 21 million (Table 1). These values are larger than previous years because of the high fry index and higher than normal spring temperatures.

Table 1. Statistics on Kodiak 1989 pink salmon forecast models.

Model	$R^2$	MSE	80% Confidence Interval		80% Prediction Interval		Point Est.
			Lower	Upper	Lower	Upper	
Fry 1 with:							
March <sup>a</sup>	61.2	14.32	15.9	19.9	12.5	23.3	17.9
April <sup>b</sup>	69.7	11.18	18.5	22.6	15.7	25.4	20.6
M+A dev <sup>c</sup>	64.8	12.99	16.7	20.6	13.5	23.8	18.6
(Md&Ad) <sup>2</sup>	45.9	19.92	15.0	19.8	11.0	23.8	17.4
Fry 2 with:							
March	73.9	9.61	17.0	20.2	14.2	23.0	18.6
April	79.0	7.76	19.3	22.7	17.0	25.0	21.0
M+A dev <sup>d</sup>	80.5	7.18	18.2	21.1	15.9	23.5	19.7
(Md&Ad) <sup>2</sup>	54.5	16.79	15.5	19.8	11.8	23.5	17.7

<sup>a</sup> March = March temperature

<sup>b</sup> April = April temperature

<sup>c</sup> M+A dev = summation of March and April deviation from norm.

<sup>d</sup> Fry 2 with M+A dev is the standard approach

Data from unpublished memorandum from B. Alan Johnson, Regional Biometrician, to Dave Prokopowich, Kodiak Area Management Biologist, October 26, 1990.

Appendix C.3. Results of preemergent pink salmon fry sampling for 1991 return in the Kodiak Management Area, 1991.

Stream	Digs	Dig Dates	Live		Dead		1990 Index Live Fry/M <sup>2</sup>	% Digs With Fry	1988 Index	1986 Index	Range of Development	H <sub>2</sub> O Temp.
			Fry	Eggs	Fry	Eggs						
Perenosa-Up	10	3/30/90	361	0	28	298	194.22	70	1.08	279.49	.80 - .90	1°C
Perenosa-Dn	30	3/30/90	176	12	149	2,643	31.56	63	64.56	174.85	.40 - .80	1°C
Perenosa-Total	40	-	537	12	177	2,941	72.23	65	39.17	216.71	.40 - .90	
Paramanoff 404	40	3/30/90	2,067	280	199	1,505	278.01	50	5.51	5.65	.30 - .90	1.5°C
Afognak	50		Not sampled due to high water				0		5.58	2.37		
Danger	40	3/29/90	2,173	0	424	717	292.27	88	174.31	56.89	.20 - .90	1°C
Waterfall Dn. (N)	10	3/30/90	130	0	3	1,930	69.94	80	172.16	676.27	.40 - .90	1°C
Seal Bay (N)	25	3/30/90	4,038	2	217	772	868.99	96	171.51	581.69	.20 - .90	1°C
<b>Afог. Dist. Total</b>	<b>170</b>		<b>4,777</b>	<b>292</b>	<b>800</b>	<b>5,163</b>	<b>151.18</b>	<b>68</b>	<b>52.34</b>	<b>74.75</b>	<b>.20 - .90</b>	
Baumans	30	3/28/90	1,341	1	2	5,105	240.49	77	862.41	559.88	.20 - .90	.5°C
Terror	50	3/28/90	7	0	0	2,735	.75	8	16.14	.22	.95	3°C
Uganik	60	3/16/90	105	2	1	3,164	9.42	27	1.43	.45	.20 - .95	0°C
Uyak 203	20	3/18/90	884	0	1	58	237.80	50	80.70	0	.30 - .90	3.5°C
Uyak 202	60	3/16/90	11,922	0	115	854	1,069.01	93	447.26	162.39	.50 - .95	4°C
Zachar-Up	30	3/15/90	97	0	10	527	17.40	20	0	0	.40 - .95	2°C
Zachar-Dn	20	3/15/90	15	0	0	1,007	4.04	20	94.96	0	.60 - .70	2°C
Zachar-Total	50		112	0	10	1,534	12.05	20	37.98	0	.40 - .95	
<b>Westside Dist. Total</b>	<b>270</b>		<b>14,371</b>	<b>3</b>	<b>129</b>	<b>13,450</b>	<b>286.36</b>	<b>44</b>	<b>211.53</b>	<b>98.43</b>	<b>.20 - .95</b>	
Dog Salmon Up	40	3/20/90	2,002	0	49	104	269.27	50	151.45	74.92	.40 - .90	3.5°C
Dog Salmon Dn.	20	3/17/90	2	0	0	18	.54	10	0	.27	.90	3°C
Dog Salmon Total	60		2,004	0	49	122	179.69	37	100.96	50.03	.40 - .90	
Humpy-Up	30	4/01/90	2,238	0	227	2,272	401.35	80	322.62	132.71	.60 - .80	0°C
Humpy-Dn	60	3/20-4/01	5,530	0	510	5,553	495.86	90	574.58	135.65	.30 - .90	0°, 1°C
Humpy-Total	90		7,768	0	737	7,825	464.35	87	490.60	134.96	.30 - .90	
Narrows	30	3/20/90	1,475	12	52	491	264.52	73	135.76	96.66	.50 - .95	4°C
Deadman	60	3/19/90	6,094	2	92	2,061	546.43	88	399.91	349.25	.20 - .95	4°C
<b>Alitak Dist. Tot.</b>	<b>240</b>		<b>17,341</b>	<b>14</b>	<b>930</b>	<b>10,499</b>	<b>388.73</b>	<b>73</b>	<b>326.16</b>	<b>165.02</b>	<b>.10 - .95</b>	
Missak	30	4/03/90	734	6	209	786	131.63	70	214.39	-	.20 - .95	4°C
Kinak	50	4/02/90	1,501	1	328	1,746	161.51	54	42.64	-	.10 - .90	5°C
Geographic	20	4/03/90	2,128	0	43	165	572.43	100	802.97	-	.10 - .90	3.5°C
Dakavak	30	4/01/90	2	0	0	146	.36	3	116.93	-	.99	4°C
Kashvik	40	4/01/90	6	0	20	271	.81	3	82.05	-	.95	2.5°C
Big Creek	60	3/31-4/01	1,468	0	110	398	131.63	33	394.62	-	.30 - .95	3°C
Portage	30	3/31/90	13	0	0	13	2.33	3	-	-	.99	3°C
Oil Creek	20	3/31/90	839	0	156	86	225.69	40	-	-	.40 - .99	5°C
Jute Creek	20	3/31/90	54	6	0	37	14.53	15	-	-	.40	5°C
Kukak	20	4/02/90	25	0	0	295	6.73	25	-	-	.80	5°C
Kanatak	30	3/31/90	1,040	7	57	89	186.51	57	83.57	-	.40 - .95	4°C
Alinchak	30	4/01/90	152	0	143	847	27.26	23	-	-	.60 - .65	2°C
<b>Mainland Dist. Total</b>	<b>380</b>		<b>7,962</b>	<b>20</b>	<b>1,066</b>	<b>4,879</b>	<b>112.73</b>	<b>35</b>			<b>.10 - .99</b>	

-Continued-

Appendix C.3. (page 2 of 2)

Stream	Digs	Dig Dates	Live		Dead		1990 Index Live Fry/M <sup>2</sup>	% Digs With Fry	1988 Index	1986 Index	Range of Development	H <sub>2</sub> O Temp.
			Fry	Eggs	Fry	Eggs						
7-Rivers-Up	30	3/17/90	2,030	0	358	3,372	364.05		90	324.95	1,044.97	.40 - 380
7-Rivers-Dn	60	3/17-4/01	4,380	0	310	6,740	392.74		87	215.20	330.51	.30 - .590
7-Rivers-Total	90		6,410	0	668	10,112	383.18		88	251.78	568.67	.30 - .90
Kaiugnak	50	3/19/90	6,841	0	1,055	2,585	739.32		94	72.09	421.04	.40 - 296
Barling	40	3/18/90	384	0	1	1,661	51.65		60	210.09	147.56	.85 - 396
Kiliuda	40	3/18/90	572	0	104	34	76.93		30	15.47	104.37	.90 - 396
Saltery	50	3/11/90	4,842	0	435	4,976	521.00		76	227.25	44.33	.30 - 290
Hurst	40	3/12/90	764	0	86	1,822	102.76		55	84.87	.14	.30 - 360
Sid Olds	50	3/16/89	1,297	0	97	209	139.56		52	306.77	186.04	.40 - 290
American	60	3/12/90	2,852	0	194	1,192	255.73		45	378.39	126.43	.30 - 390
Buskin-Up	20	3/13/90	803	2	49	1,643	216.01		90	602.29	446.27	.40 ±.590
Buskin-Dn	40	3/13/90	197	0	42	3,044	26.50		45	99.93	149.16	.30 - 290
Buskin-Total	60		1,000	2	91	4,687	89.67		60	267.39	248.20	.30 - .90
Sheratin	50	3/29/90	370	0	71	2,917	39.81		18	7.10	68.65	.80 - 490
Beaver Pond (N)	40	3/28/90	4,085	0	142	1,001	549.43		80	191.93	171.22	.60 4.596
<b>General District Total</b>	<b>530</b>		<b>25,362</b>	<b>2</b>	<b>2,801</b>	<b>30,195</b>	<b>257.45</b>		<b>60</b>	<b>197.14</b>	<b>225.93</b>	<b>.30 - .99</b>
<b>Kodiak-Afognak Districts Total</b>	<b>1,210</b>		<b>61,851</b>	<b>311</b>	<b>4,660</b>	<b>59,307</b>	<b>275.01</b>		<b>57</b>	<b>204.34</b>	<b>163.40</b>	<b>.20 - .99</b>

(N) = Non-Index Streams, results not included in District totals.

Appendix C.4. Formal forecast of the sockeye salmon return to Ayakulik River, Kodiak Management Area, 1991.

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**FORECAST AREA:** Kodiak, Ayakulik River  
(Red River)

February 22, 1991

**SPECIES:** Sockeye Salmon

**PRELIMINARY FORECAST OF THE 1991 RUN:**

	<u>Point</u>	<u>Range</u>
Total Run:	1,518,000	1,114,000 - 1,938,000
Escapement Goal:	300,000	200,000 - 300,000
Projected Harvest:	1,218,000	814,000 - 1,638,000

**FORECAST METHODS:**

The forecast is the sum of individual point estimates for seven age classes (age 1.1, 1.2, 2.1, 1.3, 2.2, 2.3, and 3.2). Point estimates were obtained from multiple regression equations developed from relationships between returns and escapements or siblings. Age 2.3 and age 3.2 are the exceptions. Age 2.3 estimate was obtained by adding to the maximum recorded number of age 2.3 fish observed, by two standard deviations. The age 3.2 estimate represented the maximum annual return for this age class on record. The rationale behind the exceptions was that the estimates obtained through regression analysis were subjectively too high.

The forecast range is the sum of the individual 80% prediction limits for the age class estimates.

**FORECAST DISCUSSION:**

The 1991 Ayakulik run is forecasted to be about 1,518,000 fish with 1% 3-year-olds, 18% 4-year-olds, 57% 5-year-olds, and 24% 6-year-olds. This is about 20% fewer fish than the record high run that occurred last year. Record high numbers of 4- and 5-year old siblings for the two major age groups involved in the forecast indicate that the 1991 Ayakulik run should be well above average.

This is the third year that a forecast has been made for the Ayakulik run. The 1989 run was 25% over-estimated, while the 1990 run was 80% under-estimated.

If the 1991 run materializes as predicted, Kodiak fishermen should harvest about 1.2 million Ayakulik sockeye salmon.

Prepared By: Bruce M. Barrett and Alan B. Johnson

Appendix C.5. Formal forecast of the early run sockeye salmon return to Frazer Lake, Kodiak Management Area, 1991.

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**FORECAST AREA:** Kodiak, Frazer Lake

February 20, 1991

**SPECIES:** Sockeye Salmon

**PRELIMINARY FORECAST OF THE 1991 RUN:**

	<u>Point</u>	<u>Range</u>
Total Run:	901,000	561,000 - 1,450,000
Escapement Goal:	200,000	140,000 - 200,000
Projected Harvest:	701,000	361,000 - 1,250,000

**FORECAST METHODS:**

The 1991 Frazer lake forecast is the sum of individual predications for four age classes (age 1.2, 1.3, 2.2, and 2.3). Each age class predication was calculated from a multiple regression equation developed from relationships between returns and escapements, returns and siblings, and returns and smolt data. Each equation was developed to maximize the coefficient of determination, and each estimate was interpreted for reasonableness. As an age class predication was made it was entered into the data base used to predict other age classes.

**FORECAST DISCUSSION:**

The total number of sockeye salmon for the 1991 Frazer lake run is forecasted to be 901,000 fish comprised of 4% 4-year-olds, 89% 5-year-olds, and 7% 6-year-olds. The parent escapement for the 4-year-olds is 41,000 fish, for the 5-year-olds 127,000 fish, and for the 6-year-olds 486,000 fish.

The 1991 run forecast hinges on a strong return of 5-year-olds (89%) from the age groups 1.3 and 2.2. The basis for predicting a large number of 5-year-old-fish is that a record high number of 4-year-old siblings, age 1.2 and 2.1 fish, occurred in 1990.

This is the fifth year that a formal forecast has been made for the Frazer Lake run. Forecast error has been high, averaging about 70%. The 1987 run was over estimated, while the 1988, 1989, and 1990 runs were under estimated.

Prepared By:

Bruce M. Barrett and Alan B. Johnson

Appendix C.6. Formal forecast of the early run sockeye salmon return to Upper Station Lake, Kodiak Management Area, 1991.

---

**FORECAST AREA:** Kodiak, Upper Station Lakes

February 28, 1991

**SPECIES:** Sockeye Salmon, Early Run

**PRELIMINARY FORECAST OF THE 1991 RUN:**

	<u>Point</u>	<u>Range</u>
Total Run:	227,000	172,000 - 283,000
Escapement Goal:	50,000	50,000 - 75,000
Projected Harvest:	177,000	122,000 - 208,000

**FORECAST METHODS:**

The 1991 Upper Station forecast is the sum of individual estimates for four age classes (age 1.3, 1.3, 2.2, and 2.3) which were obtained from multiple regression equations using relationships of return to siblings and return to escapement. Each regression equation was developed to maximize the coefficient of determination, and all estimates were interpreted for reasonableness.

**FORECAST DISCUSSION:**

The 1991 early run to Upper Station Lakes is expected to be approximately 227,000 sockeye salmon with 10% 4-year-old fish from the 1987 parent escapement of 75,000 fish, 77% 5-year-old fish from the 1986 parent escapement of 101,000 fish, and 13% 6-year-old fish from the 1985 parent escapement of 27,000 fish. If the estimate is correct this would be a record high run. In the last 15 years the early run has only exceeded 200,000 fish on two occasions which were 1982 at 201,000 fish and 1986 at 214,000 fish.

This marks the third year that a formal forecast has been prepared for the early Upper Station run. The 1990 forecast was for a 70,000 fish run. However the run was much stronger at 163,000 fish. The 1989 forecast was for a 134,000 fish run; the actual run was 8% less than the forecast at 124,000 fish.

If the 1991 run forecast is correct purse seine and gill net fishermen should harvest about 177,000 Upper Station early run fish in the Alitak Bay District by 15 July 1991.

Prepared By:

Bruce M. Barrett and Alan B. Johnson

Appendix C.7. Formal forecast of the late run sockeye salmon return to Upper Station Lake, Kodiak Management Area, 1991.

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**FORECAST AREA:** Kodiak, Upper Station Lake

March 1, 1991

**SPECIES:** Sockeye Salmon, Late Run

**PRELIMINARY FORECAST OF THE 1991 RUN:**

	<u>Point</u>	<u>Range</u>
Total Run:	633,000	279,000 - 1,031,000
Escapement Goal:	175,000	150,000 - 200,000
Projected Harvest:	458,000	129,000 - 831,000

**FORECAST METHODS:**

The 1991 Upper Station late run forecast estimate represents the sum of individual estimates for five age classes (age 0.2, 0.3, 1.2, 1.3, and 2.2). Each age class predication was determined through a multiple regression equation developed based on relationships of return to siblings and return to escapement. Each equation was developed to maximize the coefficient of determination, and each estimate was interpreted for reasonableness. Individual age classes were estimated using existing count data except for that the age 2.2 estimate which derived using an forecasted age 1.3 value.

**FORECAST DISCUSSION:**

The 1991 early run to Upper Station late sockeye run is estimated to be approximately 633,00 fish with 9% 3-year-olds from a 248,000 escapement (1988), 23% 4-year-olds from a 156,000 escapement (1987), and 68% 5-year-olds from a 368,000 escapement (1986). This is 11% fewer fish than occurred in 1990.

This is the third year that a formal forecast has been prepared for the Upper Station late sockeye run. Forecast error averages 50%. The 1989 run was forecasted at 929,000 and the actual run was 707,000. The 1990 run forecast of 386,000 was well below the actual run of 711,000. Forecast accuracy is expected to improve with the addition of smolt density data to the forecast variables. Currently there is only a single year of smolt data which is for the 1990 out-migration.

If the 1991 forecast is correct, purse seine and gill net fishermen should harvest about 458,000 Upper Station late run fish in the Alitak Bay District post 15 July.

Prepared By: Bruce M. Barrett and Alan B. Johnson

**Appendix D.1. Commercial finfish regulations for salmon and miscellaneous finfish, Kodiak Management Area, 1991.**

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## **KODIAK AREA**

### **CHAPTER 18.—KODIAK AREA**

#### **ARTICLE 1.—DESCRIPTION OF AREA**

**5 AAC 18.001. APPLICATION OF THIS CHAPTER.** Requirements set forth in this chapter apply to commercial fishing only, unless otherwise specified. Subsistence fishing regulations affecting commercial fishing vessels or affecting any other commercial fishing activity are set forth in the subsistence fishing regulations in chs. 1 and 2 of this title.

**5 AAC 18.100. DESCRIPTION OF AREA.** The Kodiak Area includes all waters of Alaska south of a line extending east from Cape Douglas (58°52' N.lat.), west of 150° W.long., north of 55°30' N.lat.; and east of a line extending south from the southern entrance of Imuya Bay near Kilokak Rocks (156°20'13" W.long.).

#### **ARTICLE 2.—FISHING DISTRICTS**

**5 AAC 18.200. DESCRIPTION OF DISTRICTS AND SECTIONS.** (a) Afognak District: all waters of Afognak and Shuyak Islands bounded by a line from Occident Point (57°57'25" N. lat., 152°51'30" W. long.), to Last Timber Point (57°58'50" N. lat., 152°58'55" W. long.), by the latitude of Dolphin Point on Whale Island (57°59'10" N. lat.), by the latitude of Raspberry Cape (58°03'35" N. lat.), by mid-stream Shelikof Straits, and by the latitude of Cape Douglas (58°52' N. lat.);

(1) Raspberry Straits Section: all waters of Raspberry Straits bounded by the longitude of Dolphin Point on Afognak Island (153°09' W. long.) and by a line from Head Point to Dolphin Point on Whale Island and a line from Occident Point to Last Timber Point;

(2) Southwest Afognak Section: all waters west of Afognak Island bounded by the latitude of Raspberry Cape, the longitude of Dolphin Point on Afognak Island (153°09' W. long.) in Raspberry Straits, by the latitude of Cape Paramanof (58°18'20" N. lat.), and by mid-stream Shelikof Strait;

(3) Northwest Afognak Section: all waters northwest of Afognak Island bounded by the latitude of Cape Paramanof, by a line extending along mid-stream Shuyak Straits and perpendicular to mid-stream Shelikof Strait to Cape Current (58°27'40" N. lat., 159°29'10" W. long.), and by mid-stream Shelikof Strait;

(4) Shuyak Island Section: all waters in the vicinity of Shuyak Island bounded by a line extending along mid-stream Shuyak Straits and perpendicular to mid-stream Shelikof Straits to Cape Current, north of a line from Cape Current to Posliedni Point (58°26' N. lat., 152°19'30" W. long.), west of the longitude of Posliedni Point, south of the latitude of Cape Douglas, and by mid-stream Shelikof Strait;

(5) Perenosa Bay Section: all waters of Perenosa Bay south of a line extending from Cape Current to Posliedni Point;

(6) Northeast Afognak Section: all waters northeast of Afognak Island bounded by the longitude of Posliedni Point and by the latitude of Pillar Cape (58°09' N. lat.);

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(7) Izhut Bay Section: all waters of Izhut Bay, excluding the Kitoi Bay Section, bounded by a line from Pillar Cape to Peril Cape (58°07'30" N. lat., 152°16'20" W. long.);

(8) Kitoi Bay Section: all waters of Kitoi Bay bounded by a line from 58°10'39" N. lat., 152°17'13" W. long. to 58°09'32" N. lat., 152°18'36" W. long.;

(9) Duck Bay Section: all waters of Duck Bay bounded by the latitude of Pillar Cape, by a line from Pillar Cape to Peril Cape, and by the latitude of Cape Kostromitinof (58°05'05" N. lat.).

(b) Northwest Kodiak District: all waters of north and west Kodiak Island bounded by the latitude of Termination Point (57°51'15" N. lat.), by the latitude of Dolphin Point on Whale Island (57°59'10" N. lat.), by a line from Occident Point (57°57'25" N. lat., 152°51'30" W. long.) to Last Timber Point (57°58'50" N. lat., 152°58'55" W. long.), by the latitude of Raspberry Cape (58°03'35" N. lat.), by the latitude of Rocky Point (57°39'45" N. lat.), and by mid-stream Shelikof Strait;

(1) Anton Larsen Bay Section: all waters of Anton Larsen Bay south of 57°52'18" N. lat.;

(2) Sheratin Bay Section: all waters of Sheratin Bay south of 57°51'09" N. lat.;

(3) Kizhuyak Bay Section: all waters of Kizhuyak Bay south of 57°50' N. lat.;

(4) Terror Bay Section: all waters of Terror Bay and Uganik Bay passages south of 57°50' N. lat., and east of 153°12'36" W. long.;

(5) Inner Uganik Bay Section: all waters of the South and East Arms of Uganik Bay south of the latitude of Rock Point (57°46'32" N. lat.);

(6) Spiridon Bay Section: all waters of Spiridon Bay east of the longitude of Hook Point (153°46'30" W. long.);

(7) Zachar Bay Section: all waters of Zachar Bay east of a line from Carlsen Point at 57°34'48" N. lat., 153°50' W. long., to a point on the opposite shore at 57°35'42" N. lat., 153°49'12" W. long.;

(8) Uyak Bay Section: all waters of Inner Uyak Bay south of the latitude of the southernmost tip of Amook Island (57°25'45" N. lat., 153°49'51" W. long.) to the west shore, and south of the latitude of the northernmost tip of Amook Island (56°59'44" N. lat., 154°01'42" W. long.) to the east shore;

(9) Central Section: all waters of the Northwest Kodiak District bounded by a line from Termination Point (57°51'15" N. lat., 152°24' W. long.), to South Point (57°53'10" N. lat., 152°22' W. long.), to Ouzinkie Point (57°54'50" N. lat., 152°31'09" W. long.), to Shakmanof Point (57°55'30" N. lat., 152°35'15" W. long.), to a point at 57°54'12" N. lat. on the east shore of Kizhuyak Bay; north of 57°52'18" N. lat. in Anton Larsen Bay; north of 57°51'09" N. lat. in Sheratin Bay; north of 57°50' N. lat., and south of the latitude of Inner Point (57°54'06" N. lat.) in Kizhuyak Bay; west of a line from

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Inner Point (57°54'06" N. lat., 152°47'40" W. long.) to Bird Point (57°55'20" N. lat., 152°47'25" W. long.); south of a line from Occident Point (57°57'25" N. lat., 152°51'30" W. long.) to Last Timber Point (57°58'50" N. lat., 152°58'58" W. long.); south of the latitude of Raspberry Cape (58°03'35" N. lat.); north of 57°50' N. lat., and west of 153°12'36" W. long. in Terror Bay and Uganik Bay passages; north of the latitude of Rock Point (57°46'32" N. lat.) in the South and East Arms of Uganik Bay; west of the longitude of Hook Point (153°46'30" W. long.) in Spiridon Bay; west of a line from Carlsen Point (57°34'48" N. lat., 153°50' W. long.) to 57°35'42" N. lat., 153°49'12" W. long. in Zachar Bay; all waters of Inner Uyak Bay north of the latitude of the southernmost tip of Amook Island to the west shore, and north of the latitude of the northernmost tip of Amook Island to the east shore; east of the latitude of Rocky Point (57°39'45" N. lat.); and by mid-stream Shelikof Strait;

(10) North Cape Section: all other waters of the Northwest Kodiak District.

(c) Southwest Kodiak District: all waters southwest of Kodiak Island bounded by the latitudes of Rocky Point (57°39'45" N. lat.) and Low Cape (56°59'35" N. lat.), and by mid-stream Shelikof Strait;

(1) Outer Karluk Section: all waters west of Kodiak Island bounded by the latitude of Rocky Point, the latitude of Pafco Point (57°38'20" N. lat.), and by mid-stream Shelikof Strait;

(2) Inner Karluk Section: all waters west of Kodiak Island bounded by the latitude of Pafco Point, the latitude of Cape Karluk (57°34'42" N. lat., 154°30'54" W. long.), and by mid-stream Shelikof Strait;

(3) Sturgeon Section: all waters southwest of Kodiak Island bounded by the latitude of Cape Karluk, the latitude of Sturgeon Head (57°30'40" N. lat., 154°37'20" W. long.), and by mid-stream Shelikof Strait;

(4) Halibut Bay Section: all waters southwest of Kodiak Island bounded by the latitude of Sturgeon Head, the latitude of Cape Ikolik (57°17'26" N. lat., 154°47'20" W. long.) and by mid-stream Shelikof Strait;

(5) Outer Ayakulik Section: all waters southwest of Kodiak Island bounded by the latitude of Cape Ikolik, the longitude of Old Red River (stream No. 256-202) (154°37'12" W. long.), and by mid-stream Shelikof Strait;

(6) Inner Ayakulik Section: all waters southwest of Kodiak Island bounded by the longitude of Old Red River (stream No. 256-202) (154°37'12" W. long.) and the latitude of Low Cape (56°59'35" N. lat.).

(d) Alitak Bay District: all waters south of Kodiak Island bounded by the latitude of Low Cape, the latitude of Cape Trinity (56°44'50" N. lat.), and by mid-stream Shelikof Strait;

(1) Cape Alitak Section: all waters bounded by the latitude of Low Cape, the latitude of Cape Trinity, by mid-stream Shelikof Strait, by a line from Cape Trinity (56°44'50"

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N. lat., 154°08'45" W. long.) to Middle Reef (56°54' N. lat., 154°03' W. long.), and by a line from Middle Reef to Tanner Head at 56°53'14" N. lat., 154°13'38" W. long.;

(2) Humpy-Deadman Section: all waters of Alitak Bay east of a line from Cape Trinity, to Middle Reef, to the southernmost tip of Fox Island (56°59'09" N. lat., 154°01'58" W. long.), and from the northernmost tip of Fox Island (56°59'44" N. lat., 154°01'42" W. long.), to 57°01'09" N. lat., 154°00'51" W. long., to the Moser Peninsula at 57°01'10" N. lat., 154°01' W. long.;

(3) Moser-Olga Bay Section: all waters of Moser and Olga Bays bounded by a line from Tanner Head (56°53'14" N. lat., 154°13'38" W. long.), to Middle Reef (56°54' N. lat., 154°03' W. long.), to the southernmost tip of Fox Island (56°59'09" N. lat., 154°01'58" W. long.), and from the northernmost tip of Fox Island (56°59'44" N. lat., 154°01'42" W. long.), to 57°01'09" N. lat., 154°00'51" W. long., to the Moser Peninsula at 57°01'10" N. lat., 154°01' W. long., and by a line from Stockholm Point (57°07'40" N. lat., 154°06'36" W. long.) to the opposite shore at 57°07'40" N. lat., 154°04'50" W. long., excluding the Dog Salmon Flats section;

(4) Dog Salmon Flats Section: all waters of Lower Olga Bay northeast of a line from 57°06'27" N. lat., 154° W. long. to the opposite shore at 57°07'33" N. lat., 154°03' W. long.;

(5) Outer Upper Station Section: all waters of Upper Olga Bay south of a line from 57°07'40" N. lat., 154°23'06" W. long., to 57°07'49" N. lat., 154°06'36" W. long., to Stockholm Point, excluding the Inner Upper Station Section;

(6) Inner Upper Station Section: all waters of Upper Olga Bay south of a line from 57°03'27" N. lat., 154°23'27" W. long. to 57°04'12" N. lat., 154°20'33" W. long.;

(7) Outer Akalura Section: all waters of Upper Olga Bay north of a line from 57°07'40" N. lat., 154°23'06" W. long., to 57°07'49" N. lat., 154°06'36" W. long., to Stockholm Point, excluding the Inner Akalura Section.

(8) Inner Akalura Section: all waters of Upper Olga Bay north of a line from 57°08'40" N. lat., 154°15'18" W. long. to 57°18'45" N. lat., 154°10'54" W. long.

(e) Eastside Kodiak District: all waters south and east of Kodiak Island bounded by the latitude of Cape Trinity (56°44'50" N. lat.), by the latitude of Cape Chiniak (57°37' N. lat.), and by mid-stream Shelikof Strait;

(1) Seven Rivers Section: all waters east of Kodiak Island bounded by the latitude of Cape Trinity, by the latitude of Boot Point (56°50' N. lat.) and a line extending seaward 144° from Cape Kasiak (57°04' N. lat., 153°29'38" W. long.), and by mid-stream Shelikof Strait;

(2) Two-Headed Section: all waters east of Kodiak Island bounded by the latitude of Boot Point and by a line extending seaward 144° from Cape Kasiak;

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(3) Sitkalidak Section: all waters east of Kodiak Island bounded by a line extending seaward 144° from Cape Kasiak and by the latitude of Dangerous Cape (57°16'36" N. lat.);

(4) Inner Ugak Bay Section: all waters of Ugak Bay west of the longitude of Gull Point (152°06' W. long.);

(5) Outer Ugak Bay Section: all waters of Kodiak Island bound by the longitude of Gull Point, the latitude of Dangerous Cape, and the latitude of Cape Chiniak (57°37' N. lat.).

(f) Northeast Kodiak District: all waters northeast of Kodiak Island bounded by the latitude of Cape Chiniak (57°37' N. lat.), and the latitude of Termination Point (57°51'15" N. lat.);

(1) Outer Chiniak Bay Section: all waters north of Kodiak Island bounded by the latitude of Cape Chiniak and the longitude of Isthmus Point (152°19'30" W. long.);

(2) Inner Chiniak Bay Section: all waters of Chiniak Bay bounded by the longitude of Isthmus Point and the latitude of Spruce Cape (57°49'36" N. lat.), excluding the Buskin River Section;

(3) Buskin River Section: all waters of Chiniak Bay west of a line from Cliff Point (57°43'30" N. lat., 152°26'45" W. long.) to Spruce Cape (57°49'36" N. lat., 152°19'24" W. long.);

(4) Monashka/Mill Bay Section: all waters north of Kodiak bounded by the latitude of Spruce Cape and the latitude of Termination Point.

(g) Mainland District: all waters along the southside of the Alaska Peninsula bounded by the latitude of Cape Douglas (58°52' N. lat.), mid-stream Shelikof Strait, and west of the longitude of the southern entrance of Imuya Bay near Kilokak Rocks (57°11'22" N. lat., 156°20'13" W. long.);

(1) Big River Section: all waters bounded by the latitude of Cape Douglas, the latitude of Cape Chiniak on the mainland (58°31' N. lat.), and by mid-stream Shelikof Strait;

(2) Hallo Bay Section: all waters of Hallo Bay bounded by the latitude of Cape Chiniak on the mainland, the latitude of Cape Nukshak (58°23'30" N. lat.), and by mid-stream Shelikof Strait;

(3) Outer Kukak Bay Section: all waters bounded by the latitude of Cape Nukshak and the latitude of Cape Gull (58°13' N. lat.), excluding the Inner Kukak Section;

(4) Inner Kukak Bay Section: all waters of Kukak Bay west of 154°11' W. long.;

(5) Dakavak Bay Section: all waters bounded by the latitude of Cape Gull, the latitude of the southern entrance of Dakavak Bay (58°01' N. lat.), and by mid-stream Shelikof Strait;

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(6) Katmai Section: all waters bounded by the latitude of the southern entrance of Dakavak Bay, the latitude of Cape Kubugakli (57°53'30" N. lat.), and by mid-stream Shelikof Strait;

(7) Alinchak Section: all waters bounded by the latitude of Cape Kubugakli, the latitude of Cape Aklek (57°41'24" N. lat.), and by mid-stream Shelikof Strait;

(8) Cape Igvak Section: all waters bounded by the latitude of Cape Aklek (57°41'24" N. lat.), the longitude of the southern entrance of Imuya Bay near Kilokak Rocks (156°20'13" W. long.), and by mid-stream Shelikof Strait, excluding the Wide Bay Section;

(9) Wide Bay Section: all waters of Wide Bay enclosed by a line from Cape Kayakliut (57°17'35" N. lat., 156°19' W. long.) to the easternmost tip of Terrace Island at 156°15' N. lat., to Cape Igvak (57°26' N. lat., 156°01' W. long.).

**ARTICLE 3.—SALMON FISHERY**

**5 AAC 18.310. FISHING SEASONS.** (a) Salmon may be taken only from June 5 through October 31.

**5 AAC 18.320. FISHING PERIODS.** (a) Salmon may be taken only during periods established by emergency order.

**5 AAC 18.330. GEAR.** (a) In the Afognak District salmon may be taken only by purse seines and beach seines.

(b) In the Northwest Kodiak District salmon may be taken only by purse seines and beach seines, except that in the Central Section, salmon may also be taken by set gill nets.

(c) In the Southwest Kodiak District salmon may be taken only by purse seines and beach seines.

(d) In the Alitak District salmon may be taken only by purse seines and beach seines, except that

- (1) in the Moser-Olga Bay Section salmon may be taken only by set gill nets;
- (2) in the Dog Salmon Flats Section salmon may be taken only by set gill nets;
- (3) in the Outer Upper Station Section salmon may be taken only by set gill nets;
- (4) in the Inner Upper Station Section salmon may be taken only by set gill nets;
- (5) in the Outer Akalura Section salmon may be taken only by set gill nets;

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(6) in the Inner Akalura Section salmon may be taken only by set gill nets;

(7) after September 4, salmon may be taken by purse seines, beach seines, and set gill nets in the entire Alitak District.

(e) In the East Kodiak District salmon may be taken only by purse seines and beach seines.

(f) In the Northeast Kodiak District salmon may be taken only by purse seines and beach seines.

(g) In the Mainland District salmon may be taken only by purse seines and beach seines.

**5 AAC 18.331. GILL NET SPECIFICATIONS AND OPERATIONS.** (a) Except as provided for in (e) of this section. A CFEC permit holder may operate no more than 150 fathoms of set gill net in the aggregate, nor more than two set gill nets.

(b) Seine webbing may be used on the shoreward end of a set gill net and the length of the seine webbing used may extend no more than 50 fathoms seaward of the beach at the lowest tide of the current day, except that

(1) in the Moser-Olga Bay, Inner Dog Salmon, Inner Akalura, Outer Akalura, Outer Upper Station, and Inner Upper Station Sections of the Alitak District, seine webbing may be used only from the high tide mark seaward, and no portion of the seine web may be in water deeper than five feet at the lowest tide of the current day;

(2) in that portion of the Moser-Olga Bay Section of the Alitak District south of a line from Bun Point to the opposite shore at 56°57'59" N. lat., 154°07'35" W. long., seine webbing may be used only from the high tide mark seaward, and must meet one of the following requirements:

(A) no portion of the seine web may be in water deeper than five feet at the lowest tide of the current day; or

(B) the length of seine webbing used may be no more than 20 fathoms per set.

(c) Set gill nets must be operated in substantially a straight line, except that no more than 25 fathoms of a set gill net may be used as a hook. A hook may be used in any configuration.

(d) The shoreward end of a set gill net must be attached to a point of land which is exposed at the lowest tide of the day or to a rock that is within 5 feet of the surface at the lowest tide of the day. A rock is any naturally located or created geological formation that shows no evidence of having been located or created through man-made means. A set gill net may not be attached to the beach inside of closed waters.

(e) Two salmon set gill net CFEC permit holders may form a joint venture and combine their gear under the following conditions:

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(1) a permit must be obtained from a local representative of the department before a joint venture may start operations;

(2) only one permit per year will be issued for each joint venture;

(3) the permit must be signed by both CFEC permit holders and each must have a copy of the permit readily available for inspection;

(4) the permit may be canceled by the department upon the request of one of the joint venture operators;

(5) the gear and site markers required by 5 AAC 39.280 must bear the five-digit CFEC permit serial number of both permit holders;

(6) no single set gill net may be more than 150 fathoms in length;

(7) no joint venture may operate more than three set gill nets; and

(8) both parties of the joint venture are legally responsible for the operation of all gear of the joint venture.

(f) No set gill net gear, including running lines, shore leads, anchors, and buoys, may be placed in the water, nor may signs required by 5 AAC 18 or 5 AAC 39 be placed on the beach before emergency order openings of the closed waters areas of Upper Olga Bay described in 5 AAC 18.350(a)(1)(B)(i).

(g) No gill net may be more than 125 meshes in depth.

(h) In the Alitak Bay district, the shoreward end of a set gill net must not begin further seaward, or in water deeper than the limit specified for seine webbing in (b) of this section.

**5 AAC 18.332. SEINE SPECIFICATIONS AND OPERATION.** (a) No purse seine and hand purse seine may be less than 100 fathoms or more than 200 fathoms in length. No seine may be less than 100 meshes or more than 325 meshes in depth. At least 50 fathoms of a seine must be 150 meshes in depth.

(b) One lead no more than 100 fathoms in length may be used with each purse seine or hand purse seine. The aggregate length of a seine and lead may not exceed 250 fathoms. Leads must be removed from the water within two hours after a season or fishing period closure. Each lead must have at each end a buoy, cork, or float plainly and legibly marked with the operator's five-digit CFEC permit serial number.

(c) Beach seines no less than 100 fathoms nor more than 225 fathoms in length may be used.

(d) Beach seines may not be less than 100 meshes in depth.

(e) When an anchor is used during the operation of a purse seine, hand purse seine or beach seine, only the shoreward end of the seine or lead may be anchored; the seine shall be attached to the licensed vessel, and the vessel may not be anchored.

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(f) In the Mainland District, it is unlawful to take salmon with the assistance of an aircraft directing the operation of the seine gear.

(g) Seine mesh size may not be more than seven inches.

**5 AAC 18.335. MINIMUM DISTANCE BETWEEN UNITS OF GEAR.** No part of a set gill net may be set or operated within 900 feet of any part of another set gill net, or be attached to the beach within 900 feet of another net, except that in the Dog Salmon Flats, Outer Upper Station, Inner Upper Station, Outer Akalura, and Inner Akalura Sections there is not minimum distance between units of set gill net gear.

**5 AAC 18.350. CLOSED WATERS.** (a) Salmon may not be taken in the following waters:

(1) Alitak District.

(A) Humpy Cove: all waters east of a line from the northern entrance of Seaborg Cove at 56°53'45" N.lat., 153°58'48" W.long., to a point approximately two and three-quarters miles northeast of Hawk Point at 56°51' N.lat., 154°03'39" W.long.;

(B) Olga Bay.

(i) Upper Olga Bay: north and west of a line from Stockholm Point at 57°07'40" N.lat., 154°06'36" W.long., to the opposite shore at 57°07'40" N.lat., 154°04'50" W.long.;

(ii) Horse Marine: northeast of a line from 57°06'27" N.lat., 154° W.long.; to 57°07'33" N.lat., 154°03' W.long.;

(iii) Olga Narrows: south of 57°04'23" N.lat., and north of a line from 57°01'27" N.lat., 154°08'32" W.long. running east to a point 75 fathoms from the mean low tide mark to 57°11" N.lat., 154°07'58" W.long.;

(C) Portage Bay

(i) Southeast Arm: east of the longitude of Bert Point;

(ii) Sulua Bay: north of 56°58'36" N.lat.;

(D) Deadman Bay: north of a line from 57°05'30" N.lat., 153°50'54" W.long., to 57°07'05" N.lat., 153°51'44" W.long.;

(E) Sukhoi Lagoon: in the bay and the lagoon;

(2) Southwest Kodiak District

(A) all waters east of the terminus of the Ayakulik River (Red River);

(B) all waters east of the terminus of the unnamed stream at 57°16'21" N.lat., 154°37'10" W.long.;

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(C) all waters east of a line from 57°33'48" N.lat., 154°30'54" W.long., to 57°31'26" N.lat., 154°34'36" W.long., including Sturgeon Lagoon;

(D) all waters of Grant's Lagoon and Halibut Bay Lagoon;

(E) that portion of the Southwest Kodiak District enclosed by a line from Cape Karluk (57°34'42" N. lat., 154°30'54" W. long.), to 57°34'42" N. lat., 154°26'36" W. long., to Karluk Spit at 57°34'37" N. lat., 154°26'30" W. long.;

(5) Northwest Kodiak District

(A) Uyak Bay: south of 57°23'06" N.lat.;

(B) Zachar Bay: within a line from 57°33'36" N.lat., 153°47'42" W.long. North-erly to a point at 57°34'36" N.lat., 153°47'30" W.long.;

(C) Spiridon Bay: east of 153°42'24" W.long.;

(D) Little River: within 500 yards of the terminus;

(E) Cannon's Lagoon (Cambell's): in the lagoon and 500 yards from its mouth;

(F) Uganik Bay

(i) South Arm: south of 57°39'44" N.lat.;

(ii) East Arm (Mush Bay): within a line from Packers Spit at 57°44'30" N.lat., 153°29'54" W.long., the opposite shore at 57°42'30" N.lat., 153°28'36" W.long., and including the lagoon behind Packers Spit;

(G) North Uganik Passage: south of 57°49'30" N.lat., to 57°48'30" N.lat.;

(H) Terror Bay: all waters of the bay south of 57°46'30" N.lat.;

(I) Kizhuyak Bay

(i) Barabara Cove: within one-half statute mile of the stream terminus;

(ii) all waters south of a line extending from Pestchani Point to a point on the opposite shore at 57°47' N.lat., 152°54' W.long.;

(J) Sharatin Bay: south of 57°50'41" N.lat.;

(K) Soldier's Bay: within a line from Otmeloi Point to Entrance Point to the southern tip of Low Island to Sereдни Point;

(L) Anton Larsen Bay: south of 57°51'54" N.lat.;

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(M) Ouzinkie Harbor: all waters of Ouzinkie Harbor north of a line from 57°55'10" N. lat., 152°36' W. long. to 57°55'03" N. lat., 152°29'20" W. long.;

(N) Monks Lagoon: all waters of the lagoon northwest of a line between ADF&G regulatory markers located on both sides of the entrance to the lagoon;

(6) Northeast Kodiak District

(A) Mill Bay and all those waters bounded by a line from Spruce Cape to the north-ernmost point of Woody Island, to the northernmost point of Holiday Island, to the northernmost point of Near Island, to the opposite shore on Kodiak Island at 57°47'25" N.lat., 152°23'23" W.long.;

(B) Women's Bay: all waters inside a line from the tip of Nyman Peninsula (57°43'18" N. lat., 152°31'25" W. long.), to the northeastern tip of Mary's Island (57°42'27" N. lat., 152°31'52" W. long.) to the southeastern shore of Women's Bay at 57°42' N. lat., 152°31'23" W. long.;

(C) Middle Bay: all waters south of a line from 57°39'58" N.lat., 152°29'15" W.long., to the opposite shore at 57°39'30" N.lat., 152°28' W.long.;

(D) Kalsin Bay: all waters south of a line from a bluff on the east shore at 57°36'30" N.lat., 152°24'30" W.long., to the opposite shore at the southwest corner of the bay at 57°36'30" N.lat., 152°28'06" W.long.;

(7) Eastside Kodiak District

(I) Ugak Bay

(i) west of 152°52'30" W.long.;

(ii) Eagle Harbor: within one-half statute mile of the terminus of Eagle River;

(iii) Gull Cape Lagoon: in the lagoon;

(iv) Saltery Cove: all waters north of a line from a point at 57°29' N.lat., 152°43'06" W.long., to a point on the opposite shore at 57°29'48" N.lat., 152°47'42" W.long.;

(v) Pasagshak River (No. 259-411): within 1000 yards from the terminus;

(J) Kiliuda Bay

(i) west of 153°03'36" W.long.;

(ii) Dog Bay: north of a line from Coxcomb Point to Shearwater Point;

(K) Shearwater Bay: north of a line from 57°20'23" N.lat., 152°52'47" W.long., to 57°20'45" N.lat., 152°53'30" W.long.;

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(L) Sitkalidak Strait: north of a line at the latitude of Old Harbor Village (57°12'06" N. lat.) and west of 153°12'48" W. long.;

(M) Barling Bay: inside a line from 57°10'45" N. lat., 153°21'47" W. long., to 57°11'27" N. lat., 153°20'24" W. long.;

(N) Kaiugnak Bay: west of 153°39'32" W. long.;

(O) Kiavak Bay: in the lagoon and 500 yards from its mouth;

(P) Kaguyak Bay: west of 153°45'07" W. long.;

(Q) Seven Rivers Cove (includes stream no. 258-701): west of a line from 56°47'30" N. lat., 153°52'36" W. long. to 56°46'54" N. lat., 153°54' W. long.;

(R) Natalia Bay Lagoon: in the lagoon inside of 153°19'06" W. long.;

## (8) Afognak District

(A) Kazakof Bay (Danger Bay): north of 58°10'54" N. lat.;

(B) Kitoi Bay: west of a line from 58°10'39" N. lat., 152°17'13" W. long., to 58°09'32" N. lat., 152°18'36" W. long.;

(C) Ruth Bay (Izhut): west of 152°18'33" W. long.;

(D) Seal Bay: south of 58°21'38" N. lat., in the inner West Bay;

(E) Pauls Bay (Perenosa): within one-half statute mile of the terminus of Pauls Creek;

(F) Discoverer Bay: south of 58°19'06" N. lat.;

## (G) Paramanof Bay

(i) East Arm: east of 152°45' W. long.;

(ii) South Arm: south of 58°15'57" N. lat.;

(iii) Thorsheim Bay (includes stream no. 251-302): south of a line from 58°17'12" N. lat., 152°50'24" W. long. to 58°17'08" N. lat., 152°50'42" W. long.

(iv) Long Lagoon Bay (includes stream no. 251-301): south of a line from 58°16'28" N. lat., 152°53'21" W. long. to 58°16'24" N. lat., 152°53'11" W. long.

(H) Malina Bay: east of 152°55' W. long.;

(I) Afognak Bay: north of a line from Otrubistoi Point to Settlement Point;

## (9) Mainland District

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(A) Swikshak Lagoon: all waters of the lagoon;

(B) Kukak Bay: all waters west of a line from a point at 58°18'52" N. lat., 154°16'32" W. long., then to a point at 58°18'45" N. lat., 154°16'05" W. long., then to a point at 58°17'18" N. lat., 154°17'23" W. long., then to a point at 58°15'56" N. lat., 154°16'29" W. long.

(C) Kafliia Bay: within one statute mile outside the entrance of the outer lagoon;

(D) Wide Bay: west of a line from 156°28'42" W. long., 57°17'55" N. lat., to 156°31'59" W. long., 57°19'48" N. lat.;

(E) Chiniak Lagoon Creek (stream no. 262-154): all waters enclosed by a line from Cape Chiniak (58°31' N. lat., 153°54'30" W. long.) to a point on Village Beach approximately 500 yards from the entrance to Chiniak Lagoon;

(F) all waters of Big River (stream no. 262-152) flats west of 153°52'20" W. long.

## (G) Hallo Bay

(i) Ninagiak River: inside of a line running in a southeasterly direction from a point approximately 500 yards north of the stream terminus and a line running in an easterly direction from a point approximately 500 yards south of the stream terminus;

(ii) unnamed stream (ADF&G stream no. 262-203): inside of a line running in an easterly direction from a point approximately 500 yards north of the stream terminus and a line running in a northeasterly direction from a point approximately 500 yards south of the stream terminus;

(H) Village Creek (stream no. 262-153): between two parallel lines that start at points located at higher high water beginning at approximately 500 yards north and 500 yards south of the stream terminus and extend east to mid-stream of Snelikof Strait;

(I) Kinak Bay (Kinak Creek, no. 262-451): in the lagoon and 500 yards from its mouth;

(10) within the designated freshwater salmon streams and rivers of the Kodiak Area, and all saltwater within 500 yards of all points of a straight line extending between the seaward extremities of the exposed tideland banks, or as marked by ADF&G regulatory markers. The provisions of 5 AAC 39.290 do not apply to the Kodiak Area. Freshwater salmon streams and rivers are those identified annually on a Kodiak Area Salmon Stream Chart available from the department.

(b) Where regulatory markers have been deployed by the department to aid fishermen in determining closed waters locations listed in this section, the markers will be placed either as close as possible to the described locations or in a location deemed necessary by the department. If the location of a regulatory marker is in conflict with the closed waters listed in this section, it is illegal to fish on the streamward side of the marker.

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**5 AAC 18.355. SALMON PROCESSOR AND BUYER REPORTING REQUIREMENTS.** The operator of a floating salmon processing vessel or tender, or a shorebased processing operation, and a company employing aircraft used for transporting salmon, shall report in person, or by radio or telephone, to a local representative of the department located in the management area of intended operation before the start of processing or buying operations. The report must include the location and the date of intended operation, and identify and describe each vessel or other method of transport employed in hauling or processing salmon.

**5 AAC 18.360. CAPE IGVAK SALMON MANAGEMENT PLAN.** (a) In years when a harvestable surplus is beyond escapement goals, for the first (Black Lake) and second (Chignik Lake) runs of Chignik River system sockeye salmon is expected to be less than 600,000, there will be no commercial salmon fishery allowed in the Cape Igvak section, as described in 5 AAC 18.200(g)(8) until a harvest of 300,000 sockeye salmon in the Chignik Area, as described in 5 AAC 15.100, is achieved. After July 8, and after at least 300,000 sockeye salmon have been harvested in the Chignik area, and if escapement goals are being met, the department shall manage the fishery so that the number of sockeye salmon harvested in the Chignik Area will be at least 600,000 and the harvest in the Cape Igvak Section will approach as near as possible 15 percent of the total Chignik sockeye salmon catch.

(b) In years when a harvestable surplus beyond escapement goals for the first and second runs of Chignik River system sockeye salmon is expected to be more than 600,000, but the first run fails to develop as predicted and it is determined that a total sockeye salmon harvest in the Chignik Area of 600,000 or more may not be achieved, the Cape Igvak section commercial salmon fishery will be curtailed in order to allow at least a minimum harvest in the Chignik Area of 300,000 sockeye salmon by July 9 if that number of fish is determined to be surplus to the escapement goals of the Chignik River system. After July 8, after at least 300,000 sockeye salmon have been harvested in the Chignik Area and its escapement goals are being met, the department shall manage the fishery so that the number of sockeye salmon harvested in the Chignik Area will be at least 600,000 and the harvest in the Cape Igvak Section will approach as near as possible 15 percent of the total Chignik sockeye salmon catch.

(c) On years when a harvestable surplus beyond the escapement goals for the first and second runs of Chignik River system sockeye salmon is expected to be more than 600,000, and the department determines the runs are as strong as expected, the department will manage the fishery in such a manner whereby the number of sockeye salmon taken in the Cape Igvak Section will approach as near as possible 15 percent of the total Chignik sockeye salmon catch.

(d) The total Chignik sockeye salmon catch constitutes those sockeye salmon caught within the Chignik area plus 80 percent of the sockeye salmon caught in the East Stepovak, Southwest Stepovak, Stepovak Flats, Balboa Bay, and Beaver Bay Sections, as described in 5 AAC 09.200(f), plus 80 percent of the sockeye salmon caught in the Cape Igvak Section. The harvest in the Cape Igvak Section at any time before July 25 may be permitted to fluctuate above or below 15 percent of the cumulative Chignik sockeye salmon catch.

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(e) This allocation method will be in effect through July 25. The first fishing period of the commercial salmon fishing season in the Cape Igvak Section will not occur before the first fishing period of the commercial salmon fishing season in the Chignik Area. After July 25, commercial salmon fishing season in the Cape Igvak section may be allowed on the local Kodiak Area stocks or specifically for Chignik River system sockeye salmon if the second run escapement has reached 200,000.

(f) During the period from approximately June 26 to July 9, the strength of the second run of Chignik River system sockeye salmon cannot be evaluated. In order to prevent overharvest of the second run, commercial salmon fishing in the Cape Igvak Section will, in the department's discretion, be disallowed or severely restricted during this period.

(g) The department shall announce commercial salmon fishing periods by emergency order. The department shall give at least one day notice prior to the opening of a commercial salmon fishing period unless it is an extension of a fishing period in progress.

**5 AAC 18.361. ALITAK BAY DISTRICT SALMON MANAGEMENT PLAN.** (a) The department shall manage the commercial salmon fishery in the Alitak Bay District in accordance with the guidelines set out in the Alitak Bay District Salmon Management Plan. The goal of this plan is to achieve escapement and harvest objectives of sockeye, pink, and coho salmon stocks returning to the Deadman-Portage Bay Section systems and the Horse Marine, Fraser, Akalura, and Upper Station systems. It is the intent of the board that salmon bound to these systems be harvested to the extent possible by the traditional fisheries located in the Cape Alitak, Deadman-Portage Bay, and Moser-Olga Bay Sections.

(b) The Cape Alitak Section must be managed during the period June 9 through July 15 based on the sockeye salmon return to the Fraser system. During the period July 16 through August 9, in odd numbered years this section must be managed based on the pink salmon return to the Fraser system and, in even numbered years this section must be managed based on the sockeye salmon return to Upper Station. During the period August 10 through August 25, this section must be managed based on the sockeye salmon return to Upper Station but, on even numbered years this section must be managed based on the pink salmon return to the Fraser system. During the period August 26 through season's end, the Cape Alitak Section must be managed based upon the coho and sockeye salmon returns to the entire Alitak District.

(c) The Moser-Olga Bay Section must be managed, during the period June 9 through July 15, based upon the sockeye salmon return to the Fraser system. During the period July 16 through August 9, in odd-numbered years this section must be managed based on the pink salmon return to the Fraser system and, in even-numbered years this section must be managed based on the sockeye salmon return to Upper Station. During the period August 10 through August 25, in odd-numbered years this section must be managed based on the sockeye salmon return to Upper Station and, in even numbered years this section must be managed based on either the pink salmon return to the Fraser system or on the sockeye salmon return to the Upper Station system. During the period August 26 through season's end this section must be managed based on the coho and late sockeye salmon returns to all Olga Bay systems.

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(d) The Humpy-Deadman Section must be managed simultaneously, and with equivalent fishing time, with the Cape Alitak and Moser-Olga Bay Sections during the period from June 9 through July 15. After July 15, the Humpy-Deadman Section must be managed based on the strength of returns to systems located within the section.

(e) The Dog Salmon Flats Section must be managed on the basis of sockeye and pink salmon returns to the Fraser River system during the period of June 9 through August 20. During the period of August 21 through season's end this section must be managed on the basis of coho salmon returns to the Dog Salmon River and Horse Marine systems. This section may only be opened to fishing when total desired escapement goals are expected to be exceeded. Such openings may not jeopardize achievement of minimum escapement goals for either of the two remaining salmon species. A 24 hour advance notice must be given before opening this section.

(f) The Inner and Outer Akalura Sections must be managed based on early and late returns of sockeye salmon to the Akalura system during the period from June 9 through August 20. From August 21 through August 26, these sections must be managed based on coho and late sockeye salmon returns to the Akalura system. After August 26, both sections must be managed based on coho salmon returns to the Akalura system. The Inner and Outer Akalura Sections may be opened to fishing only when desired escapement se Marine systems. This section may only be opened to fishing when total desired escapement goals are expected to be exceeded. Such openings may not jeopardize achievement of minimum escapement goals for other salmon species. A 24 hour advance notice must be given before opening this section.

(f) The Inner and Outer Akalura Sections must be managed based on early and late returns of sockeye salmon to the Akalura system during the period from June 9 through August 20. From August 21 through August 26, these sections must be managed based on coho and late sockeye salmon returns to the Akalura system. After August 26, both sections must be managed based on coho salmon returns to the Akalura system. The Inner and Outer Akalura Sections may be opened to fishing only when desired escapement goals are expected to be exceeded. Such openings may not jeopardize achievement of minimum escapement goals for other salmon species. Fishing time in the Outer Akalura Section must always occur before any fishing time in the Inner Akalura Section is allowed for each target species. At least 24 hours advance notice must be given before opening either the Inner or Outer Akalura Sections.

(g) The Inner and Outer Upper Station Sections must be managed based on early and late returns of sockeye salmon to the Upper Station system during the period from June 9 through August 20. From August 21 through August 25, these sections must be managed based on coho and late sockeye salmon returns to the Upper Station system. After August 26, both sections must be managed based on coho and late sockeye salmon returns to the Upper Station system. The Inner and Outer Upper Station Sections may be opened to fishing only when desired escapement goals are expected to be exceeded. Such openings may not jeopardize achievement of minimum escapement goals for the other salmon species. Fishing time in the Outer Upper Station Section must always occur before any fishing time in the Inner Upper Station Section is allowed for each target species. At least 24 hours advance notice must be given before opening of either the Inner or Outer Upper Station Sections.

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**5 AAC 18.362. WESTSIDE KODIAK MANAGEMENT PLAN.** (a) The goal of the Westside Kodiak Management Plan is to achieve escapement and harvest objectives of sockeye salmon returning to the Karluk, Ayakulik and other Westside minor sockeye salmon systems and of pink, chum and coho salmon returning to systems in the Southwest Afognak, Central, North Cape, Anton Larsen Bay, Sheratin Bay, Kizhuyak Bay, Terror Bay, Inner Uganik Bay, Spiridon Bay, Zachar Bay, Uyak Bay, Outer Karluk, Inner Karluk, Sturgeon Bay, Halibut Bay, Outer Ayakulik and Inner Ayakulik sections. It is the intent of the Board that salmon bound to these systems be harvested to the extent possible by the traditional fisheries located in all 17 sections. The department shall manage the Northwest Kodiak and Southwest Kodiak Districts and the Southwest Afognak Section in accordance with the guidelines set out in this plan.

(b) The Central and North Cape section shall be managed:

(1) from June 9 through approximately June 15, as a mixed stock fishery directed on early run sockeye salmon returning to Karluk, Ayakulik and Olga Bay systems. The department shall open two commercial test fishing periods, each not exceeding 33 hours in length, during this time;

(2) from approximately June 16 through July 5, based on early run sockeye salmon returning to the Karluk system;

(3) from approximately July 6 through August 15, based on pink salmon returning to the major pink salmon systems in the Northwest Kodiak district;

(4) from approximately August 16 through August 24, based on pink salmon returning to the Northwest Kodiak District and on late run sockeye salmon returning to the Karluk system;

(5) from approximately August 25 through September 5, based on late run sockeye salmon returning to the Karluk system;

(6) after approximately September 5, based on coho salmon returning to the Northwest Kodiak district.

(c) The Anton Larsen Bay, Sheratin Bay, Kuzhuyak Bay, Terror Bay, Inner Uganik bay, Spiridon Bay, Zachar Bay and Uyak Bay sections shall be managed:

(1) from June 9 through approximately June 15, based on local sockeye and early run chum salmon returning to the major systems in each section. The department shall open two commercial test fishing periods, each not exceeding 33 hours in length and occurring simultaneously with those in the Central and North Cape sections, during this time;

(2) from approximately June 16 through July 5, based on local sockeye and early run chum salmon returning to the major systems in each section;

(3) from approximately July 6 through July 31, based on local sockeye, pink and early run chum salmon returning to the major systems in each section;

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(4) from approximately August 1 through August 24, based on local pink and late run chum salmon returning to the major systems in each section;

(5) from approximately August 25 through September 5 based on local pink, late run chum and coho salmon returning to the major salmon systems in each section;

(6) after approximately September 5, based on coho salmon returning to the major coho salmon systems in each section.

(d) The Southwest Afognak Section shall be managed:

(1) from June 9 through approximately June 15, as a mixed stock fishery directed on early run sockeye salmon returning to Karluk, Ayakulik and Olga Bay systems. The department shall open one commercial test fishing period, not exceeding 33 hours in length, during this time;

(2) from approximately June 16 through July 5, based on early run sockeye salmon returning to the Karluk system;

(3) from approximately July 6 through August 15, based on pink salmon returning to the major pink salmon systems in the Southwest Afognak Section and the Northwest Kodiak District. From July 6 through July 25, the section must also be managed according to 5 AAC 18.363(c), the North Shelikof Management Plan;

(4) from approximately August 16 through August 24, based on pink salmon returning to the major pink salmon systems in the Southwest Afognak Section and the Northwest Kodiak District and on the late run sockeye salmon returning to the Karluk system;

(5) from approximately August 25 through September 5, based on late run sockeye salmon returning to the Karluk system;

(6) after approximately September, based on coho salmon returning to the major coho salmon systems in the Southwest Afognak district.

(e) The Inner and Outer Karluk sections must be managed:

(1) from June 9 through July 15, based on early run sockeye salmon returning to the Karluk system. The department may open fishing periods in the Inner Karluk Section only if it appears that the desired early run escapement goal will be exceeded. In the Outer Karluk Section, the department may not open more than one 33 hour fishing period before June 16 and, from June 16 through approximately July 15, shall open fishing periods simultaneously with open periods in the Central Section;

(2) from July 16 through approximately August 24:

(A) on odd year cycles, based on late run sockeye salmon returning to the Karluk system;

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(B) on even year cycles, based on late run sockeye and pink salmon returning to the Karluk system;

(3) from approximately August 25 through September 5, based on late run sockeye salmon returning to the Karluk system;

(4) after approximately September 5, based on coho salmon returning to the Karluk system.

(f) The Sturgeon and Halibut Bay sections shall be managed:

(1) from June 9 through approximately June 22, as mixed stock fisheries directed on early run sockeye salmon returning to the Karluk, Ayakulik and Olga Bay systems. The department shall not open any commercial fishing periods during this time.

(2) from approximately June 23 through July 15, based on early run sockeye salmon returning to the Ayakulik and Karluk systems, except that the Sturgeon Section shall also be managed with consideration for early run chum salmon returning to the Sturgeon system;

(3) from approximately July 16 through August 24,

(A) in the Sturgeon Section,

(i) on odd year cycles, based on late run sockeye salmon returning to the Karluk system;

(ii) on even year cycles, based on late run sockeye and on pink salmon returning to the Karluk system;

(B) in the Halibut Bay Section,

(i) on odd year cycles, from approximately July 16 through July 31 on late run sockeye salmon returning to the Ayakulik system and, from approximately August 1 through August 24 on late run sockeye salmon returning to the Karluk system;

(ii) on even year cycles, from approximately July 16 through July 31, on late run sockeye salmon and pink salmon returning to the Ayakulik system and, from approximately August 1 through August 24, on late run sockeye salmon returning to the Karluk system and on pink salmon returning to the Ayakulik system;

(4) from approximately August 25 through September 5, based on late run sockeye salmon returning to the Karluk system;

(5) after approximately September 5, based on coho salmon returning to local coho salmon systems.

(g) The Inner and Outer Ayakulik sections shall be managed:

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(1) from June 9 through approximately July 15, based on early run sockeye salmon returning to the Ayakulik systems;

(2) from approximately July 16 through August 24:

(A) on odd year cycles, based on late run sockeye salmon returning to the Ayakulik system;

(B) on even year cycles, based on late run sockeye and pink salmon returning to the Ayakulik system;

(3) after approximately August 24, based on coho salmon returning to the Ayakulik system.

**5 AAC 18.363. NORTH SHELKOF STRAIT SOCKEYE SALMON MANAGEMENT PLAN.** (a) The purpose of the North Shelikof Strait Sockeye Salmon Management Plan is to allow traditional fisheries in the area to be conducted on Kodiak Area salmon stocks, while minimizing the directed harvest of Cook Inlet sockeye salmon stocks. The board recognizes that some incidental harvest of other stocks has and will occur in this area while the seine fishery is managed for Kodiak Area salmon stocks. The board intends, however, to prevent a repetition of the non-traditional harvest pattern which occurred in 1988.

(b) from July 6 through July 25 in the Dakavak Bay, Outer Kukak Bay, Inner Kukak Bay, Hallo Bay and Big River Sections of the Mainland District and in the Shuyak Island and Northwest Afognak Sections of the Afognak District, the department shall manage the fishery as follows:

(1) management of the fishery shall be based on local stocks;

(2) the fishery may remain open during normal fishing periods until the harvest exceeds 15,000 sockeye salmon;

(3) when the harvest exceeds 15,000 sockeye salmon, the department shall restrict the fishery by emergency order to waters of:

(A) Dakavak Bay, Outer Kukak Bay, Inner Kukak Bay, Hallo Bay and Big River sections west of a line from Cape Douglas at 58°51'06" N. lat., 153°14'54" W. long., to a point at 58°42'40" N. lat., 153°26'18" W. long., to a point east of Swikshak river at 58°38'06" N. lat., 153°35'24" W. long., to Cape Chiniak at 58°31' N. lat., 153°54'21" W. long., to Cape Nukshak at 58°23'30" N. lat., 153°57' W. long., to Cape Ugyak at 58°16'36" N. lat., 154°06'03" W. long., to Cape Gull at 58°13' N. lat., 154°08'30" W. long., to Cape Kuliak at 58°08'11" N. lat., 154°12'34" W. long., to Cape Atushagvik at 58°05' N. lat., 154°18'48" W. long., to Cape Ilktugitak at 58°01'12" N. lat., 154°34'48" W. long., to the southern entrance of Dakavak Bay at 58°01' N. lat., 154°43'30" W. long.;

(B) Shuyak Island and Northwest Afognak sections south and east of a line from Point Banks at 58°38' N. lat., 152°18'54" W. long., to Dark Island at 58°38'45" N.

**KODIAK AREA**

lat., 152°33'05" W. long., to Gull Island at 58°35'48" N. lat., 152°38'45" W. long., to the northern entrance of Big Bay at 58°34'06" N. lat., 152°40'12" W. long., to the western entrance of Blue Fox Bay at 58°27'41" N. lat., 152°43'42" W. long., to Black Cape at 58°24'33" N. lat., 152°53'09" W. long., to Cape Paramanof at 58°18'21" N. lat., 153°02'45" W. long.

(c) From July 6 through July 25 in the Southwest Afognak Section of the Afognak district, the department shall manage the fishery as follows:

(1) management of the fishery shall be based on local stocks consistent with 5 AAC 18.362(d)(3);

(2) the fishery may remain open during normal fishing periods until the harvest exceeds 50,000 sockeye salmon;

(3) when the harvest exceeds 50,000 sockeye salmon, the department shall restrict the fishery by emergency order to waters of the Southwest Afognak Section east of a line from Cape Paramanof at 58°18'21" N. lat., 153°02'45" W. long., to Tanaak Cape at 58°15'36" N. lat., 153°06'09" W. long., to Steep Cape at 58°12'05" N. lat., 153°12'33" W. long., to a point at 58°08'25" N. lat., 153°18'52" W. long., to Raspberry Cape at 58°03'35" N. lat., 153°25'06" W. long.

**5 AAC 18.364. CRESENT LAKE COHO SALMON MANAGEMENT PLAN.** (a) The department shall manage the commercial, sport and subsistence fisheries in Settler Cove to provide for full utilization of the enhanced stock of coho salmon returning to Crescent Lake in accordance with the Crescent Lake Coho Salmon Management Plan in this section.

(b) Sport and subsistence fisheries are allowed in all waters of Settler Cove consistent with 5 AAC 64 and 5 AAC 01.

(c) The department may open, by emergency order, those waters of Settler Cove, between the causeway and a line from the seaward end of the Port Lyons breakwater to a department marker located directly across Settler Cove from the breakwater, to the commercial taking of salmon only as follows:

(1) the department shall not allow the commercial taking of salmon before September 16 and;

(2) before opening the fishery, the department shall determine that 500 or more coho salmon are available in Settler Cove for harvest.

**5 AAC 18.394. POSSESSION OF STEELHEAD.** Steelhead taken incidental to commercial salmon fishing in Karluk Lagoon must be returned to the water unharmed.

**ARTICLE 5.—SMELT FISHERY**

**5 AAC 18.510. FISHING SEASON.** There is no closed season on smelt.

Appendix D.2. Summary of commercial salmon fishery emergency orders issue for the Kodiak Management Area, 1991.

E.O. No.	Time/Date		Action Taken
	Issued	Effective	
18	4:00 P.M. 6/03/91	12:02 A.M. 6/05/91	<b>Closure</b> of all waters of the Kodiak Management Area beyond the Territorial Sea Boundary (3-mile limit) until further notice.
19, 20, 21	Herring Emergency Orders		
22	3:00 P.M. 6/06/91	12:00 Noon 6/09/91	<b>Opening</b> for 33 hours 12:00 Noon 6/9 - 9:00 P.M. 6/10 - Northwest Kodiak District - Alitak Bay District
23	2:00 P.M. 6/10/91	12:01 A.M. 6/12/91  12:00 Noon 6/12/91	<b>Opening</b> for 48 hours 12:01 A.M. 6/12 - 12:01 A.M. 6/14 - Cape Igvak Section <b>Opening</b> for 57 hours 12:00 Noon 6/12 - 9:00 P.M. 6/14 - Alitak Bay District - Southeast Afognak Section - Inner Ayakulik Section (start by flare) - Outer Ayakulik Section
24	Herring Emergency Order		
25	2:00 P.M. 6/12/91	12:01 A.M. 6/14/91  12:00 Noon 6/14/91  9:00 P.M. 6/14/91	<b>Extension</b> for 48 hours 12:01 A.M. 6/14 - 12:01 A.M. 6/16 - Cape Igvak Section <b>Opening</b> for 33 hours 12:00 Noon 6/14 - 9:00 P.M. 6/15 - Northwest Kodiak District <b>except</b> for the Kizhuyak Section - Remainder of Afognak District <b>except</b> for the Perenosa Bay and Kitoi Bay Sections - Eastside Kodiak District - Big River Section - Outer Kukak Section <b>Extension</b> for 24 hours 9:00 P.M. 6/14 - 9:00 P.M. 6/15 - Alitak Bay District - Inner and Outer Ayakulik Sections - Southeast Afognak Section

-Continued-

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E.O. No.	Time/Date		Action Taken
	Issued	Effective	
26	4:00 P.M. 6/14/91	9:00 P.M. 6/15/91	<b>Extension</b> for 48 hours 9:00 P.M. 6/15 - 9:00 P.M. 6/17 - Inner and Outer Ayakulik Sections - Southeast Afognak Section
		12:01 A.M. 6/16/91	<b>Extension</b> for 48 hours 12:01 A.M. 6/16 - 12:01 A.M. 6/18 - Cape Igvak Section
<b>27, 28 Herring Emergency Orders</b>			
29	12:00 Noon 6/17/91	9:00 P.M. 6/17/91	<b>Extension</b> for 72 hours 9:00 P.M. 6/17 - 9:00 P.M. 6/20 - Inner and Outer Ayakulik Sections - Southeast Afognak Section
		12:01 A.M. 6/18/91	<b>Extension</b> for 48 hours 12:01 A.M. 6/18 - 12:01 A.M. 6/20 - Cape Igvak Section
		12:00 Noon 6/18/91	<b>Opening</b> for 57 hours 12:00 Noon 6/18 - 9:00 P.M. 6/20 - Alitak Bay District
30	4:00 P.M. 6/19/91	9:00 P.M. 6/20/91	<b>Extension</b> for 48 hours 9:00 P.M. 6/20 - 9:00 P.M. 6/22 - Alitak Bay District - Inner and Outer Ayakulik Sections - Southeast Afognak Section
		12:00 Noon 6/21/91	<b>Opening</b> for 33 hours 12:00 Noon 6/21 - 9:00 P.M. 6/22 - Remainder of the Afognak District <b>except</b> for the Southwest Afognak, Perenosa Bay, and Kitoi Bay Sections - Eastside Kodiak District - Big River Section - Outer Kukak Section
31	2:00 P.M. 6/21/91	9:00 P.M. 6/22/91	<b>Extension</b> for 48 hours 9:00 P.M. 6/22 - 9:00 P.M. 6/24 - Inner and Outer Ayakulik Sections - Southeast Afognak Section - Duck Bay Section - Izhut Bay Section

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E.O. No.	Time/Date		Action Taken
	Issued	Effective	
32	5:30 P.M. 6/26/91	12:00 Noon 6/28/91	<b>Opening</b> for 57 hours 12:00 Noon 6/28 - 9:00 P.M. 6/30 - Alitak Bay District - Southeast Afognak Section
33	Herring Emergency Order		
34	9:30 A.M. 6/29/91	12:00 Noon 6/30/91  9:00 P.M. 6/30/91	<b>Opening</b> for 57 hours 12:00 Noon 6/30 - 9:00 P.M. 7/02 - Dog Salmon Flats Section <b>Extension</b> until further notice - Alitak Bay District - Southeast Afognak Section
35	10:00 A.M. 6/30/91	12:00 Noon 7/01/91	<b>Opening</b> for 81 hours 12:00 Noon 7/01 - 9:00 P.M. 7/04 - Inner Ayakulik Section by flare - Outer Ayakulik Section
36	12:00 Noon 7/02/91	9:00 P.M. 7/02/91  9:00 P.M. 7/04/91  12:00 Noon 7/06/91	<b>Extension</b> until further notice. - Dog Salmon Flats Section  <b>Extension</b> until further notice - Inner and Outer Ayakulik Sections  <b>Opening</b> for 81 hours 12:00 Noon - 9:00 P.M. 7/10 - Remainder of the Afognak District <b>except</b> for the Perenosa Bay, Izhut Bay and Kitoi Bay Sections. - Northwest Kodiak District <b>except</b> for the Kizhuyak Section - Eastside Kodiak District - Northeast Kodiak District <b>except</b> for the Buskin River Section  <b>Opening</b> for 57 hours 12:00 Noon 7/06 - 9:00 P.M. 7/08 - Mainland District <b>except</b> for the Cape Igvak and Wide Bay Sections
37	12:00 Noon 7/05/91	9:00 P.M. 7/05/91	<b>Extension</b> until further notice of reduced closed waters in the Dog Salmon Flats Section
38	4:00 P.M. 7/09/91	12:01 A.M. 7/11/91	<b>Opening</b> for 48 hours 12:01 A.M. 7/11 - 12:01 A.M. 7/13 - Cape Igvak Section

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E.O. No.	Time/Date		Action Taken
	Issued	Effective	
39	10:00 A.M. 7/11/91	12:00 Noon 7/13/91	<b>Opening</b> for 105 hours 12:00 Noon 7/13 - 9:00 P.M. 7/17 <ul style="list-style-type: none"> <li>- Remainder of the Afognak District <b>except</b> for the Perenosa Bay and Kitoi Bay Sections</li> <li>- Northwest Kodiak District</li> <li>- Eastside Kodiak District</li> <li>- Northeast Kodiak District</li> <li>- Halibut Bay Section</li> </ul>
		12:00 Noon 7/13/91	<b>Opening</b> for 57 hours 12:00 Noon 7/13 - 9:00 P.M. 7/15 <ul style="list-style-type: none"> <li>- Remainder of the Mainland District <b>except</b> for the Wide Bay Section</li> </ul>
40	11:30 A.M. 7/12/91	12:01 A.M. 7/13/91	<b>Extension</b> for 72 hours 12:01 A.M. 7/13 - 12:01 A.M. 7/16 <ul style="list-style-type: none"> <li>- Cape Igvak Section</li> </ul>
41	4:00 P.M. 7/16/91	9:00 P.M. 7/17/91	<b>Closure</b> effective 9:00 P.M. 7/17 <ul style="list-style-type: none"> <li>- Dog Salmon Flats Section</li> <li>- Alitak Bay Dist.</li> </ul>
		9:00 P.M. 7/17/91	<b>Extension</b> for 72 hours 9:00 P.M. 7/17 - 9:00 P.M. 7/20 <ul style="list-style-type: none"> <li>- Southeast Afognak Section</li> <li>- Halibut Bay Section</li> </ul>
		12:01 A.M. 7/18/91	<b>Opening</b> for 48 hours 12:01 A.M. 7/18 - 12:01 A.M. 7/20 <ul style="list-style-type: none"> <li>- Cape Igvak Section</li> </ul>
42	3:00 P.M. 7/18/91	9:00 P.M. 7/19/91	<b>Closure</b> effective 9:00 P.M. 7/19 Inner and Outer Ayakulik Sections south of 57°13'09" N. lat. will close.
		12:01 A.M. 7/20/91	<b>Extension</b> for 48 hours 12:01 A.M. 7/20 - 12:01 A.M. 7/22 <ul style="list-style-type: none"> <li>- Cape Igvak Section</li> </ul>
		12:00 Noon 7/20/91	<b>Opening</b> for 105 hours 12:00 Noon 7/20 - 9:00 P.M. 7/24 <ul style="list-style-type: none"> <li>- Afognak District <b>except</b> for the Kitoi Bay Section</li> <li>- Northwest Kodiak District <b>except</b> for the Inner Uganik Section</li> <li>- Alitak Bay District</li> <li>- Eastside Kodiak District</li> <li>- Northeast Kodiak District</li> </ul>

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E.O. No.	Time/Date		Action Taken
	Issued	Effective	
42 (cont.)		12:00 Noon 7/20/91	<b>Opening</b> for 57 hours 12:00 Noon 7/20 - 9:00 P.M. 7/22 - Remainder of the Mainland District <b>except</b> for the Wide Bay Section
		9:00 P.M. 7/20/91	<b>Extension</b> for 96 hours 9:00 P.M. 7/20 - 9:00 P.M. 7/24 - Halibut Bay Section
43	11:30 A.M. 7/21/91	12:01 A.M. 7/22/91	<b>Extension</b> for 48 hours 12:01 A.M. 7/22 - 12:01 A.M. 7/24 - Cape Igvak Section
		9:00 P.M. 7/24/91	<b>Closure</b> effective 9:00 P.M. 7/24 - Inner and Outer Ayakulik Sections north of 57°13'09" N. lat.
44	1:30 P.M. 7/23/91	12:01 A.M. 7/24/91	<b>Extension</b> for 48 hours 12:01 A.M. 7/24 - 12:01 A.M. 7/26 - Cape Igvak Section
45	10:30 A.M. 7/25/91	12:00 Noon 7/27/91	<b>Opening</b> for 105 hours 12:00 Noon 7/27 - 9:00 P.M. 7/31 - Northwest Kodiak District <b>except</b> for the Inner Uganik Section - Alitak Bay District - Eastside Kodiak District. - Northeast Kodiak District - Halibut Bay Section - Inner and Outer Ayakulik Sections north of 57°13'09" N. lat. - Afognak District - Kitoi Bay Section by flare
46	10:30 A.M. 7/27/91	12:00 Noon 7/29/91	<b>Opening</b> for 57 hours 12:00 Noon 7/29 - 9:00 P.M. 7/31 - Outer Kukak Section - Dakavak Bay Section - Alinchak Section - Cape Igvak Section
47	3:30 P.M. 7/30/91	9:00 P.M. 7/31/91	<b>Extension</b> for 48 hours 9:00 P.M. 7/31 - 9:00 P.M. 8/02 - Duck Bay, Izhut Bay and Kitoi Bay Sections - Eastside Kodiak District

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E.O. No.	Time/Date		Action Taken
	Issued	Effective	
47 (cont.)		12:00 Noon 8/03/91	<ul style="list-style-type: none"> <li>- Humpy-Deadman Section</li> <li>- Inner and Outer Ayakulik Sections north of 57°13'09" N. lat.</li> <li>- Cape Igvak, Katmai, Alinchak Bay and Dakavak Bay Sections</li> </ul> <p><b>Opening</b> for 105 hours 12:00 Noon 8/03 - 9:00 P.M. 8/07</p> <ul style="list-style-type: none"> <li>- Remainder of Afognak District</li> <li>- Northwest Kodiak District <b>except</b> for the Inner Uganik Section.</li> <li>- Northeast Kodiak District</li> <li>- Cape Alitak and Moser-Olga Bay Sections.</li> </ul>
48	3:00 P.M. 8/01/91	9:00 P.M. 8/02/91	<p><b>Extension</b> for 120 hours 9:00 P.M. 8/02 - 9:00 P.M. 8/07</p> <ul style="list-style-type: none"> <li>- Duck Bay, Izhut Bay and Kitoi Bay Sections</li> <li>- Eastside Kodiak District</li> <li>- Humpy-Deadman Section</li> <li>- Inner and Outer Ayakulik Sections north of 57°13'09" N. lat.</li> <li>- Cape Igvak, Katmai, Alinchak and Dakavak Bay Sections</li> </ul> <p><b>Opening</b> for 105 hours 12:00 Noon 8/03 - 9:00 P.M. 8/07</p> <ul style="list-style-type: none"> <li>- Remainder of the Afognak District</li> <li>- Northwest Kodiak District <b>except</b> for the Inner Uganik Section</li> <li>- Northeast Kodiak District</li> <li>- Cape Alitak and Moser-Olga Bay Sections</li> </ul>
49	1:30 P.M. 8/08/91	12:00 Noon 8/10/91	<p><b>Opening</b> for 81 hour 12:00 Noon 8/10 - 9:00 P.M. 8/13</p> <ul style="list-style-type: none"> <li>- Afognak District <b>except</b> for the Kitoi Bay Section</li> <li>- Northwest Kodiak District <b>except</b> for the Inner Uganik Section</li> <li>- Northeast Kodiak District</li> <li>- Eastside Kodiak District <b>except</b> for the Seven Rivers Section</li> <li>- Cape Alitak and Moser-Olga Bay Sections</li> </ul>

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E.O. No.	Time/Date		Action Taken
	Issued	Effective	
49 (cont.)			<ul style="list-style-type: none"> <li>- Humpy-Deadman Section north of 56°54'30" N. lat.</li> <li>- Cape Igvak, Alinchak, Katmai and Outer Kukak Sections.</li> </ul>
50	3:00 P.M. 8/12/91	9:00 P.M. 8/13/91	<p><b>Extension</b> for 69 hours 9:00 P.M. 8/13 - 6:00 P.M. 8/16</p> <ul style="list-style-type: none"> <li>- Southwest Afognak and Southeast Afognak Sections</li> <li>- Northwest Kodiak District <b>except</b> for the Inner Uganik Section</li> <li>- Eastside Kodiak District <b>except</b> for the Seven Rivers Section</li> <li>- Cape Alitak and Moser-Olga Bay Sections</li> <li>- Humpy-Deadman Section north of 56°54'30" N. lat.</li> <li>- Cape Igvak, Alinchak and Katmai Bay Sections</li> </ul>
51	1:30 P.M. 8/15/91	6:00 P.M. 8/16/91	<p><b>Extension</b> for 96 hours 6:00 P.M. 8/16 - 6:00 P.M. 8/20</p> <ul style="list-style-type: none"> <li>- Southwest Afognak and Southeast Afognak Sections</li> <li>- Eastside Kodiak District <b>except</b> for the Seven Rivers Section</li> <li>- Humpy-Deadman Section north of 56°54'30" N. lat.</li> <li>- Cape Igvak Section</li> </ul>
		12:00 Noon 8/17/91	<p><b>Opening</b> for 78 hours 12:00 Noon 8/17 - 6:00 P.M. 8/20</p> <ul style="list-style-type: none"> <li>- Halibut Bay Section</li> <li>- Remainder of the Afognak District <b>except</b> for the Duck Bay, Izhut Bay and Kitoi Bay Sections</li> <li>- Northeast Kodiak District</li> <li>- Outer Kukak Section</li> </ul>
52	12:00 Noon 8/18/91	10:00 A.M. 8/20/91	<p><b>Opening</b> for 56 hours 10:00 A.M. 8/20 - 6:00 P.M. 8/22</p> <ul style="list-style-type: none"> <li>- Cape Alitak and Moser-Olga Bay Section</li> <li>- Inner and Outer Ayakulik Sections</li> </ul>
		6:00 P.M. 8/20/91	<p><b>Extension</b> for 48 hours 6:00 P.M. 8/20 - 6:00 P.M. 8/22</p> <ul style="list-style-type: none"> <li>- Halibut Bay Section</li> </ul>

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E.O. No.	Time/Date		Action Taken
	Issued	Effective	
52 (cont.)			<ul style="list-style-type: none"> <li>- Southwest and Southeast Afognak Sections</li> <li>- Northwest Kodiak District <b>except</b> for the Inner Uganik Section</li> <li>- Humpy-Deadman Section north of 56°54'30" N. lat.</li> </ul>
53	Herring Emergency Order		
54	11:00 A.M. 8/23/91	12:00 Noon 8/26/91	<p><b>Opening</b> for 78 hours 12:00 Noon 8/26 - 6:00 P.M. 8/29</p> <ul style="list-style-type: none"> <li>- Northwest Kodiak District <b>except</b> for the Inner Uganik Section</li> <li>- Halibut Bay Section</li> <li>- Alitak Bay District</li> <li>- Southwest Afognak Section</li> <li>- Southeast Afognak, Duck Bay and Izhut Bay Sections</li> <li>- Kitoi Bay Section seaward of the "Jaws"</li> </ul>
55	Herring Emergency Order		
56	3:00 P.M. 8/28/91	6:00 P.M. 8/29/91	<p><b>Extension</b> for 144 hours 6:00 P.M. 8/29 -6:00 P.M. 9/04</p> <ul style="list-style-type: none"> <li>- Northwest Kodiak District <b>except</b> for the Inner Uganik Section</li> <li>- Halibut Bay Section</li> <li>- Alitak Bay District</li> <li>- Southwest Afognak Section</li> <li>- Southeast Afognak, Duck Bay and Izhut Bay Sections</li> <li>- Kitoi Bay Section seaward of the "Jaws"</li> </ul>
57	1:30 P.M. 9/03/91	6:00 P.M. 9/04/91	<p><b>Extension</b> until further notice</p> <ul style="list-style-type: none"> <li>- Northwest Kodiak District <b>except</b> for the Inner Uganik Section</li> <li>- Halibut Bay Section</li> <li>- Alitak Bay District</li> <li>- Southwest Afognak Section</li> <li>- Southeast, Duck Bay and Izhut Bay Sections</li> <li>- Kitoi Bay Section seaward of the "Jaws"</li> </ul>

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E.O. No.	Time/Date		Action Taken
	Issued	Effective	
57 (cont.)		12:00 Noon 9/05/91	<p><b>Opening</b> for 126 hours 12:00 Noon 9/5 - 6:00 P.M. 9/10</p> <ul style="list-style-type: none"> <li>- Mainland District <b>except</b> for the Dakavak Bay Section and the Inner and Outer Kukak Sections.</li> <li>- Shuyak Island Section</li> </ul>
58	11:00 A.M. 9/04/91	12:00 Noon 9/05/91	<p><b>Marker Reduction</b> until further notice</p> <ul style="list-style-type: none"> <li>- Litnik to the Subsistence Markers located at Last Point and Rivermouth Point</li> </ul>
59	1:00 P.M. 9/05/91	12:00 Noon 9/06/91	<p><b>Opening</b> for 102 hours 12:00 Noon 9/06 - 6:00 P.M. 9/10</p> <ul style="list-style-type: none"> <li>- Sturgeon Section</li> <li>- Inner and Outer Karluk Sections</li> </ul>
60	2:00 P.M. 9/09/91	6:00 P.M. 9/10/91	<p><b>Extension</b> until further notice</p> <ul style="list-style-type: none"> <li>- Sturgeon Section</li> <li>- Inner and Outer Karluk Sections</li> <li>- Shuyak Island Section</li> <li>- Mainland District <b>except</b> for the Dakavak Bay and Inner and Outer Kukak Sections</li> </ul>
		12:00 Noon 9/11/91	<p><b>Opening</b> for 78 hours 12:00 Noon 9/11 - 6:00 P.M. 9/14</p> <ul style="list-style-type: none"> <li>- Northwest Afognak, Perenosa Bay and Northeast Afognak Sections</li> <li>- Northeast Kodiak District</li> <li>- Inner Ugak Bay Section</li> <li>- Outer Ugak Bay Section north of the latitude of Gull Point</li> <li>- Outer Upper Station Section</li> <li>- Outer Akalura Section</li> <li>- Inner and Outer Ayakulik Sections</li> <li>- Dakavak Bay Section</li> </ul>
61	12:00 Noon 9/13/91	6:00 P.M. 9/14/91	<p><b>Extension</b> until further notice 6:00 P.M. 9/14</p> <ul style="list-style-type: none"> <li>- Northwest Afognak, Perenosa Bay and Northeast Afognak Sections</li> <li>- Northeast Kodiak District</li> </ul>

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E.O. No.	Time/Date		Action Taken
	Issued	Effective	
61 (cont.)			<ul style="list-style-type: none"> <li>- Inner Ugak Section</li> <li>- Outer Ugak Bay Section north of the latitude of Gull Point</li> <li>- Outer Upper Station Section</li> <li>- Outer Akalura Section</li> <li>- Inner and Outer Ayakulik Sections</li> <li>- Dakavak Bay Section</li> </ul>
		12:00 Noon 9/16/91	<p><b>Opening</b> until further notice 12:00 Noon 9/16</p> <ul style="list-style-type: none"> <li>- Remainder of the Eastside Kodiak District</li> <li>- <b>Marker reduction</b> at Settler Cove (Port Lions) to the "causeway"</li> </ul>

Appendix E.1. Salmon escapement survey data, Kodiak Management Area, 1991.

Stream	Date MM-DD	Observer	Visibility			Fish in Stream				Build Up Fish		Observer Remarks	
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum	Mouth	Bay		
Selief	251-101	7-26	Brennan	p	p	p	0	0	0	0	-	-	1755 hrs. Poor survey, bad light.
Malina River	251-105	7-20	Prokopowich	g			500	0	0	0	400R	-	Reds in mouth are in the lagoon. Very few fish seen in lake.
	251-105	7-26	Brennan	f	f	p	1800	0	80	0	500R 100P	-	1745 hrs. Stream reds in lake. Most (1,600) at upper end of second lake, remainder (200) between lakes. Difficult to see in stream.
	251-105	8-15	Weimer	g			2000	0	0	0	-	-	Foot survey. Sockeye in creeks. Plus 20 carcasses. No spawning activity - mostly males.
	251-105	8-17	Weimer	g	g		300	0	0	0	50R	-	Foot survey - only looked at lower 1/2 mile of creek.
	251-105	8-30	Brennan	g	g	f	0	0	32500	500	-	-	1230 hrs.
	251-105	9- 4	Weimer	g	g		2350	0	0	0	1500R	-	Aerial survey with Jack Lechner. 500 sockeye in first section of creek. Lakeshore 500 to 700 sockeye in north shoals of upper lake with 25 to 50 scattered on other shoal areas; 500 sockeye between the lakes; 500 to 600 sockeye in shoal areas of lower lake; undetermined number of sockeye in area below lower lake; 1,000 to 1,500 sockeye off the outlet of the lower river and in the initial stretch of the lower river.
	251-105	10- 8	Weimer	f			0	0	0	0	-	-	Aerial survey with Jack Lechner. Lower Malina Lake 400 scattered, one large group of 200 on north shore and the rest were scattered clusters of 50, 20, 10. No fish were visible in the creeks adjoining the lakes or in the creek leading to salt. The lower pools of the creeks, directly above the salt, was clouded and had zero visibility. During the past survey there were 2-3,000 fish in this pool - no telling how many were entering the system now. Upper Malina Lake 100 scattered on the southeast shore in clusters of 10's and singles. Saw no fish in the mouth of the creek. Little sign of carcasses.
Malina Bay	251-202	7-26	Brennan		p	p	0	0	0	0	-	-	1730 hrs. No stream survey. Poor light.
Long Lagoon	251-301	7-26	Brennan	g	g	g	0	0	0	0	200P	-	1720 hrs. No show out front; only a few in lagoon.
Thorsheim Creek	251-302	8- 2	Prokopowich	g	g	g	0	0	0	0	200R 1500P	-	Bay survey only.
South Arm Creek	251-403	7-26	Brennan	g	g	f	0	0	0	0	500P	-	1710 hrs. Only surveyed 1/2 mile of stream. No build-up in bay.
	251-403	8-30	Brennan	g	g	g	0	0	9400	0	-	-	1210 hrs. Good distribution.

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Stream	Date MM-DD	Observer	Visibility			-----Fish in Stream-----				Build Up Fish		Observer Remarks
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum	Mouth	Bay	
East Arm Creek												
251-404	7-26	Brennan	f	g	g	0	0	1200	0	1000P	-	1700 hrs. No show out front (Surprising!) - 1205 hrs.
251-404	8- 2	Prokopowich	g	g	g	0	0	200	0	15000P	1500P	
251-404	8-30	Brennan	g	g	f	0	0	13600	0	-	-	
SE Redfox Creek												
251-505	8- 6	Prokopowich	g	g	g	0	0	0	0	500P	-	Didn't survey creek.
Big Bay Creek												
251-601	9-13	Weir Count	e			2	2823	718	0	-	-	Final weir counts from Alaska State Parks crew on Shuyak. No estimate of fish remaining in lagoon or bay. Weir not in early enough to get count of redds. Weir in operation 8/14 through 9/13.
Big Waterfall												
251-821	8- 6	Prokopowich	g	g	g	0	0	0	0	4800P	-	Fish built up off mouth.
Little Waterfall												
251-822	8- 6	Prokopowich	g	g	g	0	0	0	0	15000P	-	Didn't survey creek. Scattered schools between Little and Big Waterfall. 1150 hrs. Surveyed below weir only. Final weir count from FRED crew at first fishpass. Mouth count is an estimate of fish remaining below the weir in the creek or in bay. Weir in operation from 7/18 through 9/9.
251-822	8-30	Brennan	g	g	g	0	0	29000	0	-	-	
251-822	9- 9	Weir Count	e	f		151	29	99136	12	15864P	-	
Portage Creek												
251-825	6-12	Honnold	g			150	0	0	0	-	-	Foot survey. Sockeye in pool below fishpass. Final weir count. Mouth count is estimate by crew of fish remain behind weir. Weir pulled early due to lack of funding so no count of pinks or coho. Weir in operation 6/18 through 7/17.
251-825	7-17	Weir Count	e	f		3466	0	0	0	2000R	-	
251-825	7-26	Brennan	f	f		0	0	0	0	-	-	1650 hrs. Quick fly by - no show in lower stream or right out front.
251-825	8-6	Prokopowich	g	g	g	0	0	3000	0	-	-	Only few scattered schools of pinks in bay. Most fish in lower river.
251-825	8-21	Honnold	g			1259	350	0	0	-	-	Foot survey of west creek tributary. 1,059 sockeye in creek; no carcasses or obvious spawning activity. 200 sockeye in Portage Lake off of creek terminus. Approximately 350 coho near outlet of third lake.
251-825	8-21	Honnold	g			200	0	0	0	-	-	Aerial survey of east creek tributary. 200 sockeye in first straight section of creek. Undetermined number of jumpers in Portage Lake off creek terminus.
251-825	8-30	Brennan	g	g	f	600	150	11500	0	250Co 25000P	-	1120 hrs. Reds at upper tributary of lake.
251-825	9-5	Honnold.	g			592	0	0	0	-	-	Foot survey of east creek tributary. Plus 200 sockeye carcasses.
Discovery Bay Creek												
251-826	8-30	Brennan	g	g	f	0	0	200	0	-	-	1130 hrs.
Bean Creek												
251-827	8-30	Brennan	g	g	f	0	200	300	0	-	-	1130 hrs.

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Appendix E.1. (Page 3 of 29)

Stream	Date MM-DD	Observer	Visibility			-----Fish in Stream-----				Build Up Fish		Observer Remarks	
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum	Mouth	Bay		
Paul's Bay	251-831	7-17	Weir Count	e	f		2731	0	1	2	500R	-	Final weir counts. Mouth count is estimate by crew of fish remaining in bay. Weir cut early due to lack of funding. Weir in operation 6/5 through 7/17. Foot survey of system tributaries: Laura Creek: 150 sockeye in area from Laura Lake outlet to fishpass; 50 sockeye in pool below first falls. Gretchen Creek: 25 sockeye in pool below fishpass; none in immediate vicinity above the fishpass to inlet to Laura Lake.
	251-831	8- 1	Honnold	g			225	0	0	0	-	-	
	251-831	8-27	Honnold	g			856	580	0	0	-	-	
	251-831	8-30	Brennan	g	g	f	0	0	0	0	2500Co	-	Foot survey of system tributaries. Laura Creek: 100 coho immediately below fishpass; 30 coho in resting pool; 50 coho immediately above fishpass; 50 to 75 coho in creek from fishpass to Laura Lake; several schools of 25 to 50 coho in the lake outlet area for an estimate of 175 to 200. Water temperature in lake 14.0C and Laura creek 13.5C. Gretchen Creek: Gretchen Lake to fishpass 566 live sockeye, 431 dead sockeye, fishpass to Laura Lake 290 live sockeye, 409 dead sockeye. 75 coho in first 100 yards of creek from Laura Lake. 1135 hrs. Pool survey outside....lots of jumpers.
Seal Creek	251-901	8-30	Brennan	g	g	f	0	0	8800	0	6500P	50Co	
Rocky Bay Creek	251-903	8-30	Brennan	g	g	f	0	0	100	0	-	-	1140 hrs.
Grassy Lagoon Creek	252-302	7-26	Brennan	f	f	f	0	0	0	0	-	-	1640 hrs.
Unnamed	252-303	7-26	Brennan	f	f	f	0	0	0	0	-	-	1640 hrs.
Unnamed	252-305	7-26	Brennan	f	f	f	0	0	0	0	-	-	1640 hrs.
Saposa Bay	252-306	7-26	Brennan	f	f	f	0	0	0	0	-	-	1640 hrs.
	252-306	8- 6	Prokopowich	g	g	g	0	0	2000	0	400P	-	Fish in lower creek near mouth.
Ruth Bay	252-307	7-26	Brennan	f	f	f	0	0	0	0	-	-	1640 hrs. No show at all.
Barrier Creek	252-308	7-26	Brennan	f	f	f	0	0	0	0	-	-	1640 hrs.
Left Hand Bay	252-309	7-26	Brennan	f	f	f	0	0	0	0	-	-	1640 hrs.
Little Kitol	252-323	7-26	Brennan		f	f	0	0	0	0	1000P	-	1635 hrs. Just a few small dabs.

Continued

Appendix E.1. (Page 4 of 29)

Stream	Date MM-DD	Observer	Visibility		-----Fish in Stream-----				Build Up Fish		Observer Remarks	
			Str	Mou Bay	Sockeye	Coho	Pink	Chum	Mouth	Bay		
Big Kitoi 252-324	7-26	Brennan	f	f	0	0	39000	0	-	3000P	1635 hrs. Lots of fish at brood net. Only a few schools seen outside.	
N.E. Danger Creek 252-331	8- 2	Prokopowich	g	g	g	0	0	200	0	-	Surveyed lower end only.	
252-331	8-30	Brennan	g	g	f	0	0	1800	0	-	1100 hrs. Plus 500 carcasses. No sign of silvers outside but quick look at bay.	
Big Danger 252-332	7-26	Brennan	g	f	f	0	0	0	0	-	500P	1625 hrs. Deadsville; only a few balls of fish on outside beaches.
252-332	8- 2	Prokopowich	g	g	g	0	0	8000	600	-	25000P	Excellent show for this time.
252-332	8-30	Brennan	g	g	f	0	2	8380	0	-	-	1110 hrs. Plus 3,420 carcasses.
East Danger Creek 252-333	8- 2	Prokopowich	g	g	g	0	0	0	0	200P	-	-
252-333	8-30	Brennan	g	g	f	0	0	0	0	-	-	1100 hrs. 400 carcasses at mouth.
N.W. Danger Creek 252-335	8- 2	Prokopowich	g	g	g	0	0	0	0	300P	-	-
Afognak River 252-342	8- 7	Honnold	g			4240	0	0	0	-	-	Foot survey in Eggtake Creek. Plus 700 dead sockeye.
252-342	8- 8	Honnold	g			6244	0	0	0	-	-	Foot survey of Hatchery Creek. Plus 1,225 dead sockeye.
252-342	9- 8	Weir Count	e	f		88557	11409	11485	0	3000Co 2500P	-	Final weir counts. Mouth counts are estimates by crew of fish below the weir. Weir in operation 5/24 through 9/8.
Marka Bay 252-343	7-26	Brennan		f	p	0	0	0	0	-	-	1615 hrs. No stream survey. Quick fly by - nothing showing, bay turbid.
252-343	8-23	Brennan	f	f	p	0	0	14500	1400	-	-	1335 hrs. Too much turbulence to continue.
252-343	8-30	Brennan	g	g	f	0	300	13650	0	400Co	-	1045 hrs. Plus 5,850 morts. Over 7,500 in lower river below pre-emergent sites.
Little River 253-115	6-11	Brennan				0	0	0	0	-	-	1600 hrs. No stream survey. No fish seen at mouth or in lagoon.
253-115	7-30	Hander	g			13605	0	10600	0	-	-	1400 hrs. Low tide. Mouth of river to lake survey, pinks in lower half of river, reds observed in lake and in lake tributaries. Approximately 105 reds in SE fork of river. Moderate stream flows.
253-115	8-15	Welmer	g			4310	0	0	0	-	-	Stream #1: 50 to 100 sockeye off the mouth. Stream #2: 200 sockeye in the stream; 200 to 300 sockeye off the mouth. Stream #3: 50 to 100 fish in the stream; 200 to 300 sockeye off the mouth. Lakeshore: 3,000+ sockeye distributed near stream mouths.
253-115	8-20	Brennan	g	g	p	0	0	14000	0	4000P	2000P	1530 hrs.
253-115	8-23	Zweilhoffer	f			24960	0	0	0	-	-	1203 hrs. Surveyed lake, tributaries and outlet only. Mostly beach spawning.

Continued

Appendix E.1. (Page 5 of 29)

Stream	Date MM-DD	Observer	Visibility			Fish in Stream				Build Up Fish		Observer Remarks	
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum	Mouth	Bay		
Little River	253-115	8-30	Weimer	g			4198	0	0	0	-	-	Foot survey. Stream #1: 193 live sockeye; 465 dead sockeye. Stream #2: 201 live sockeye; 519 dead sockeye. Stream #3: 4 live sockeye; 49 dead sockeye. Lakeshore: 2,300 sockeye spawning near stream mouths; 1,000 to 1,500 sockeye distributed in other shoal areas.
Uganik Bay	253-12	8- 2	Prokopowich	f	f	f	0	0	0	0	-	400P	Bay survey only. Still looks weak.
S. Arm Uganik	253-121	7-12	Prokopowich	f			0	0	0	100	-	-	Surveyed lower end of creek.
	253-121	7-18	Brennan	f	f	f	0	0	0	0	-	-	1020 hrs. No stream survey. No show outside.
	253-121	7-29	Hander	f			0	0	0	2000	-	-	1405 hrs. Incoming tide. Surveyed approximately 5 miles of stream. Most fish in upper 2 miles, few jumpers in lagoon. Stream flow moderate.
	253-121	8- 6	Prokopowich	g	g	g	0	0	0	800	-	-	Portions of creek dry.
	253-121	8-12	Brennan	p	p	p	0	0	0	0	-	-	1400 hrs. Poor visibility - Observed no fish.
	253-121	8-21	Brennan	f	f	f	0	0	75	25	700P	-	1250 hrs. Pretty thin.
	253-121	8-23	Zweilhoffer	f			0	0	20	1000	-	400Ch	1110 hrs. Low tide. Spawning nearly over in upper stream, quick look at inner bay.
Uganik River	253-122	6-11	Brennan	g	f	f	0	0	0	0	1200R	-	1515 hrs. No survey above weir. All reds 1/4 mile below weir.
	253-122	7-12	Prokopowich	g			300	0	200	0	-	400P	Survey below weir. Nothing seen along Packer's Spit.
	253-122	7-18	Brennan	f	f	f	0	0	0	0	600P	-	1015 hrs. Surveyed only to weir. Light show on flats.
	253-122	7-20	Prokopowich	g	g	g	2000	0	0	0	-	3000P	Fish below weir.
	253-122	7-25	Prokopowich	g	g	g	0	0	5700	300	-	6500P	Survey below weir. 500 Dolly Varden. Pinks in bay along northeast side from waterfall to Packer's Spit.
	253-122	7-29	Hander	f	f		29100	0	1000	500	20000P	-	1305 hrs. Instream flow low. Surveyed entire drainage 18+ miles and lakeshore. Below weir estimate 30,000 mixed pink/dolly varden, 1,500 chum. No attempt to split dollies and pinks.
	253-122	8- 6	Prokopowich	g	g	g	0	0	25000	0	-	25000P	Stream survey below weir. 20,000 of bay fish inside spit. Scattered schools of chums in bay.
	253-122	8-12	Brennan	f	f	p	0	0	44000	3000	200Ch	50000P	1330 hrs. Count of fish below weir. Not many chums in sloughs. Bay fish rough estimate. Fish out by Packer's Spit.
	253-122	8-17	Prokopowich	g	g	g	0	0	43000	0	-	73000P	Stream fish below weir. Looks better. 65,000 of the bay fish inside spit along north side.
	253-122	8-21	Brennan	f	f		0	0	60000	6000	20000P	-	1240 hrs. Count only below weir. Lots of fish in balls on outside. Unable to estimate.
	253-122	8-30	Prokopowich	e	e	e	0	500	95000	10000	8000P	-	Survey below weir. Mouth fish in bay along north side.

Continued

Appendix E.1. (Page 6 of 29)

Stream	Date MM-DD	Observer	Visibility			-----Fish in Stream-----				Build Up Fish		Observer Remarks
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum	Mouth	Bay	
Uganik River 253-122	10- 7	Weir Count	e			89305	11704	185414	11823	-	-	Final weir count from USFWS crew at Uganik. No estimate of fish remaining below weir in river, in sloughs, or on flats. Red count includes estimate of 10,000 for 11 day period weir was out in June. Weir in operation from 5/19 through 10/7.
Viekoda Creek 253-321	8- 2	Brennan	g	g	g	0	0	200	0	1500P	-	1600 hrs. Nothing visible outside.
Terror River 253-331	7-12	Prokopowich	g			0	0	2000	500	-	4000P	Fish in lower end of stream.
253-331	7-18	Brennan	f	f	f	0	0	5300	200	-	-	1000 hrs. Surveyed only one mile of creek. No show outside.
253-331	7-29	Hander	f	p		0	0	7600	1150	6000Ch	-	1238 hrs. Low tide, surveyed from falls downstream approximately 4 miles. Lots of jumpers in flats. Water in bay choppy, lots of glare. Low water condition in stream.
253-331	8- 2	Brennan	g	f	f	0	0	8500	1500	5000P 1500Ch	35000P 2000Ch	1535 hrs. Most fish right at mouth on flats or in lower river. More chums possibly mixed with pinks below.
253-331	8-12	Brennan	g	p	p	0	0	15800	500	3000Ch	-	1430 hrs. Poor light conditions. Most fish in lower reaches. Two balls of chums on flats.
253-331	8-20	Brennan	g	g	f	0	0	29000	1850	10000P	14000P	1600 hrs. Bay count rough. Some chums mixed in. Most chums in sloughs. Plus 5,000 carcasses.
253-331	8-21	Brennan	f	f	f	0	0	42000	2000	8000P 800Ch	10000P	1220 hrs. Plus 4,500 carcasses.
253-331	8-24	Blackett	g	g	g	0	0	79800	2200	-	-	No large schools seen in bay. Best distribution and dispersement of salmon in the river that I have seen. Estimate carcasses at about 15% of the live salmon count (12,000 to 13,000 carcasses).
253-331	10- 2	Blackett	g	f	p	0	0	300	150	-	-	Visibility good to poor.
Baumann's 253-332	7-18	Brennan	f	f	f	0	0	700	0	-	-	0950 hrs.
253-332	8- 2	Brennan	f	g	f	0	0	700	0	500P	-	1550 hrs. Looks pretty dry.
253-332	8-12	Brennan	p	f	f	0	0	4000	0	1000P	-	1440 hrs. Poor look.
253-332	8-20	Brennan	f	g	f	0	0	9000	0	5000P	-	1545 hrs.
253-332	8-21	Brennan	f	f	f	0	0	10500	0	-	-	1210 hrs. Plus 1,700 carcasses. Deadsville outside.
Uyak Bay 254-20	6-11	Brennan		f	f	0	0	0	0	-	-	1545 hrs. No salmon sighted. Lots of herring still present in bay. No stream survey.
254-20	7-18	Brennan			g	0	0	0	0	-	89500P	1050 hrs. Lots of fish in bay. 1,300 inside Amook; 61K at Nelly's Cove, 20K offshore Nelly's Cove, 7K along northside shore, 1.5K on southside shore.
Uyak 201 Creek 254-201	8-20	Brennan	g	g	f	0	0	600	0	-	-	1445 hrs.
Uyak River 254-202	7-12	Prokopowich				0	0	0	0	-	17500P	Survey from Nellie's Cove to head of bay. Fish also schooled off of all small tributaries.

Continued

Appendix E.1. (Page 7 of 29)

Stream	Date MM-DD	Observer	Visibility			Fish in Stream				Build Up Fish		Observer Remarks
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum	Mouth	Bay	
Uyak River												
254-202	7-18	Brennan	g	g	g	0	0	7000	0	11300P	-	1110 hrs. Quick look at lower 1 mile of creek. Unknown % may be chums (> 15%). Nothing showing in bay out front; most fish way out in 254-20.
254-202	7-22	Hander	g	f		0	0	950	50	-	-	1635 hrs. Surveyed approximately 4 miles of mainstem. Lagoon and flats visibility fair, water choppy, saw few jumpers. (Tide outgoing mid tide) Water low - windy.
254-202	7-26	Prokopowich	e	e	e	0	0	16000	0	40000P	75000P	Additional 21,000 pinks off of stream #203 on flats.
254-202	8- 6	Prokopowich	e	e	e	0	0	35000	0	160000P	-	Looks excellent. Fish off mouth scattered over flats.
254-202	8- 7	Gretsch	g	g	g	0	0	33000	0	10000P	55000P	Good water flow, majority fish in lower river.
254-202	8- 7	Hander	g		g	0	0	60000	4000	16000P 64000Ch	-	1652 hrs. Mid tide, moderate water flow, pinks and chums scattered through survey area. Approximately 5 miles surveyed.
254-202	8-20	Brennan	g	g	f	0	0	57000	27000	38000P 5000Ch	15000P	1450 hrs.
254-202	8-21	Brennan	g	g	f	0	0	79000	2100	22000P	137000P 7000Ch	1420 hrs. Plus 5,000 carcasses.
254-202	8-29	Hander	g		g	0	0	90000	60000	-	-	1435 hrs. Low tide. Surveyed entire drainage, fish scattered throughout drainage. Stream flow moderate.
254-202	10- 7	Hander				0	4410	0	0	-	-	1615 hrs. High tide, surveyed entire drainage. Coho scattered throughout whole river. Good stream flow.
254-202	10-22	Hander	g			0	1000	0	0	-	-	1346 hrs. High tide. Surveyed entire drainage, fish scattered throughout drainage. Good stream flow.
East Uyak Creek												
254-203	7-12	Prokopowich	g			0	0	5000	0	-	-	Fish in lower end of river . See 253-202 for fish build-ups in the bay.
254-203	7-18	Brennan	g	g	g	0	0	2700	0	-	-	1100 hrs. Nothing showing on flats out front. Most fish outside in 254-20.
254-203	7-22	Hander	g	g	g	0	0	4000	0	-	10000P 10000Ch	1625 hrs. Surveyed approximately 1 mile of creek. Windy. Fish all over flats. 20,000+ (50/50 pinks and chum). Many jumpers. (Mid-tide outgoing). Water low.
254-203	8- 6	Prokopowich	e	e	e	0	0	113000	0	40000P	-	Very good distribution. Fish from mouth to upper reaches.
254-203	8- 7	Hander	g		g	0	0	61300	5200	30000P 35000Ch	-	1705 hrs. Mid tide, moderate to low water flow, surveyed approximately 3 miles up from mouth.
254-203	8- 7	Gretsch	f	f	f	0	0	17000	0	10000P	-	Good water flow, surveyed upstream approximately 1.5 miles.
254-203	8-20	Brennan	g	g	f	0	0	24000	0	2000P	-	1440 hrs.
254-203	8-21	Brennan	g	g	f	0	0	15500	900	13000P 2000Ch	-	1410 hrs. Plus 5,000 carcasses.
254-203	8-29	Hander	g		f	0	0	30750	10250	8000Ch	-	1448 hrs. Low tide. Surveyed entire drainage, stream flow moderate. Fish scattered throughout drainage.
254-203	10- 7	Hander				0	150	0	0	-	-	1605 hrs. High tide, surveyed entire drainage. Coho were in upper river, good stream flow.

Continued

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Appendix E.1. (Page 8 of 29)

Stream	Date MM-DD	Observer	Visibility			-----Fish in Stream-----				Build Up Fish		Observer Remarks
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum	Mouth	Bay	
Browns Lagoon												
254-204	7-18	Brennan		f	f	0	0	0	0	-	-	1040 hrs. No stream survey. Nothing outside. Poor visibility in lagoon, jumpers outside lagoon opening, no schools observed. 1510 hrs.
254-204	8- 7	Gretsch	g	p	p	0	0	2300	0	-	-	
254-204	8-20	Brennan	f	f	f	0	0	13000	0	-	-	
Islands Creek												
254-205	8- 7	Gretsch	e	e	e	0	0	0	0	750P	-	Fish scattered throughout the cove. 1450 hrs.
254-205	8-20	Brennan	g	g	f	0	0	500	0	-	-	
Short Creek												
254-206	8-20	Brennan	g	g	f	0	0	750	0	-	-	1455 hrs.
Long Creek												
254-207	8- 7	Gretsch	e	e	e	0	0	0	0	500P	-	1350 hrs. 1455 hrs.
254-207	8-20	Brennan	g	g	f	0	0	700	0	500P	-	
Cabin Creek												
254-208	8-20	Brennan	g	g	f	0	0	1500	0	-	-	1445 hrs.
Zachar River												
254-301	7-12	Prokopowich	g			0	0	800	0	-	-	Fish in lower end. No show in bay. 1030 hrs. Poor visibility. Chums upriver, pinks in lower stretch. "Mouth" fish on flats. Surveyed lower end of creek. Good show in bay. Majority of fish on south side at head of bay. 1540 hrs. High tide, instream flow low, surveyed approximately 19 miles. Most chums in upper 14 miles, pinks in lower river. No jumpers observed in flats. Poor visibility in bay, but very good show of jumpers. Surveyed approximately 5 miles upstream, running out of fish at that point. Looks very good. 1230 hrs. Surveyed entire drainage. Quick look at inner bay. Most pinks in lower 4 miles of river. 1205 hrs. Mid high tide, good stream flow. Surveyed entire drainage, coho scattered throughout entire river. 1128 hrs. Mid outgoing tide. Surveyed entire drain, stream flow good, coho scattered throughout drainage.
254-301	7-18	Brennan	p	p	p	0	0	2500	3000	5000P 2000Ch	-	
254-301	7-26	Prokopowich	e	e	e	0	0	15000	0	-	41500P 32500Ch	
254-301	7-29	Hander	g			0	0	8300	2970	-	-	
254-301	8- 2	Prokopowich	g	g	g	0	0	32500	11400	-	-	
254-301	8-7	Gretsch	g	g	g	0	0	30500	1500	3000P	6000P	
254-301	8-22	Prokopowich	g	g	g	0	0	80000	8000	31000P	-	
254-301	8-23	Zweillhoffer	f			0	0	92900	820	-	3000Ch	
254-301	10-7	Hander	g		g	0	7110	0	0	-	-	
254-301	10-22	Hander	g	g	g	0	3775	0	0	-	-	
N.E. Zachar Creek												
254-302	7-29	Hander		f		0	0	0	0	200Ch	-	1538 hrs. Looked at mouth only - high tide.
Spiridon River												
254-401	6-11	Brennan	p	p	p	0	0	0	0	-	-	1530 hrs. Too turbid to see fish. No stream survey. 1515 hrs. No stream survey. Red tides, very poor visibility. No survey - too murky.
254-401	6-21	Brennan		p	p	0	0	0	0	-	-	
254-401	7-12	Prokopowich	p			0	0	0	0	-	-	

Continued

Appendix E.1. (Page 9 of 29)

Stream	Date MM-DD	Observer	Visibility			Fish in Stream				Build Up Fish		Observer Remarks
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum	Mouth	Bay	
Spiridon River	254-401 7-29	Hander	p	g		100	0	0	2450	-	-	1505 hrs. Incoming tide. Stream flow low. Mainstem turbid visibility, but side channels visibility good. No jumpers off mouth. Most chums 5-7 miles up from mouth.
254-401	8-6	Prokopowich	g	g	g	0	0	2000	3000	-	84000P 36000Ch	Lots excellent at head of bay. Pinks mostly schooling in Weasel Cove. Chums along west side next to Weasel Cove.
254-401	8-7	Gretsch	f	f	f	0	0	0	0	-	12000P 500Ch	Pink and chum present from Eastside Weasel Cove to offshore stream terminus.
254-401	8-23	Zweilhoffer	f			100	0	400	22100	-	-	1119 hrs. Surveyed entire drainage, instream visibility water cloudy but rated as fair. Most fish actively spawning.
254-401	10-7	Hander	g		f	0	8975	0	0	-	-	1130 hrs. Mid high tide, surveyed entire drainage. Coho scattered in upper 8 - 10 miles of river, stream flow good.
254-401	10-22	Hander	g			0	5325	0	0	-	-	1150 hrs. Mid outgoing tide, surveyed approximately 1 mile past upper forks to approximately 2 miles above mouth. Fish scattered through upper 8-10 miles. Good stream flow.
Telrod Cove	254-403 6-21	Brennan		f	f	0	0	0	0	5800R	31000R	1630 hrs. No stream survey. Estimates of fish on flats. 2,500 in east fork, 3,300 in west. Deep holes on edge of flats full of fish (6K, 3K, and 1.5K). Remainder rough estimate of fish offshore.
Karkuk Lagoon	255-10 8-2	Prokopowich	p	p	p	0	0	0	0	-	-	No estimate of fish. Poor visibility however fairly good show of jumpers outside lagoon.
Karluk River	255-101 6-11	Brennan		f	f	0	0	0	0	-	-	1630 hrs. 700 king salmon in mouth. No stream survey. Very turbulent. No traveling fish seen from Waterfall to Tanglefoot. School of kings at mouth.
255-101	6-21	Brennan		p	p	0	0	0	0	13500R	500R	1545 hrs. No stream survey. 10,000-20,000 in eel grass by village. 1,500 on flats and unknown quantity in holes. Turbulent, so quick look.
255-101	8-21	Brennan				47000	0	0	0	-	-	1320 hrs. Fish in lagoon; it's very likely that more are deep in kelp beds in front of village (Nicholson estimate 100 - 150K). Jumpers at mouth.
255-101	8-22	Prokopowich	g	g	g	45000	0	0	0	-	-	Poor visibility off mouth. Estimate 30,000 reds by barrel, 15,000 reds by Indian Point.
255-101	8-30	Prokopowich	e	e	e	110000	0	0	0	60000R	-	Scattered jumpers north to waterfall.
255-101	9-23	Weir Count	e	f		1075086	21331	116329	140	59000R 6000Co	-	Final weir counts. Mouth counts are estimates by weir crew of fish moving up river after weir washed out. Plus weir count of 14,022 king salmon. Weir in operation from 5/26 through 9/23.
255-101	10-21	Hander	g			0	34900	0	0	-	-	1400 hrs, high tide. Surveyed from approximately 1 mile below Portage to Lake outlet. Good stream flow. CAVU W10.

Continued

Appendix E.1. (Page 10 of 29)

Stream	Date MM-DD	Observer	Visibility			Fish in Stream				Build Up Fish		Observer Remarks
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum	Mouth	Bay	
Red River	256-201 8-14	Weir Count	e	f		372359	314	13053	25	2500R 100Co 3000P	-	Final weir ciunts. Mouth counts are estimates by crew of fish remaining in the lagoon. Plus weir count of 12,988 king salmon. Weir puled early so poor coho count. Weir in operation 5/25 through 8/14.
256-201	8-22	Prokopowich	g	g	g	0	500	0	0	-	-	Coho in lagoon,. No boats in area.
256-201	10- 7	Hander	f			0	35570	0	0	-	-	1340 hrs. High tide, good to high stream flow. Surveyed areas where visibility was good enough to obtain counts, but flew the whole river system from moutrh to upper east fork.
256-201	10-21	Hander	g			0	42680	0	0	-	-	1223 hrs. high tide. Surveyed mouth to upper E. fork Red Lake River and Bare Lake Creek. Approximately 10,000 coho in east fork. Good stream flow. CAVE W10.
Sturgeon River	256-401 7-20	Prokopowich	g	f	f	0	0	0	47500	-	-	Of which 25,000 chums were in mud to upper lagoon. Lots of bear activity in upper reaches.
256-401	7-22	Hander	g	g	g	0	0	100	10170	5000Ch	-	1320 hrs. Surveyed entire drainage. 5,000+ chum observed in lagoon in addition to fish in stream. (Tide outgoing).
256-401	7-30	Hander	g			0	0	200	17600	-	-	1457 hrs. Low tide. Surveyed approximately 19 miles from mouth including the south fork. Chums scattered through entire length, pinks approximately 1/2 mile up from mouth. Moderate stream flow.
256-401	8-29	Hander	g		p	0	0	130	50	2000P 500Ch	-	1640 hrs. Low tide. Surveyed entire dranlage, stream flow moderate. Dolly varden scattered throughout lower 8 miles of river.
256-401	10- 7	Hander	g		g	0	17650	0	0	-	-	1238 hrs. Mid high tide. Good stream flow, surveyed entire drainage. Coho scattered throughout drainage but larger concentration in middle portion of river.
256-401	10-22	Hander	g	g	g	0	5325	0	0	-	-	1533 hrs. High tide. Surveyed entire drainage. Fish scattered through entire survey area. Good stream flow.
East Sturgeon River	256-402 7-22	Hander	g	g	g	0	0	0	2860	50Ch	-	1346 hrs. Surveyed mainstem, only 50 chum in lagoon in addition to fish in stream. (Tide outgoing).
256-402	7-30	Hander	g			0	0	0	4100	-	-	1531 hrs. Low tide. Begar survey approximately 3 miles up from mouth and total distance surveyed approximately 5 miles. Chums scattered through survey area. Moderate stream flow.
256-402	8-29	Hander	g		p	0	0	0	0	1000P	-	1700 hrs. Low tide. Surveyed approximately middle 3 miles of the river. Moderate stream flow.
256-402	10- 7	Hander	g		g	0	1810	0	0	-	-	1305 hrs. Mid high tide, good stream flow. Surveyed upper 10 miles of drainage, coho in upper 5 - 7 miles of drainage.
Little Sukhoi	257-101 8-20	Brennan	g	p	p	0	0	0	0	-	-	1300 hrs.

Continued

Appendix E.1. (Page 11 of 29)

Stream	Date MM-DD	Observer	Visibility			-----Fish in Stream-----				Build Up Fish		Observer Remarks
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum	Mouth	Bay	
Big Sukhoi												
257-102	7-22	Hander	e	p		0	0	0	400	-	-	1434 hrs. Surveyed entire drainage. Did not survey lagoon, water choppy, visibility poor. (Tide high-outgoing).
257-102	8- 7	Hander	g			0	0	0	3000	5000Ch	-	1610 hrs. Mid tide, moderate stream flow, chums scattered through approximately six miles of survey from mouth.
257-102	8-20	Brennan	g	p	p	0	0	6000	2800	-	-	1310 hrs. Lots of fish in lagoon but too dark to accurately estimate. Rough estimate 60,000.
257-102	8-23	Zweilhoffer	g			0	0	2890	1075	-	-	1500 hrs. Surveyed entire drainage. Lagoon too dark and choppy to see fish.
257-102	10-23	Hander	g	f		0	1250	0	0	-	-	1345 hrs. High tide. Surveyed entire main stem. Coho in lower 3 miles. Good stream flow.
Akalura Creek												
257-302	6-11	Brennan		f	f	0	0	0	0	400R	-	1715 hrs. No stream survey. Reds in lagoon.
257-302	8-20	Brennan	g	f	f	1400	0	0	0	-	-	1405 hrs. Surveyed only below weir.
257-302	9-15	Weir Count	e	f		43939	6922	7402	0	250R 750Co	-	Final weir count. Mouth counts are estimates by crew of fish remaining below weir. Weir in operation 5/6 through 9/15.
Silver Salmon Creek												
257-303	6-11	Brennan	f	f	f	0	0	0	0	-	-	1710 hrs. No fish in lagoon or lake.
257-303	6-21	Brennan		f	f	0	0	0	0	-	6000R	1715 hrs. No stream survey. Two balls of reds on beach...one (4000) may be Upper Station bound.
257-303	7-22	Hander	g	g	g	120	0	0	0	-	-	1420 hrs. Surveyed entire drainage. 20 reds in lake, 100 reds in lagoon. No fish off mouth. (Tide mid-outgoing).
257-303	8-7	Hander	g			4000	0	0	0	500R	-	1555 hrs. Mid tide, 1,000 reds in stream above lake and 3,000 at stream mouth in lake. Low water levels.
257-303	8-20	Brennan	f	f	f	0	0	0	0	-	-	1340 hrs. Choppy in lake. Nothing visible.
257-303	8-23	Zweilhoffer	g			600	0	0	0	30Co	-	1439 hrs. Surveyed entire drainage. Spawning looks almost over.
257-303	10-7	Hander	g			0	1710	0	0	-	-	1325 hrs. High tide. Good stream flow, surveyed lagoon, lake and stream above lake, most coho still in lagoon.
Upper Station												
257-304	6-21	Brennan		g	g	0	0	0	0	8500R	2000R	1700 hrs. No stream survey. Estimate of lagoon fish.
257-304	7-26	Prokopowich	g	g	g	3500	0	0	0	-	-	Surveyed lagoon only. Nothing seen off mouth, blowing westerly 20-25 kts.
257-304	8-20	Brennan		g	f	0	0	0	0	14000R	5000R	1325 hrs. Quick look at build-up in lagoon. Bay fish to west of creek mouth.
257-304	8-22	Prokopowich	g	g	g	4500	0	0	0	15000R	-	Stream fish in lagoon. Good show of reds west of stream mouth.
257-304	9-8	Weir Count	e	f		291386	3250	763	0	1500R 1000Co	-	Final weir count. Mouth counts are estimate by weir crew of fish remaining in the river. Plus weir count of 1 king salmon. Weir in operation from 5/31 through 9/8.

Continued

Appendix E.1. (Page 12 of 29)

Stream	Date MM-DD	Observer	Visibility			Fish in Stream				Build Up Fish		Observer Remarks
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum	Mouth	Bay	
Little Dog Salmon Creek												
257-305	8-12	Kuriscak				0	0	250	30	-	-	Foot survey - Kuriscak and Tamandong. Lower portion of the creek 200 yards - river muddy, will attempt survey when water visibility increases.
257-305	8-20	Brennan	g	g	f	0	0	400	200	-	-	1410 hrs. Surveyed only 1/2 mile of creek.
257-305	8-30	Kuriscak				0	0	3000	63	-	-	Foot survey of lower 1/2 mile. 71 dead pinks in stream. Stream braids out in many spots at lower portion. Lots of brush, suspect more fish than sighted entered the system.
Narrows Creek												
257-401	7-18	Brennan	f	f	p	0	0	200	0	-	-	1135 hrs.
257-401	8-22	Kuriscak				3	0	15000	42	6500P	-	Foot survey of lower 7/8 of a mile. Narrows-Motronia Creek
Horse Marine												
257-402	7-18	Brennan	f	f	p	400	0	0	0	500R	-	1130 hrs. Quick look at fish in lake and creek. Nothing seen in lagoon or on outside beach.
257-402	7-22	Hander	g	g	g	250	0	0	0	-	-	1455 hrs. Surveyed entire drainage. No fish seen in lagoon or lower river. Low flow. (Tide mid-outgoing).
257-402	7-26	Prokopowich	g	g	g	450	0	0	0	-	-	Partial survey of lake.
257-402	7-30	Hander	g	g	g	2750	0	0	0	500R	-	1640 hrs. Low incoming tide, surveyed lagoon, stream and lake, stream flow moderate. 750 reds in lake and 2,000 in stream.
257-402	8-20	Brennan	g	f	f	3800	0	500	0	-	-	1415 hrs. Quick look at lagoon and lake.
257-402	8-23	Zweilhoffer	g	g	g	7000	0	0	0	-	300Co	1542 hrs. Surveyed entire drainage. All reds in lake except for 15-20 fish at mouth of river in lagoon.
257-402	9- 5	Kuriscak	g	g	g	8	0	247	33	15R 75Co	-	Foot survey to lake. Water level is low. Mouth counts lagoon to lower falls. Stream count lower falls to lake. Plus 31 dead pinks and 2 dead reds.
257-402	10- 7	Hander	g	g	g	0	600	0	0	-	-	1540 hrs. High tide, good stream flow. Surveyed lagoon, stream and lake. Two men in a skiff had just pulled in their net at mouth of creek at head of lagoon, saw fish in skiff.
257-402	10-23	Hander	g	g	g	100	340	0	0	-	-	1403 hrs. 100 reds in lake. High tide. Surveyed entire drain. Coho scattered through entire survey area. Good stream flow.
Dog Salmon												
257-403	7-26	Prokopowich	e	e	e	0	0	49000	0	60000P	21400R	Fish below weirs. Creek fish - west fork - 41,000, east fork - 8,000. Estimated 20% of bay fish were sockeye, rest pinks.
257-403	9-6	Weir Count	e	f	f	287763	4433	113958	3162	250R	-	Final weir counts. Mouth counts are estimate by crew of fish remaining in the river. Plus weir count of 282 king salmon. Weir in operation 6/6 through 9/6.
257-403	10-22	Hander				0	4350	0	0	725Co	-	1405 hrs., Surveyed approximately 4 miles down from falls and all of East Fork of Dog Salmon. Good stream flow. Fish scattered through survey area.
										200P	-	
										115Ch	-	

Continued

Appendix E.1. (Page 13 of 29)

Stream	Date MM-DD	Observer	Visibility			Fish in Stream				Build Up Mouth	Fish Bay	Observer Remarks
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum			
Deadman River												
257-502	7-18	Brennan	f	f	p	0	0	0	0	500P 500Ch	-	1120 hrs. Quick look at lower 2 miles of creek...Deadsville. Small show out front, poor look at bay.
257-502	7-22	Hander	e	e	e	0	0	1000	350	150P	-	1503 hrs. Surveyed approximately 4 miles up both forks. Most fish in lower 2 miles of river. Low flow in both forks. No jumpers in flats (tide mid-outgoing).
257-502	7-26	Prokopowich	e	e	e	0	0	3000	0	15000P	-	Good show of jumpers along east shore of bay.
257-502	8- 5	Hander	g			0	0	47000	16160	4000P	-	1551 hrs. Surveyed entire drainage, water level low. Chums scattered up to forks, most pinks in lower 1 mile. Low tide.
257-502	8- 6	Prokopowich	e	e	e	0	0	53800	3000	25000P	-	Looks good for this time.
257-502	8- 7	Gretsch	g	g	g	0	0	17600	1500	3000P	3000P	8,400 pink left fork, 9,200 pink right fork. Scattered jumpers throughout bay.
257-502	8-15	Brennan	g	g	g	0	0	62700	3300	-	15000P	1350 hrs. River has changed course. Out of canyon river stays on east side of valley. Good shot of fish in upper river. Plus 2,000 chum carcasses and 3,000 pink carcasses.
257-502	8-20	Brennan				0	0	45000	4000	4000P	51000P	1430 hrs. River has changed course. Most stream fish now in channel along east side of valley.
257-502	8-29	Hander	g		f	0	0	121500	52500	1400Ch	6000Ch	1413 hrs. Tide low incoming. Surveyed entire drainage. stream flow moderate. Fish scattered throughout lower river.
257-502	10- 7	Hander	g			0	1170	0	0	-	-	1547 hrs. High tide, good stream flow. Surveyed entire drainage. Most fish observed in east fork of river.
257-502	10-23	Hander	e	g		0	1375	0	0	-	-	1427 hrs. High tide. Surveyed entire drain. Coho scattered throughout survey area. Moderate stream flow.
Alpine Cove Creek												
257-503	7-18	Brennan	f	f	p	0	0	0	0	-	-	1125 hrs.
257-503	8- 5	Hander	e			0	0	4000	4000	2000P	-	1612 hrs. Surveyed entire drainage. Water level low but still adequate spawning area. Incoming tide.
257-503	8- 6	Prokopowich	g	g	g	0	0	4500	0	10000P	10000P	Bay fish between Deadman and head of Alpine Cove.
257-503	8- 7	Gretsch	e	e	e	0	0	3500	0	500P	1000P	Scattered pink jumpers throughout shoreline of Alpine Cove.
257-503	8-15	Brennan	g	g	f	0	0	8500	0	-	10000P	1340 hrs. Surveyed lower 1/2 mile. Lots of fish offshore at mouth of bay; 10,000 is very rough estimate.
257-503	8-20	Brennan				0	0	6500	0	700P	16000P	1420 hrs. Looks good. Lots of fish outside.
257-503	8-29	Hander	g		g	0	0	10000	1000	-	-	1408 hrs. Low tide. Surveyed entire drainage. Stream flow good.
257-503	10-23	Hander	e			0	20	0	0	-	-	1415 hrs. High tide. Surveyed entire drain. Coho in lower half of stream. Good stream flow.
N.E. Portage												
257-601	8- 7	Hander	g	f		0	0	300	2500	500P	-	1625 hrs. Mid tide, lower 1/4 mile of river is only part with water, the rest is completely dry. Fish scattered through 1/4 mile of stream.

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Appendix E.1. (Page 14 of 29)

Stream	Date MM-DD	Observer	Visibility			-----Fish in Stream-----				Build Up Fish		Observer Remarks
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum	Mouth	Bay	
N. E. Portage												
257-601	8-29	Hander	g	f		0	0	4500	16000	7000Ch	-	1335 hrs. Low tide. Surveyed entire drainage, stream flow low, dry area approximately 1 mile up from mouth for approximately 1/2 mile.
257-601	10-23	Hander	g			0	150	0	0	-	-	1210 hrs. Incoming tide. Surveyed entire drain, moderate stream flow. Coho in lower mile of river.
Sulua Pink Creek												
257-602	8-29	Hander	g	f		0	0	13000	0	12500P 12500Ch	-	1355 hrs. Low tide. Surveyed entire drainage, moderate stream flow.
Sulua Chum Creek												
257-603	8-6	Prokopowich	g	g	g	0	0	5200	0	10000P	-	Water low in creek.
257-603	8-7	Hander	g	g	g	0	0	10000	7000	20000P	-	1633 hrs. Mid tide, water in lower approximate 3 miles only, beaver dam (passable) approximately 1/2 mile up from mouth.
257-603	8-15	Brennan	f	f	f	0	0	1200	450	-	-	1335 hrs.
257-603	8-29	Hander	g	f	f	0	0	6750	20250	5000Ch	-	1400 hrs. Low tide, surveyed entire drainage, moderate to low stream flow.
257-603	10-11	Hander	g	g		0	2800	0	1500	-	-	1111 hrs. Low incoming tide, good stream flow. Surveyed entire drainage, chums scattered in lower 1-1/2 miles of river.
257-603	10-23	Hander	g			0	330	0	175	-	-	1217 hrs. Incoming tide. Surveyed entire drain. Chum in lower 1 mile of river. Coho scattered throughout entire survey area. Good stream flow.
Toms Creek												
257-604	7-18	Brennan	g	g	f	0	0	100	0	200P	600P	1140 hrs.
257-604	7-26	Prokopowich	e	e	e	0	0	0	0	24000P	-	Fish in scattered schools.
Humpy River												
257-701	7-18	Brennan	g	f	f	0	0	1500	0	3000P	7000P	1145 hrs. Really thin. Mouth fish in first hole. Very, very low water in creek. Bay fish along beach toward Seaborg Cove.
257-701	7-26	Prokopowich	e	e	e	0	0	10000	0	95000P	10000P	Pinks in lower river - very low water flow - good show on flats.
257-701	8-6	Prokopowich	g	g	g	0	0	4000	0	120000P	-	Bay visibility poor, glare, wind and waves. No fish above intertidal area of stream, water level is very low.
257-701	8-7	Gretsch	g	f	p	0	0	3800	0	6000P	-	Foot survey of lower 3/4 of a mile. Condition of pinks are excellent. Quite a few bears.
257-701	8-12	Kuriscak				0	0	25000	0	8000P	-	1315 hrs. Upper stretch of river empties some in canyon, most in lower river. No obvious show out front.
257-701	8-15	Brennan	g	g	f	0	0	54000	0	9000P	-	1245 hrs. Fish clear up to mountains: 57K above. 19KL+ in canyon (low count), 25K in lower end. "Mouth" fish from last fry dig site down. No carcasses.
257-701	8-20	Brennan	g	g	g	0	0	101000	0	52000P	-	1125 hrs. Low incoming tide, moderate stream flow. Surveyed entire drainage, coho scattered throughout survey area.
257-701	10-11	Hander	g	g		0	7250	0	0	-	-	1233 hrs. Incoming high tide. Surveyed entire drainage. Stream flow good. Coho scattered throughout entire survey area.
257-701	10-23	Hander	g			0	1225	0	0	-	-	

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Appendix E.1. (Page 15 of 29)

Stream	Date MM-DD	Observer	Visibility			Fish in Stream				Build Up Fish		Observer Remarks
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum	Mouth	Bay	
Seaborg Bay Creek 257-703	8-12	Kuriscak				0	0	150	0	5000P	-	Foot survey of lower 300 yards. Small stream north of Humpy Creek
Kiliuda Bay 258-20	7-26	Prokopowich	e	e	e	0	0	0	0	-	35000Ch	Good show by spit, additional scattered schools in bay. Very little show out by Pivot Point.
Shearwater Bay Creek 258-202	7-18	Brennan	f	f	f	0	0	200	0	1500P	2600P	1235 hrs.
258-202	7-26	Prokopowich	g	g	g	0	0	0	0	-	150Ch	Creek dry. Chums along outer west side beach.
258-202	8-21	Brennan	g	g	g	0	0	1450	0	-	-	1530 hrs.
258-202	8-30	Prokopowich	g	g	g	0	0	0	0	500P 3300Ch	1000Ch	Stream dry. Fish built up at head of bay.
Dog Bay Creek 258-204	7-26	Prokopowich	g	g	g	0	0	0	0	1800Ch	-	Scattered schools of chums in bay.
258-204	8-21	Brennan	g	g	f	0	0	0	13000	4500Ch	-	1515 hrs.
258-204	8-30	Prokopowich	g	g	g	0	0	2000	24000	-	-	Looks excellent.
Coxcomb Pt. Creek 258-205	7-26	Prokopowich	g	g	g	0	0	0	100	1200Ch	-	1,500 dolly varden in stream.
258-205	8-21	Brennan	g	g	f	0	0	0	13000	7000Ch	-	1510 hrs.
258-205	8-30	Prokopowich	g	g	g	0	0	500	18000	4000Ch	-	Looks excellent.
N. Kiliuda Creek 258-206	8-7	Gretsch	e	e	e	0	0	4200	200	-	-	-
258-206	8-15	Brennan	f	f	f	0	0	3800	0	-	-	1510 hrs. Plus 500 carcasses.
258-206	8-21	Brennan	g	g	f	0	0	9750	0	15000P	-	1500 hrs.
W. Kiliuda Creek 258-207	7-26	Prokopowich	e	e	e	0	0	800	1000	-	35000P	Of which, 400 pink, 200 chum in sample fork.
258-207	8-5	Hander	g			0	0	24000	4000	8000P 2000Ch	-	1737 hrs. Surveyed lower 2 miles of stream. Water level low. Incoming tide.
258-207	8-7	Gretsch	e	e	e	0	0	6500	1500	2000P 200Ch	1000P	Bay visibility poor due to glare.
258-207	8-15	Brennan	g	f	f	0	0	7000	0	10000P	-	1500 hrs. Most fish in side channel and lower end. Looks good. More fish outside. Lots of boats working outside.
258-207	8-21	Brennan	g	g	f	0	0	22000	5450	6000P 6000Ch	-	1445 hrs.
258-207	8-29	Hander	g		g	0	0	71500	19500	12000Ch	-	1045 hrs. Low tide. Surveyed entire drainage.
258-207	10-11	Hander	g		g	0	800	0	0	-	-	1020 hrs. Low tide, moderate stream flow. Most coho midway up river. surveyed to forks.
Dukaluk Creek 258-208	7-26	Prokopowich	g	g	g	0	0	0	0	15000P	-	Excellent show for this time.
Deer Creek 258-209	7-26	Prokopowich	g	g	g	0	0	0	700	1500Ch	-	Creek is just outside bay markers. Good show off mouth. Lots of small scattered schools.

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Appendix E.1. (Page 16 of 29)

Stream	Date MM-DD	Observer	Visibility			-----Fish in Stream-----				Build Up Mouth	Fish Bay	Observer Remarks
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum			
Bear Camp Creek 258-213	7-26	Prokopowich	e	e	e	0	0	0	0	-	21000P 9000Ch	Fish schooled along beach toward head of bay.
Ocean Beach 258-401	7-18	Brennan	f	f	p	240	0	0	0	-	-	1220 hrs. Poor visibility on beach but no show, lake dark, only a few schools seen.
258-401	8-15	Brennan	f	f	p	480	0	0	0	-	-	1420 hrs. Dark reds in lake. Poor look.
Rolling Bay 258-511	8-7	Gretsch	f	f	f	0	0	3000	0	4100P	-	Visibility in the bay was poor, low water in stream.
Newman Bay 258-513	8-7	Gretsch	g	g	g	0	0	0	0	200P	-	-
Natalia Cabin Creek 258-514	8-7	Gretsch	e	e	e	0	0	200	0	-	-	Dead pinks in creek, very low water levels possible cause.
Dry Creek 258-515	8-7	Gretsch	e	e	e	0	0	0	0	-	4100P	Pinks may be destined for stream #514 or #515.
258-521	7-26	Prokopowich	e	e	e	0	0	0	0	-	200000P	Numerous large schools from Barling Spit to Three Saints Bay.
Midway Creek 258-521	8-5	Hander	g			0	0	80900	34800	-	-	1715 hrs. Surveyed entire drainage up to forks. Water level low. Incoming tide.
258-521	8-7	Gretsch	e	e	e	0	0	13000	1000	-	-	All fish in lower part of river.
258-521	8-15	Brennan	g	g	g	0	0	5700	0	2000P	-	1435 hrs. Fairly good look though water has glacial silt look (blue murk). Not many fish. Plus 2,500 carcasses.
258-521	8-20	Brennan	e	g	g	0	0	15500	7500	10000P	2000P	1150 hrs. Could be more chums mixed with pinks at mouth. Good visibility. Chums mostly in channels. Plus 2,500 carcasses.
258-521	8-29	Hander	g		g	135	0	80650	63900	-	-	1109 hrs. Low tide. Surveyed entire drainage.
258-521	8-30	Prokopowich	g	g	g	0	5000	62000	8000	-	-	Coho in lower end of river.
258-521	10-11	Hander	g		g	0	16000	0	0	-	-	1035 hrs. Low tide, moderate stream flow. Surveyed approximately one mile past forks in upper river. Coho scattered throughout survey area.
258-521	10-23	Hander	g			0	4890	0	0	-	-	1117 hrs. Incoming low tide. Surveyed entire drain. Good stream flow. Coho scattered throughout survey area.
Barling Creek 258-522	7-26	Prokopowich	e	e	e	0	0	15000	200	50000P	80000P	Excellent show.
258-522	8-5	Hander	g			0	0	93500	16500	-	-	1655 hrs. Surveyed entire drainage. Stream flow low. Observed 6,000 pinks between mouth of Barling and tributary to south. Incoming tide.
258-522	8-7	Gretsch	g	g	g	0	0	38500	0	16000P	200Ch	-
258-522	8-15	Brennan	f	g	f	0	0	16700	0	4000P	20000P	1450 hrs. Outside estimate is very rough. Fish laying in eel grass. Creek looks well seeded. Plus 3-5,000 carcasses.

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Appendix E.1. (Page 17 of 29)

Stream	Date MM-DD	Observer	Visibility			-----Fish in Stream-----				Build Up Fish		Observer Remarks
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum	Mouth	Bay	
Barling River												
258-522	8-20	Brennan	g	g	g	0	0	48000	1200	27000P 6000Ch	20000P	1205 hrs. Could be more chums mixed in. Not much in upper river; most below old weir. Plus 6,500 carcasses.
258-522	8-29	Hander	g		g	0	0	74500	21800	49000P 21000Ch	-	1136 hrs. Low tide. Surveyed entire drainage.
258-522	10-11	Hander	g		g	0	4350	0	500	-	-	1050 hrs. Low tide, low stream flow. Surveyed entire drainage, 1/4 mile section in upper river was dry and there were approximately 300 coho above dry area.
258-522	10-23	Hander	g			0	940	0	0	-	-	1135 hrs. Incoming tide. Surveyed entire drain. Low stream flow. Coho scattered throughout survey area. Dry area about 400 yards long and about 3 miles up from mouth, approximately 300 coho above dry area.
West Three Saints												
258-531	8-29	Hander	e			0	0	2500	0	-	-	1205 hrs. Incoming tide. Surveyed all spawning area. Stream flow low.
S.W. Three Saints												
258-532	8-29	Hander	e			0	0	250	0	-	-	1208 hrs. Incoming tide. Surveyed all spawning areas. Stream flow low.
NE Three Saints												
258-533	8-29	Hander	g			0	0	50	0	-	-	1202 hrs. Incoming tide. Surveyed entire stream. Stream dry above mouth. Pinks above dry area.
Kalugnak Point												
258-541	8-5	Hander	f			0	0	3500	3500	4000P 4000Ch	-	1637 hrs. Stream dry approximately 0.50 miles upstream. Pinks and chums mixed. Incoming tide.
258-541	8-29	Hander	g			0	0	50000	0	45500P 19500Ch	-	1307 hrs. Incoming tide. Surveyed entire stream, water level low. Dry approximately 1 mile upstream.
258-541	10-11	Hander	g		g	0	1000	0	0	-	-	1105 hrs. Low incoming tide, low stream flow. Surveyed entire drainage; coho in lower 1/2 mile of river.
258-541	10-23	Hander	g			0	650	0	0	-	-	1155 hrs. Incoming tide. Surveyed entire drain. Moderate stream flow. Coho scattered through survey area.
Kalugnak Lagoon												
258-542	7-26	Prokopowich	e	e	e	0	0	0	0	5000P	35000P	Lower end of stream dry. Bay fish are in lagoon.
258-542	8-5	Hander	f			0	0	0	2000	50000Ch	-	1625 hrs. Stream dry approximately 0.25 miles upstream, upper reaches of stream low flow. Upper lagoon off mouth full of chum. Lots of jumpers. Incoming tide.
258-542	8-15	Brennan	p	f	g	0	0	16800	0	7000P	20000P	1410 hrs. Plus 2,000 carcasses. Poor look at stream. Bay fish in eel grass - rough estimate.
258-542	8-29	Hander	g			0	0	45000	30000	30000Ch	-	1312 hrs. Incoming tide, surveyed entire stream. Thousands of carcasses.
258-542	10-11	Hander	g		g	0	300	0	0	-	-	1108 hrs. Low incoming tide, moderate stream flow, surveyed entire drainage.

Continued

Appendix E.1. (Page 18 of 29)

Stream	Date MM-DD	Observer	Visibility			-----Fish in Stream-----				Build Up Fish		Observer Remarks
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum	Mouth	Bay	
Kaiugnak Lagoon 258-542	10-23	Hander	g			0	100	0	0	-	-	1200 hrs. Incoming tide. Surveyed entire drain. Moderate stream flow. Coho observed approximately 1 mile up from mouth.
Aunula Creek 258-543	8- 5	Hander	g			0	0	2000	0	-	-	1645 hrs. Surveyed lower 0.25 miles only. Most fish in small lagoon near mouth. Incoming tide.
Bruin Creek 258-544	8- 5	Hander	f			0	0	3000	0	3000Ch	-	1630 hrs. Only surveyed lower 0.25 miles of stream. Lots of jumpers (chum) off mouth. Incoming tide.
258-544	8-15	Brennan	g	g	g	0	0	0	0	1000P	-	1415 hrs. No stream survey. Plus 2,500 carcasses.
258-544	8-29	Hander	g			0	0	7000	0	17500P 7500Ch	10000Ch	1318 hrs. Incoming tide. Thousands of carcasses off mouth. 10,000 chums in lagoon between south and west Kaiugnak streams.
Klavak Portage 258-551	7-26	Prokopowich	e	e	e	0	0	0	0	10000P	-	Lower end of creek dry.
258-551	8-29	Hander	g		f	0	0	1000	7000	-	9000Ch	1333 hrs. Low tide. Surveyed entire drainage. Stream flow low.
Cape Klavak 258-552	8-30	Prokopowich	g	g	g	0	0	2000	0	-	-	Survey of lower end of stream.
Klavak Lagoon 258-554	8-29	Hander	G	G		0	0	2000	0	7000Ch	-	1325 hrs. Low tide. Surveyed entire length of drainage. Short dry stretch approximately 100 yds. above mouth. Instream flow good.
Klavak Spit 258-555	8-29	Hander	g			0	0	200	0	-	-	1328 hrs. Low tide. Stream completely dry 200 yds. above mouth.
Kaguyak Bay Creek 258-602	7-18	Brennan		f	f	0	0	0	0	500P	600P	1205 hrs. No stream survey. Lots of scattered schools.
258-602	7-26	Prokopowich	e	e	e	0	0	12500	0	-	26000P	Excellent show. Water low in main creek.
258-602	8- 7	Gretsch	g	g	g	0	0	3700	0	1000P	-	Low water.
258-602	8-15	Brennan	g	f	f	0	0	1700	0	5000P	1000P	1250 hrs. "Mouth" fish actually in lower lagoon.
258-602	8-20	Brennan	g	g	f	0	0	11000	4000	4000P	700P	1220 hrs. Most stream fish in lagoon.
258-70	7-26	Prokopowich	e	e	e	0	0	0	0	-	60000P	Numerous scattered schools along beach towards Seven Rivers.
Seven River 258-701	7-18	Brennan	f	f	f	0	0	750	0	7000P	-	1155 hrs. Only 250 upper river, 500 below forks, nothing showing out front. Some fish showing to north by Boot Point.
258-701	7-26	Prokopowich	e	e	e	0	0	2000	0	65000P	-	Very low water in creek.

Continued

Appendix E.1. (Page 19 of 29)

Stream	Date MM-DD	Observer	Visibility			-----Fish in Stream-----				Build Up Fish		Observer Remarks
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum	Mouth	Bay	
Seven Rivers 258-701	8- 7	Gretsch	g	p	f	0	0	4400	0	1000P	-	Very low water, fish present only in lower portion of the river. Visibility at mouth was poor, probably more fish present at mouth, as large number of jumpers present. 1305 hrs. No real show offshore. Stream was seeded but not plugged. South fork 6,600; north fork 115,000; lagoon 9,000; mainstream 27,000. 1230 hrs. Fish well distributed: 52K in main stem, 47K in south fork, 27K in north fork. No carcasses evident.
258-701	8-15	Brennan	g	g	f	0	0	48600	0	9000P	-	
258-701	8-20	Brennan	g	g	g	0	0	126350	0	45500P	3000P	
Melavedof Creek 258-705	7-18	Brennan		f	f	0	0	0	0	-	800P	1200 hrs. No stream survey. Fish on beach traveling south.
Dolina Point 258-801	8-30	Prokopowich	g	g	g	0	0	800	0	-	-	-
Whirlpool Point 258-803	8-30	Prokopowich	g	g	g	0	0	500	0	-	-	-
Bend Creek 258-805	8-30	Prokopowich	g	g	g	0	0	0	0	-	-	No stream mouth. Beach.
Ocean View 258-806	8-30	Prokopowich	g	g	g	0	0	0	0	-	-	No stream mouth. Beach
Pyramid Creek 258-807	8-30	Prokopowich	g	g	g	0	0	0	3400	-	-	-
Strip Creek 258-808	8-30	Prokopowich	g	g	g	0	500	500	1500	-	-	-
Unnamed 258-810	8-30	Prokopowich	g	g	g	0	0	500	0	500P	-	-
Unnamed 258-811	8-30	Prokopowich	g	g	g	0	0	1000	0	-	-	-
Passage Creek 258-851	8-30	Prokopowich	g	g	g	0	2400	1800	0	-	-	-
South View Creek 258-852	8-30	Prokopowich	g	g	g	0	0	0	0	-	-	Nothing seen.
Russian Harbor 258-901	8-30	Prokopowich	g	g	g	0	0	3000	500	-	-	-
E. Russian Creek 258-902	8-30	Prokopowich	g	g	g	0	0	8000	0	4500P	-	-
Unnamed 258-905	8-30	Prokopowich	g	g	g	0	0	0	0	1500P	-	-

Continued

Appendix E.1. (Page 20 of 29)

Stream	Date MM-DD	Observer	Visibility			Fish in Stream				Build Up Fish		Observer Remarks
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum	Mouth	Bay	
Monashka Creek												
259-101	8- 2	Brennan	g	f	f	0	0	1000	0	-	-	1620 hrs. Limited look at bay - not much showing.
259-101	8- 7	Gretsch	e	e	e	0	0	200	0	1200P	300P	1015 hrs.
259-101	8-30	Brennan				0	0	7800	0	4000P	-	1245 hrs.
259-101	9-18	Gretsch	e			0	55	3300	0	-	-	Foot survey: 80% of pinks spawned out and dead. Coho scattered in deeper pools.
Pillar Creek												
259-102	8- 2	Brennan	p	f	f	0	0	100	0	1500P	-	1625 hrs. Limited stream survey.
259-102	8- 7	Gretsch	e	e	e	0	0	0	0	500P	-	1010 hrs.
259-102	8-30	Brennan				0	0	6000	0	3000P	-	1255 hrs.
259-102	9-18	Gretsch	e			0	70	1282	0	-	-	Foot survey: 80% of pinks spawned out and dead. Coho present at road culvert and two other deep pools.
Virginia Creek												
259-105	8-30	Brennan				0	0	700	0	-	-	1250 hrs.
259-105	9-18	Gretsch	e			0	0	733	20	-	-	Foot survey: Surveyed to road culvert, chums in slough near confluence to Monashka Creek.
Buskin River												
259-211	7-26	Prokopowich	e	e	e	0	0	800	0	-	-	Fish in lower end of creek. Nothing seen off of mouth.
259-211	8- 2	Brennan	g	g	p	0	0	2500	0	1500P	-	1505 hrs. Poor visibility outside. No show.
259-211	8-12	Brennan	f	f	f	0	0	12800	0	-	-	1235 hrs. Lots of dollies in stream.
259-211	8-22	Brennan	g	g	g	0	300	39300	0	85Co	-	1320 hrs.
259-211	9-28	Weir Count	e	f		9794	8929	37736	21	1650P	-	Final weir counts. No estimate of fish remaining in river below weir. Weir in operation 4/23 through 7/25 at lake outlet, and from 8/23 through 9/28 at site above bridge #2. Counts include estimates for time weir out (1305 reds based on time of entry curves, plus 27,800 pinks and 150 coho based on 8/23 aerial survey).
Sargent's Creek												
259-221	7-26	Brennan	f	f	f	0	0	0	0	50P	-	1545 hrs. Deadsville.
259-221	8- 2	Brennan				0	0	250	0	-	-	1500 hrs.
259-221	8-12	Brennan	p	p	p	0	0	120	0	900P	-	1220 hrs. Poor visibility especially in upper river. Low estimate.
259-221	8-22	Brennan	g	g	g	0	0	185	0	200P	23000P	1330 hrs.
Russian River												
259-222	7-26	Brennan	f	f	f	0	0	0	0	50P	-	1545 hrs. Deadsville.
259-222	8- 2	Brennan				0	0	500	0	-	-	1500 hrs.
259-222	8-12	Brennan	p	p	p	0	0	900	0	700P	-	1215 hrs. Poor visibility, especially in upper river - low estimate.
259-222	8-22	Brennan	g	g	g	0	0	3160	0	6200P	14000P	1335 hrs.
Solonie Creek												
259-223	8- 2	Brennan				0	0	0	0	-	-	1505 hrs. River dry in upper reaches. No show out front.
259-223	8-12	Brennan	f	f	f	0	0	290	0	-	-	1225 hrs. Stream goes intermittent 3 miles up. Nothing showing in bay.

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Appendix E.1. (Page 21 of 29)

Stream	Date MM-DD	Observer	Visibility			-----Fish in Stream-----				Build Up Mouth	Fish Bay	Observer Remarks
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum			
Solonie Creek												
259-223	8-22	Brennan	g	g	g	0	0	9000	0	4000Ch	10500P	1340 hrs.
American River												
259-231	7-26	Prokopowich	e	e	e	0	0	200	0	-	-	Water murky in bay. 1535 hrs. Really thin. Bay turbid - no show offshore or along beaches. 1455 hrs. turbid outside.
259-231	7-26	Brennan	f	f	p	0	0	1000	500	3000P	-	
259-231	8- 2	Brennan	g	f	p	0	0	800	0	-	-	1040 hrs. 1135 hrs. No fish showing outside. Most at or below bridge; only 4,600 in upper reaches. 1350 hrs. Nothing outside along beaches.
259-231	8- 7	Gretsch	e	e	e	0	0	6000	0	500P	3000P	
259-231	8-12	Brennan	f	f	f	0	0	21600	1500	2000P	-	
259-231	8-22	Brennan	g	g	g	0	0	49000	12000	-	-	
Salt Creek												
259-233	7-26	Brennan	f	f	p	0	0	0	0	-	-	1535 hrs. No stream survey. Bay turbid. 1455 hrs.
259-233	8- 2	Brennan				0	0	0	0	-	-	
259-233	8-12	Brennan	p	p	p	0	0	0	25	-	-	1130 hrs. Looks poor.
Sid Olds												
259-242	7-26	Brennan	f	f	p	0	0	8200	0	2000P	-	1530 hrs. Seems thin. No show out front. Most of fish at or below bridge. 1445 hrs. All fish near bridge or above; 10,000 at bridge. Nothing showing outside.
259-242	8- 2	Brennan	g	f	f	0	0	21300	2500	-	-	
259-242	8- 7	Gretsch	e	e	e	0	0	16000	0	3000P	-	1,000 pinks below Ben Deadman's cabin. 1145 hrs. 750 carcasses and 1,500 pinks in upper area near canyon, 21,000 pinks near bridge. Chum count is rough estimate in stream, not much in sloughs. 1400 hrs. Nothing outside.
259-242	8-12	Brennan	f	f	f	0	0	22500	2000	4000P	-	
259-242	8-22	Brennan				0	0	47000	7000	-	-	1400 hrs. No fish observed along beach, two schools of coho in lower bends of river near mouth.
259-242	8-30	Prokopowich	g	g	g	0	0	70000	10000	-	-	
259-242	9- 6	Gretsch	g	g	g	0	900	55000	5000	-	-	
Kalsin Creek												
259-243	7-26	Brennan	f	f	p	0	0	3500	0	-	-	1530 hrs. No show on flats. Fish all concentrated by bridge. 1450 hrs.
259-243	8- 2	Brennan	f	f	p	0	0	1500	0	500P	-	
259-243	8-22	Brennan				0	0	3700	0	-	-	1405 hrs.
Frank's Creek												
259-244	7-26	Brennan	f	f		0	0	200	0	200P	-	1530 hrs. No show in bay; only a few fish on flats or up in creek. 1440 hrs. Entrance to creek dry (blocked) no fish in creek.
259-244	8- 2	Brennan				0	0	0	0	500P	-	
259-244	8-12	Brennan	p	f	f	0	0	400	0	-	-	1155 hrs. 1410 hrs.
259-244	8-22	Brennan	g	g	g	0	0	0	0	4200P	-	
Myrtle Creek												
259-245	7-26	Brennan	f	f		0	0	2000	0	2000P	-	1530 hrs. Surveyed 1-1/2 miles of creek. Good distribution. 1435 hrs. Surveyed lower 1-1/2 miles.
259-245	8- 2	Brennan				0	0	1500	0	3000P	-	
259-245	8-12	Brennan	f	f	f	0	0	4400	0	1200P	-	1205 hrs. 1415 hrs.
259-245	8-22	Brennan	g	g	g	0	0	5500	0	4500P	6000P	

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Appendix E.1. (Page 22 of 29)

Stream	Date MM-DD	Observer	Visibility			Fish in Stream				Build Up Fish		Observer Remarks	
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum	Mouth	Bay		
Roslyn Creek													
259-251	7-26	Brennan	g	f		0	0	0	0	500P	-	1525 hrs. No stream survey. Too muddy.	
259-251	8- 2	Brennan	g	f	p	0	0	3000	0	3500P	-	1435 hrs. Surveyed only lower 1/2 mile (to just above bridge). Poor visibility outside.	
259-251	8-22	Brennan	g	g	g	0	50	23000	0	900P	-	1420 hrs.	
259-251	10- 4	Sampson	g			0	882	0	0	-	-	Foot survey of entire creek. 210 below bridge, 672 above bridge.	
Twin Creek													
259-252	7-26	Brennan	s	f		0	0	2500	0	4000P	-	1525 hrs. Mouth fish sitting on beach outside of creek. Surveyed only 1/2 mile of creek.	
259-252	8- 2	Brennan		f	f	0	0	0	0	4000P	-	1430 hrs. No stream survey.	
Capelin Creek													
259-253	8- 2	Brennan	g	g	g	0	0	0	0	500P	-	1430 hrs. Surveyed only 1/2 mile of creek. All fish right at mouth.	
Chiniak Creek													
259-254	7-26	Brennan	g	f		0	0	5000	0	2100P	-	1520 hrs. Surveyed only 1/2 mile of creek.	
259-254	8- 2	Brennan	g	g	g	0	0	10000	0	5000P	2000P	1425 hrs. Surveyed only 1/2 mile of creek. Looks good.	
Chiniak Lagoon													
259-255	8- 2	Brennan	f	f	f	0	0	0	50	-	-	1425 hrs.	
Barabara Creek													
259-363	7-12	Prokopowich	g			700	0	0	0	-	-	Reds off outlet of outlet of south side creek, 0935 hrs. Reds in lake on shoals; likely more off edge in deep water.	
259-363	7-18	Brennan	f	f	f	3400	0	0	0	-	-	1610 hrs. Reds in lake. Count seems low.	
259-363	7-26	Brennan	g	g	f	1700	0	0	0	-	-	Foot survey. 147 live plus 10 dead reds in west creek; 155 live plus 15 dead reds in east creek.	
259-363	8-21	Weimer	g			302	0	0	0	-	-		
Goat Creek													
259-364	7-26	Brennan		g	g	0	0	0	0	700P	-	1540 hrs. - no stream survey.	
Kizhuyak River													
259-365	6-21	Brennan	f	f	f	0	0	0	0	-	-	1500 hrs. "Red Tide" algae bloom. No fish visible.	
259-365	7-18	Brennan	f	f	f	0	0	350	0	-	1300P	0920 hrs. Surveyed creek only to USCG station. No show in mouth; a few fish on flats.	
259-365	7-26	Brennan	g	g	g	0	0	0	0	3500P	1500P	1555 hrs. Surveyed only lower 1/2 mile of creek - no fish. Bay fish by KEA dbck.	
259-365	8- 2	Brennan	p	p	p	0	0	0	0	2000Ch	-	1520 hrs. Poor visibility - only able to see 300 pinks outside.	
259-365	8- 7	Gretsch	g	g	g	0	0	3500	1000	300P	4500P	10000P	Good build-up of pinks east of the river mouth (10,000+).
259-365	8-20	Brennan	g	g	f	0	0	10550	900	9500P	6000P	1620 hrs.	
259-365	8-24	Blackett	g	g	g	0	0	27200	1480	850Ch	100Ch	-	
Jumpers in bay; unable to estimate number in school. Distribution and dispersement of salmon was very good -- fish were even upstream of the tailrace. Carcasses may have washed downstream, estimate only about 1-2% of live count. Good water flows both systems.													

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Appendix E.1. (Page 23 of 29)

Stream	Date MM-DD	Observer	Visibility			-----Fish in Stream-----				Build Up Fish		Observer Remarks
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum	Mouth	Bay	
Kizhuyak River 259-365	10- 2	Blackett	e	e	e	0	950	1800	350	-	-	Good flow - evidence of recent high water; tailrace channel partially blocked by shifting gravel bar. No salmon concentrations seen in the bays.
Pestchanie Creek 259-366	8-20	Brennan	g	g	f	0	0	200	0	-	-	1630 hrs. Low water
Sheratin River 259-371	7-20	Prokopowich	g	g	g	0	0	500	100	1000P	-	Didn't survey bay. Most fish in lower end of river. 1550 hrs. Good show of fish outside along east shore.
259-371	7-26	Brennan	g	g	g	0	0	1000	0	3000P	20000P 7000Ch	
259-371	8- 2	Brennan	g	f	p	0	0	1500	200	500P	5000P	1515 hrs. 700 in upper creek, 1,000 to mouth. Rain, so poor visibility outside. Lots of fish, dark fish in kelp, bright fish in deep channels. 1500 hrs.
259-371	8-12	Brennan	f	f	f	0	0	6400	800	2200P 3500Ch	-	
259-371	8-21	Brennan	g	g	g	0	0	8850	1650	-	10200P	1150 hrs.
Red Cloud Creek 259-382	7-26	Brennan	f	f	f	0	0	0	0	-	-	1810 hrs. Quick look. No show.
259-382	8-21	Brennan	f	f	f	0	0	1300	600	-	10000P 3000Ch	1140 hrs.
Hollie Creek 259-391	8- 2	Brennan	f	f	f	0	0	3000	0	-	-	1615 hrs.
259-391	8-30	Brennan				0	0	3600	0	3200P	-	1240 hrs.
Neva Creek 259-392	8- 2	Brennan	g	f	f	0	0	250	0	-	-	1615 hrs.
Seredni Pt. Creek 259-394	8- 2	Brennan				0	0	0	0	-	-	1610 hrs.
259-394	8-30	Brennan	g	g	f	0	600	250	0	-	-	1240 hrs.
Soldier's Bay 259-397	8- 2	Brennan	g	f	f	0	0	0	0	750P	-	1615 hrs.
259-397	8-30	Brennan				0	0	1000	0	-	-	1245 hrs.
Sacramento River 259-401	9- 6	Gretsch	e	e	e	0	0	20100	2500	1000Co	-	Tributary north side of creek had 4,500 pink, good distribution of pink in upper and lower parts of river, few fish elsewhere.
Pasagshak River 259-411	8-30	Prokopowich	g	g	g	25000	0	2000	0	-	-	10 kings.
259-411	9- 6	Gretsch	g	g	g	13700	0	2000	0	-	-	Major concentration of sockeye near culverts and upper lake area.
259-411	10- 5	Sampson	f			830	0	1	1	-	-	Foot survey of creek and lake shore. 0 live coho, 1 dead coho, 830 live sockeye, 1 live chum, 1 live pink.

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Appendix E.1. (Page 24 of 29)

Stream	Date MM-DD	Observer	Visibility			-----Fish in Stream-----				Build Up Mouth	Fish Bay	Observer Remarks
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum			
Miam River												
259-412	8- 7	Gretsch	g	g	g	0	0	5500	2000	1000P 200Ch	-	Majority of fish present in the lower river and sloughs.
259-412	8-22	Brennan	g	g	g	2165	0	16200	900	900P	-	1425 hrs. Reds in lake.
259-412	8-30	Prokopowich	g	g	g	2300	300	25000	0	-	-	Six sport fishermen on saltwater beach.
259-412	9- 6	Gretsch	e	e	e	700	3500	43000	0	-	-	700 sockeye at north end of lake, 500 coho at outlet of lake, coho present in all deeper pools.
Hurst Creek												
259-414	8-15	Brennan	f	f	f	0	0	10450	0	-	-	1530 hrs.
259-414	8-22	Brennan	g	g		0	0	15450	50	-	-	1440 hrs.
Saltery River												
259-415	6-11	Brennan	f	f	f	0	0	0	0	100R	-	1750 hrs. No fish seen in river or lake. Weir just going in.
259-415	7-18	Brennan	p	p	f	0	0	0	0	-	300P	1250 hrs. Creek murky at lower end. No show in lagoon.
259-415	7-26	Prokopowich	g	g	g	800	0	3500	0	200R	-	Bay murky. Few pinks seen jumping.
259-415	8- 7	Gretsch	g	g	g	0	0	11500	1500	1000P	2500P	Counts from weir downstream, 6,000 pink in lagoon, 5,500 from lagoon to weir.
259-415	8-22	Brennan				0	0	36000	17000	-	-	1450 hrs.
259-415	9- 8	Weir Count	e	f		52577	747	33812	18	15R 300Co 275P	-	Final weir counts. Mouth counts are estimates by the crew of the fish below the weir ready to move up when weir pulled. Plus weir count of 3 king salmon. Weir in operation from 6/11 through 9/4.
Rough Creek												
259-416	8-22	Brennan				0	0	0	1400	2800Ch	-	1500 hrs. Mouth fish in lagoon.
Hidden Basin												
259-418	8- 7	Gretsch	e	e	e	0	0	0	0	500P	-	Water level low.
259-418	8-22	Brennan	g	g	g	0	0	1500	0	80P	-	1515 hrs.
West Basin Creek												
259-419	8- 7	Gretsch	e	e	e	0	0	0	0	500P	-	Low water.
259-419	8-22	Brennan	g	g	g	0	0	0	0	-	-	1530 hrs.
Goat Lake Creek												
259-422	8-22	Brennan	g	g	g	0	0	1650	0	600P	-	1600 hrs.
Kiliuda Pass Creek												
259-423	8- 7	Gretsch	g	g	g	0	0	0	0	-	-	Low water.
Eagle Harbor												
259-424	7-18	Brennan	f	f	f	0	0	0	0	200P	400P	1245 hrs. Quick look at creek and mouth.
259-424	7-26	Prokopowich	g	g	g	0	0	400	0	-	-	3,000 dolly varden in stream. Scattered schools of pinks along beach. Good water flow in creek.
259-424	8-21	Brennan	g	g	g	0	0	24500	4500	600P	-	1530 hrs.
259-424	8-30	Prokopowich	g	g	g	0	0	55000	15000	-	-	Good water flow. Looks excellent.
Gull Cape Lagoon												
259-428	8-30	Prokopowich	g	g	g	0	0	0	0	15000Ch	-	No fish seen in lagoon. Fish 100 yards offshore.
259-428	9- 6	Gretsch	g	f	p	0	0	50	0	-	400Ch	Numerous jumpers off beach north of lagoon mouth, visibility poor offshore, 400 chums in lagoon.

Continued

Appendix E.1. (Page 25 of 29)

Stream	Date MM-DD	Observer	Visibility			-----Fish in Stream-----				Build Up Fish		Observer Remarks
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum	Mouth	Bay	
Swikshak River												
262-151	7-20	Prokopowich	g			12000	0	0	0	-	-	Fish in clear portion of river. Water too murky in lagoon to see.
262-151	8- 2	Prokopowich	e	e	e	28000	0	0	0	-	-	
262-151	9- 6	Brennan	f	g	p	0	14700	0	0	-	-	1235 hrs. Two planes and eight sport fishermen.
Big River												
262-152	7-20	Prokopowich	g	g	g	0	0	0	150	200Ch	-	Poor show at this time.
262-152	8- 2	Prokopowich	g	g	g	0	0	7500	7500	2000P	-	Still looks slow.
262-152	8- 6	Prokopowich	g	g	g	0	0	35000	15000	-	-	No show off mouth.
262-152	8-17	Prokopowich	f	f	f	0	0	40000	30000	-	-	Looks better. Four planes with sport fishermen on river.
262-152	9- 6	Brennan	g	g	f	0	19000	24300	5500	-	-	1245 hrs. Plus 1,500 carcasses.
Village Creek												
262-153	7-20	Prokopowich	g	g	g	0	0	0	0	-	-	Nothing seen in lower river or off mouth.
262-153	8- 2	Prokopowich	g	g	g	0	0	0	2500	3000Ch	3000Ch	Bay fish slow along beach toward Chiniak Lagoon.
262-153	8- 6	Prokopowich	g	g	g	0	0	20000	5000	1500Ch	24000Ch	Bay fish - chums 3,000 north of creek, 21,000 along beach toward Chiniak Lagoon.
262-153	8-17	Prokopowich	g	g	g	0	0	20000	55000	-	-	Looks excellent.
262-153	9- 6	Brennan	g	g	f	0	0	35500	0	-	-	1250 hrs. Plus 4,900 carcasses. Good pink distribution.
Chiniak Lagoon												
262-154	7-20	Prokopowich	g	g	g	0	0	0	0	800Ch	-	Nothing seen in lagoon.
262-154	8- 2	Prokopowich	g	g	g	0	0	0	100	2500Ch	-	Still looks slow. Stream fish are in upper part of the lagoon.
262-154	8- 6	Prokopowich	g	g	g	0	0	0	3000	1800Ch	-	Stream fish are in lagoon.
262-154	8-17	Prokopowich	g	g	g	0	0	0	600	24000Ch	25000Ch	Bay fish along beach to north.
262-154	9- 6	Brennan	p	p	p	0	0	0	1500	-	-	1255 hrs. Only partial count - lagoon very murky. Partial survey.
Hallo Bay												
262-20	8- 2	Prokopowich	e	e	e	0	0	0	0	-	-	Estimated 30,000-40,000 mixed pink and chums between Cape Chiniak and Stream #205.
262-20	8- 6	Prokopowich	g	g	g	0	0	0	0	-	8000P 8000Ch	Fish between #205 and Cape Chiniak.
Serpent Creek												
262-203	8- 6	Prokopowich	g	g	g	0	0	0	6000	5000Ch	-	Looks better. Fish in clear portion of river.
262-203	9- 6	Brennan				0	0	13500	0	-	-	1305 hrs. Good distribution.
Hallo Creek												
262-204	7-20	Prokopowich	f	f	f	0	0	0	0	500Co	-	Very little seen in rest of bay.
262-204	8- 2	Prokopowich	f	f	f	0	0	0	0	1000Ch	-	Stream still muddy from glacier runoff.
262-204	8- 6	Prokopowich	p	p	p	0	0	0	0	5000Ch	-	Stream still muddy.
Cape Chiniak Creek												
262-205	8-17	Prokopowich	e	e	e	0	0	80000	20000	50000P 15000Ch	-	Good water flow in creek.
262-205	9- 6	Brennan				0	0	45500	0	-	-	1300 hrs. Plus 7,500 carcasses jammin' little creek!

Continued

Appendix E.1. (Page 26 of 29)

Stream	Date MM-DD	Observer	Visibility			-----Fish in Stream-----				Build Up Fish		Observer Remarks
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum	Mouth	Bay	
Little Ninagiak												
262-207	8- 6	Prokopowich				0	0	0	200	-	-	Most streams are muddy. Fish seen in clear fork. Fish in clear fork.
262-207	8-17	Prokopowich	f	f	f	0	0	0	15000	-	-	
Kukak Bay												
262-27	8- 2	Prokopowich	f	f	f	0	0	0	0	-	-	Murky water, nothing seen.
Kukak River												
262-271	8- 6	Prokopowich	g	g	g	0	0	0	0	1000P	4500Ch	Bay fish outer bay along north side.
262-271	8-17	Prokopowich	f	f	f	0	0	0	0	1000Ch	-	Twenty seiners working outside. Few jumpers in bay. Only a few scattered schools seen. 1315 hrs.
262-271	8-22	Prokopowich	g	g	g	0	0	1600	1000	2500P	-	
262-271	9- 6	Brennan				0	0	20000	8000	1000P	-	
Kaflia Creek												
262-301	7-20	Prokopowich	g	g	g	25500	0	0	0	-	15000R	Stream fish are 25,000 reds - lower lake. 500 reds - upper lake. Bay fish are scattered at head of bay.
Halferty Creek												
262-351	7-20	Prokopowich	g	g	g	1200	0	0	0	-	-	200 of which were in creek, rest were in lake. Good show of reds for this late.
262-351	8-22	Prokopowich	g	g	g	0	0	600	0	1500R	-	
Weiss Creek												
262-352	8-22	Prokopowich	e	e	e	0	0	0	0	4000P	-	-
Sandy Creek												
262-401	8-22	Prokopowich	g	g	g	0	0	800	0	4000P	-	-
Missak Creek												
262-402	8-22	Prokopowich	e	e	e	0	0	3000	0	45000P	19000P	Most pinks are dark. Bay fish between #402 and #401 are along bluffs.
Kinak Creek												
262-451	8- 2	Prokopowich	g	g	g	0	0	0	0	-	-	Nothing seen. Few jumpers seen along north side toward outside of bay. Nothing seen.
262-451	8- 6	Prokopowich	g	g	g	0	0	0	0	-	-	
262-451	8-17	Prokopowich	g	g	g	0	0	7500	0	500P	-	Looks a little better. 1335 hrs.
262-451	8-22	Prokopowich	g	g	g	0	0	8000	0	5500P	800P	
262-451	9- 6	Brennan	g	g	g	0	0	68000	0	2800P	-	
Geographic Creek												
262-501	8- 2	Prokopowich	e	e	e	0	0	2000	0	1000P	-	Good water flow. Good water flows. Looks very good. 1340 hrs. WOW!
262-501	8- 6	Prokopowich	g	g	g	0	0	4200	0	-	-	
262-501	8-22	Prokopowich	e	e	e	0	0	15000	0	7400P	-	
262-501	9- 6	Brennan	g	g	g	0	0	25400	0	-	-	
Avalanche Creek												
262-502	8-22	Prokopowich	g	g	g	0	0	1200	0	-	1000P	-
Ried Creek												
262-504	8- 2	Prokopowich	e	e	e	0	0	0	0	2000P	-	Scattered schools in bay. One seiner on beach.

Continued

Appendix E.1. (Page 27 of 29)

Stream	Date MM-DD	Observer	Visibility			Fish in Stream				Build Up		Observer Remarks
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum	Mouth	Bay	
Ried Creek												
262-504	8-22	Prokopowich	g	g	g	0	0	0	0	8000P	-	Few fish in lower creek.
Dakavak												
262-551	8- 2	Prokopowich	g	g	g	0	0	0	0	10000P	-	Fish mixed pink and chums at mouth and scattered schools along beach to north.
262-551	8- 6	Prokopowich	g	g	g	0	0	6500	8500	-	-	Stream chum mixed with pinks. Windy SW 25-30.
262-551	8-17	Prokopowich	g	g	g	0	0	19000	0	600P	-	Windy SSW 25.
262-551	8-22	Prokopowich	g	g	g	0	0	37200	10000	2500P	-	Looks good.
262-551	9- 6	Brennan	g	g	g	0	0	27000	5000	-	2000P	1345 hrs.
Alogogshak Creek												
262-602	7-25	Prokopowich	g	g	g	0	0	0	3000	-	-	A few jumpers were seen off mouth.
262-602	8-22	Prokopowich	p	p	p	0	0	0	4000	-	-	Fish in river, but too muddy for good estimate.
Kashvik Creek												
262-604	7-25	Prokopowich	g	g	g	0	0	3000	900	-	-	Good show off of mouth. Estimated 10,000 mixed pinks and chums.
262-604	8- 2	Prokopowich	g	g	g	0	0	25000	4000	15000P	-	Looks good at this time. Tent camp at mouth of river.
262-604	8-22	Prokopowich	e	e	e	0	0	80000	15000	-	-	Looks excellent.
262-604	9- 6	Brennan	g	g	g	0	0	27500	8000	-	-	1355 hrs.
Wreckage Creek												
262-605	8-22	Prokopowich	g	g	g	0	0	3000	0	-	-	-
Big Alinchak												
262-651	7-25	Prokopowich	g	g	g	0	0	2000	0	3000P	5000P	Looks good for this time period.
262-651	8- 2	Prokopowich	g	g	g	0	0	10500	0	70000P	5000P	Looks very good.
262-651	8-22	Prokopowich	e	e	e	0	0	30000	0	35000P	2000P	Very windy, SW 35 knots.
262-651	9- 6	Brennan	g	g	f	0	0	65000	2700	-	-	1415 hrs.
Little Alinchak												
262-652	7-25	Prokopowich	g	g	g	0	0	0	0	-	17000P	Didn't survey creek. Also looks good for this time.
262-652	8- 2	Prokopowich	g	g	g	0	0	0	0	40000P	-	Didn't survey creek.
262-652	9- 6	Brennan	g	g	f	0	0	37000	500	-	-	1420 hrs.
Pterodactyl Creek												
262-653	7-25	Prokopowich	g	g	g	0	0	0	0	1000P	-	Murky along outside beach. Didn't survey creek.
262-653	8- 2	Prokopowich	g	g	g	0	0	10000	0	5000P	24000P	Bay fish are along beach toward cabin.
262-653	8-22	Prokopowich	g	g	g	0	0	7500	0	2000P	-	-
Bear Bay Creek												
262-654	7-25	Prokopowich	g	g	g	0	0	1000	0	-	26000P	Good show of pinks in bay.
262-654	8- 2	Prokopowich	g	g	g	0	0	200	0	15000P	-	One seiner working bay.
262-654	8-22	Prokopowich	g	g	g	0	0	12500	5000	6000P	8500P	Looks good.
262-654	9- 6	Brennan	g	g	g	0	0	10000	3700	500Ch	4000Ch	1405 hrs.
West Bear Creek												
262-656	7-25	Prokopowich	g	g	g	0	0	0	0	-	-	Nothing seen in creek.
262-656	8-22	Prokopowich	g	g	g	0	0	2800	0	10000P	-	-

Continued

Appendix E.1. (Page 28 of 29)

Stream	Date MM-DD	Observer	Visibility			-----Fish in Stream-----				Build Up Fish		Observer Remarks
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum	Mouth	Bay	
Portage Creek												
262-702	8- 2	Prokopowich	e	e	e	0	0	3500	0	-	-	Poor visibility off mouth.
Teresa Creek												
262-703	7-25	Prokopowich	g	g	g	0	0	0	600	-	-	Fish in lower end of river. Poor visibility off mouth.
262-703	8- 2	Prokopowich	g	g	g	0	0	0	0	10000Ch	-	Didn't survey creek.
262-703	9- 6	Brennan				0	0	9500	2500	-	-	1435 hrs.
Trail Creek												
262-704	8- 2	Prokopowich	g	g	g	0	0	0	7000	3000Ch	-	-
262-704	9- 6	Brennan				0	0	9500	5000	-	-	1440 hrs. Plus 3,500 carcasses.
Katie Creek												
262-705	7-25	Prokopowich	g	g	g	0	0	0	0	2000Ch	-	Fish off of mouth scattered along beach toward Trail Creek.
262-705	8- 2	Prokopowich	g	g	g	0	0	10000	0	-	-	-
Puale Creek												
262-706	8- 2	Prokopowich	g	g	g	0	0	2000	0	-	1500Ch	Fish in lagoon. Bay fish along rock bluffs.
Oll Creek												
262-751	7-25	Prokopowich	g	g	g	0	0	800	0	-	-	Fish in lower end of stream.
262-751	8- 2	Prokopowich	g	g	g	0	0	6000	0	-	-	Poor visibility off mouth.
262-751	9- 6	Brennan				0	0	15700	0	-	-	1450 hrs.
Dry Bay												
262-752	7-25	Prokopowich	g	g	g	0	0	0	150	300Ch	500Ch	Bay fish in lagoon entrance.
262-752	8- 2	Prokopowich	g	g	g	0	0	0	700	7000Ch	-	M/V Coho working on markers.
262-752	9- 6	Brennan				0	0	800	14500	-	-	1455 hrs. Plus 2,500 carcasses.
Kanatak												
262-802	9- 6	Brennan				0	0	38000	7000	2000P	-	1500 hrs.
Big Creek												
262-851	7-25	Prokopowich	g	g	g	0	0	4000	9000	31500P	-	Low water flow - fish dark at mouth.
262-851	8- 2	Prokopowich	g	g	g	0	0	4800	2700	31500Ch	-	Water stil low. Most fish off mouth dark.
262-851	8-23	Prokopowich	e	e	e	0	0	220000	60000	53000P	-	Peak of spawning. Good distribution, good water flow.
22000Ch												
Des Moines Creek												
262-852	7-25	Prokopowich	f	f	f	0	0	0	0	2500P	3500P	Didn't survey creek. Low water in stream. Bay fish scattered along shore toward Big Creek.
262-852	8-23	Prokopowich	e	e	e	0	0	45000	0	-	-	Looks real good.
Pass Creek												
262-853	7-25	Prokopowich	f	f	f	0	0	0	0	500Ch	-	Didn't survey creek. Low water in stream.
262-853	8-23	Prokopowich	g	g	g	0	0	9000	36000	-	-	Good distribution
Short Creek												
262-854	7-25	Prokopowich	f	f	f	0	0	0	0	1500Ch	-	Didn't survey creek, low water in stream.

Continued

Appendix E.1. (Page 29 of 29)

Stream	Date MM-DD	Observer	Visibility			-----Fish in Stream-----				Build Up Fish		Observer Remarks	
			Str	Mou	Bay	Sockeye	Coho	Pink	Chum	Mouth	Bay		
Kialagvik Creek 262-858	7-25	Prokopowich	f	f	f	0	0	0	400	-	3000Ch	Fish in clear portions of creek. Estimated 300 chum from spit to head of bay.	
Icy Peak Creek 262-859	7-25	Prokopowich	f	f	f	0	0	0	800	-	-	Fish in clear portions of creek.	
	262-859	8-23	Prokopowich	e	e	e	0	0	5000	32500	-	-	East fork 16,500 chums, west fork 6,000 chum, Middle 10,000 chum and 5,000 pink.
Kilokak Creek 272-963	7-25	Prokopowich	g	g	g	0	0	0	0	-	-	Nothing seen. Lower end of creek dry.	
Salmon Escapement Observations						Report Date 07/14/1992							

Appendix E.2. Index peak salmon escapement counts for the Afognak District, by stream and species, 1991.

Stream	Number of fish					Date	Observer	Number of Surveys
	Sockeye	Pink	Chum	Coho	Chinook			
251-101	0	0	0	0	0	7/26	Brennan	1
251-105	1,800	80	0	0	0	7/26	Brennan	
	0	32,500	500	0	0	8/30	Brennan	
	3,850	0	0	0	0	9/4	Weimer	7
251-202	0	0	0	0	0	7/26	Brennan	1
251-301	0	200	0	0	0	7/26	Brennan	1
251-302	200	1,500	0	0	0	8/2	Prokopowich	1
251-403	0	9,400	0	0	0	8/30	Brennan	2
251-404	0	1,200	0	0	0	7/26	Brennan	
	0	13,600	0	0	0	8/30	Brennan	3
251-406	0	0	0	150	0	9/15	Malloy	1
251-505	0	500	0	0	0	8/6	Prokopowich	1
251-601	2	718	0	2,823	0	9/13	Weir Count	
251-821	0	4,800	0	0	0	8/6	Prokopowich	1
251-822	151	115,000	12	29	0	9/9	Weir Count	
251-825	5,466	0	0	0	0	7/17	Weir Count	
	-	0	0	350	0	8/21	Honnold	
	600	36,500	0	250	0	8/30	Brennan	7
251-826	0	200	0	0	0	8/30	Brennan	1
251-827	0	300	0	200	0	8/30	Brennan	1
251-831	3,231	1	2	0	0	7/17	Weir Count	
	-	0	0	580	0	8/27	Honnold	
	-	0	0	2,500	0	8/30	Brennan	3
251-901	0	15,300	0	50	0	8/30	Brennan	1
251-903	0	100	0	0	0	8/30	Brennan	1
252-302	0	0	0	0	0	7/26	Brennan	1
252-303	0	0	0	0	0	7/26	Brennan	1
252-305	0	0	0	0	0	7/26	Brennan	1
252-306	0	2,400	0	0	0	8/6	Prokopowich	2
252-307	0	0	0	0	0	7/26	Brennan	1
252-308	0	0	0	0	0	7/26	Brennan	1

-Continued-

Appendix E.2. (page 2 of 2)

Stream	Number of fish					Date	Observer	Number of Surveys
	Sockeye	Pink	Chum	Coho	Chinook			
252-309	0	0	0	0	0	7/26	Brennan	1
252-323	0	5,000	0	0	0	9/1	Joyce	1
252-324	0	15,000	10,000	0	0	9/1	Joyce	1
252-331	0	200	0	0	0	8/2	Prokopowich	
	0	2,300	0	0	0	8/30	Brennan	2
252-332	0	8,000	600	0	0	8/2	Prokopowich	
	0	11,800	0	2	0	8/30	Brennan	3
252-333	0	200	0	0	0	8/2	Prokopowich	
	0	400	0	0	0	8/30	Brennan	2
252-335	0	300	0	0	0	8/2	Prokopowich	1
252-342	88,557	13,985	0	14,409	0	9/8	Weir Count	
252-343	0	-	1,400	0	0	8/23	Brennan	
	0	19,500	0	700	0	8/30	Brennan	3
	103,857	310,984	12,514	22,043	0			54

Appendix E.3. Index peak salmon escapement counts for the Northwest Kodiak District, by stream and species, 1991.

Stream	Number of fish					Date	Observer	Number of Surveys
	Sockeye	Pink	Chum	Coho	Chinook			
253-115	0	18,000	0	0	0	8/20	Brennan	
	24,960	0	0	0	0	8/23	Zweifelhofer	6
253-121	0	0	2,000	0	0	7/29	Hander	
	0	775	-	0	0	8/21	Brennan	
	0	-	1,000	0	0	8/23	Zweifelhofer	7
253-122	0	103,000	-	-	0	8/30	Prokopowich	11
	89,305	185,414	11,823	11,704	0	10/7	Weir Count	
253-321	0	1,700	0	0	0	8/2	Brennan	1
253-331	0	5,300	200	0	0	7/18	Brennan	
	0	79,800	2,200	0	0	8/24	Blackett	
	0	300	150	0	0	10/2	Blackett	9
253-332	0	700	0	0	0	7/18	Brennan	
	0	12,200	0	0	0	8/21	Brennan	5
254-201	0	600	0	0	0	8/20	Brennan	1
254-202	0	7,000	0	0	0	7/18	Brennan	
	0	-	32,000	0	0	8/20	Brennan	
	0	243,000	-	0	0	8/21	Brennan	
	0	0	0	4,410	0	10/7	Hander	12
254-203	0	153,000	0	0	0	8/6	Prokopowich	
	0	0	0	150	0	10/7	Hander	10
254-204	0	13,000	0	0	0	8/20	Brennan	3
254-205	0	500	0	0	0	8/20	Brennan	2
254-206	0	750	0	0	0	8/20	Brennan	1
254-207	0	700	0	0	0	8/20	Brennan	2
254-208	0	1,500	0	0	0	8/20	Brennan	1
254-301	0	2,500	-	0	0	7/18	Brennan	
	0	-	11,400	0	0	8/2	Prokopowich	
254-301	0	111,000	-	0	0	8/22	Prokopowich	
	0	0	0	7,110	0	10/7	Hander	10
254-302	0	0	0	0	0	7/29	Hander	1

-Continued-

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Stream	Number of fish					Date	Observer	Number of Surveys
	Sockeye	Pink	Chum	Coho	Chinook			
254-401	0	86,000	39,000	0	0	8/6	Prokopowich	
	100	-	-	0	0	8/23	Zweifelhofer	
	0	0	0	8,975	0	10/7	Hander	9
259-363	3,400	0	0	0	0	7/18	Brennan	4
259-364	0	700	0	0	0	7/26	Brennan	1
259-365	0	350	0	0	0	7/18	Brennan	
	0	27,200	1,480	0	0	8/24	Blackett	
	0	1,800	-	950	0	10/2	Blackett	8
259-366	0	200	0	0	0	8/20	Brennan	1
259-371	0	500	-	0	0	7/20	Prokopowich	
	0	19,050	1,650	0	0	8/21	Brennan	5
259-382	0	1,300	600	0	0	8/21	Brennan	2
259-391	0	6,800	0	0	0	8/30	Brennan	2
259-392	0	250	0	0	0	8/2	Brennan	1
259-394	0	250	0	600	0	8/30	Brennan	2
259-397	0	1,000	0	0	0	8/30	Brennan	2
	117,765	1,086,139	103,503	33,899	0			106

Appendix E.4. Index peak salmon escapement counts for the Southwest Kodiak District, by stream and species, 1991.

Stream	Number of fish					Date	Observer	Number of Surveys
	Sockeye	Pink	Chum	Coho	Chinook			
255-101	1,134,086	116,329	140	-	14,022	9/23	Weir Count	
	0	0	0	34,900	0	10/21	Hander	7
256-201	374,859	16,053	25	-	12,988	8/14	Weir Count	
	0	0	0	42,680	0	10/21	Hander	3
256-401	0	0	47,500	0	0	7/20	Prokopowich	
	0	200	-	0	0	7/30	Hander	
	0	2,130	-	0	0	8/29	Hander	
	0	0	0	17,650	0	10/7	Hander	6
256-402	0	0	4,100	0	0	7/30	Hander	
	0	1,000	0	0	0	8/29	Hander	
	0	0	0	1,810	0	10/7	Hander	4
	1,508,945	135,712	51,765	97,040	27,010			20

Appendix E.5. Index peak salmon escapement counts for the Alitak Bay District, by stream and species, 1991.

Stream	Number of fish					Date	Observer	Number of Surveys
	Sockeye	Pink	Chum	Coho	Chinook			
257-101	0	0	0	0	0	8/20	Brennan	1
257-102	0	6,000	62,800	0	0	8/20	Brennan	
	0	0	0	1,250	0	10/23	Hander	5
257-302	44,189	7,402	0	7,672	0	9/15	Weir Count	
257-303	4,500	0	0	0	0	8/7	Hander	
	0	0	0	1,710	0	10/7	Hander	7
257-304	292,886	763	0	4,250	1	9/8	Weir Count	
257-305	0	-	200	0	0	8/20	Brennan	
	0	3,071	-	0	0	8/30	Kuriscak	3
257-401	0	200	0	0	0	7/18	Brennan	
	3	21,500	42	0	0	8/22	Kuriscak	2
257-402	-	500	0	0	0	8/20	Brennan	
	7,000	0	0	0	0	8/23	Zweifelhofer	
	-	-	51	0	0	9/5	Kuriscak	
	0	0	0	600	0	10/7	Hander	9
257-403	288,013	114,158	3,277	5,158	282	9/6	Weir Count	
257-502	0	3,000	0	0	0	7/26	Prokopowich	
	0	100,000	11,400	0	0	8/20	Brennan	
	0	0	0	1,375	0	10/23	Hander	11
257-503	0	8,500	0	0	0	8/15	Brennan	
	0	-	1,000	0	0	8/29	Hander	
	0	0	0	20	0	10/23	Hander	8
257-601	0	4,500	23,000	0	0	8/29	Hander	
	0	0	0	150	0	10/23	Hander	3
257-602	0	25,500	12,500	0	0	8/29	Hander	1
257-603	0	15,200	0	0	0	8/6	Prokopowich	
	0	-	25,250	0	0	8/29	Hander	
257-603	0	0	-	2,800	0	10/11	Hander	6
257-604	0	300	0	0	0	7/18	Brennan	1

-Continued-

Appendix E.5. (page 2 of 2)

Stream	Number of fish					Date	Observer	Number of Surveys
	Sockeye	Pink	Chum	Coho	Chinook			
257-701	0	4,500	0	0	0	7/18	Brennan	
	0	153,000	0	0	0	8/20	Brennan	
257-703	0	0	0	7,250	0	10/11	Hander	9
	0	150	0	0	0	8/12	Kuriscak	1
	636,591	468,244	139,520	32,235	283			67

Appendix E.6. Index peak salmon escapement counts for the Eastside Kodiak District, by stream and species, 1991.

Stream	Number of fish					Date	Observer	Number of Surveys
	Sockeye	Pink	Chum	Coho	Chinook			
258-202	0	1,450	0	0	0	8/21	Brennan	
	0	500	4,300	0	0	8/30	Prokopowich	4
258-204	0	2,000	24,000	0	0	8/30	Prokopowich	3
258-205	0	500	22,000	0	0	8/30	Prokopowich	3
258-206	0	-	200	0	0	8/7	Gretsch	
	0	24,750	0	0	0	8/21	Brennan	3
258-207	0	800	-	0	0	7/26	Prokopowich	
	0	28,000	11,450	0	0	8/21	Brennan	7
258-208	0	15,000	0	0	0	7/26	Prokopowich	1
258-209	0	0	2,200	0	0	7/26	Prokopowich	1
258-213	0	0	0	0	0	7/26	Prokopowich	1
258-401	480	0	0	0	0	8/15	Brennan	2
258-511	0	7,100	0	0	0	8/7	Gretsch	1
258-513	0	200	0	0	0	8/7	Gretsch	1
258-514	0	200	0	0	0	8/7	Gretsch	1
258-515	0	0	0	0	0	8/7	Gretsch	1
258-521	135	-	-	0	0	8/29	Hander	
	0	62,000	8,000	0	0	8/30	Prokopowich	
	0	0	0	16,000	0	10/11	Hander	8
258-522	0	101,500	7,200	0	0	8/20	Brennan	
	0	0	-	4,350	0	10/11	Hander	8
258-531	0	2,500	0	0	0	8/29	Hander	1
258-532	0	250	0	0	0	8/29	Hander	1
258-533	0	50	0	0	0	8/29	Hander	1
258-541	0	95,500	19,500	0	0	8/29	Hander	
	0	0	0	1,000	0	10/11	Hander	4
258-542	0	45,800	0	0	0	8/15	Brennan	
	0	-	30,000	0	0	8/29	Hander	
	0	0	0	300	0	10/11	Hander	6
258-543	0	2,000	0	0	0	8/5	Hander	1
258-544	0	27,000	17,500	0	0	8/29	Hander	3

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Stream	Number of fish					Date	Observer	Number of Surveys
	Sockeye	Pink	Chum	Coho	Chinook			
258-551	0	1,000	7,000	0	0	8/29	Hander	1
258-552	0	2,000	0	0	0	8/30	Prokopowich	1
258-554	0	2,000	7,000	0	0	8/29	Hander	1
258-555	0	200	0	0	0	8/29	Hander	1
258-602	0	15,000	4,000	0	0	8/20	Brennan	5
258-701	0	750	0	0	0	7/18	Brennan	1
	0	171,850	0	0	0	8/20	Brennan	5
258-705	0	0	0	0	0	7/18	Brennan	1
258-801	0	800	0	0	0	8/30	Prokopowich	1
258-803	0	500	0	0	0	8/30	Prokopowich	1
258-805	0	0	0	0	0	8/30	Prokopowich	1
258-806	0	0	0	0	0	8/30	Prokopowich	1
258-807	0	0	3,400	0	0	8/30	Prokopowich	1
258-808	0	500	1,500	500	0	8/30	Prokopowich	1
258-810	0	1,000	0	0	0	8/30	Prokopowich	1
258-811	0	1,000	0	0	0	8/30	Prokopowich	1
258-851	0	1,800	0	2,400	0	8/30	Prokopowich	1
258-852	0	0	0	0	0	8/30	Prokopowich	1
258-901	0	3,000	500	0	0	8/30	Prokopowich	1
258-902	0	12,500	0	0	0	8/30	Prokopowich	1
258-905	0	1,500	0	0	0	8/30	Prokopowich	1
259-401	0	20,100	2,500	1,000	0	9/6	Gretsch	1
259-411	25,000	2,000	0	0	10	8/30	Prokopowich	3
259-412	0	5,500	2,200	0	0	8/7	Gretsch	1
	2,300	-	0	-	0	8/30	Prokopowich	1
	-	43,000	0	3,500	0	9/6	Gretsch	4
259-414	0	15,450	50	0	0	8/22	Brennan	2
259-415	0	36,000	-	0	0	8/22	Brennan	1
	52,592	34,087	18	1,047	3	9/8	Weir Count	5
259-416	0	0	4,200	0	0	8/22	Brennan	1
259-418	0	1,580	0	0	0	8/22	Brennan	2

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Appendix E.6. (page 3 of 3)

Stream	Number of fish					Date	Observer	Number of Surveys
	Sockeye	Pink	Chum	Coho	Chinook			
259-419	0	0	0	0	0	8/22	Brennan	2
259-422	0	2,250	0	0	0	8/22	Brennan	1
259-423	0	0	0	0	0	8/7	Gretsch	1
259-424	0	400	0	0	0	7/26	Prokopowich	
	0	55,000	15,000	0	0	8/30	Prokopowich	4
259-428	0	50	0	0	0	9/6	Gretsch	2
	80,507	847,917	193,718	30,097	13			117

Appendix E.7. Index peak salmon escapement counts for the Northeast Kodiak District, by stream and species, 1991.

Stream	Number of fish					Date	Observer	Number of Surveys
	Sockeye	Pink	Chum	Coho	Chinook			
259-101	0	11,800	0	0	0	8/30	Brennan	
	0	-	0	55	0	9/18	Gretsch	4
259-102	0	9,000	0	0	0	8/30	Brennan	
	0	-	0	70	0	9/18	Gretsch	4
259-105	0	733	20	0	0	9/18	Gretsch	2
259-211	9,794	37,736	21	8,929	0	9/28	Weir Counts	4
259-221	0	23,385	0	0	0	8/22	Brennan	4
259-222	0	23,360	0	0	0	8/22	Brennan	4
259-223	0	19,500	4,000	0	0	8/22	Brennan	3
259-231	0	200	0	0	0	7/26	Prokopowich	
	0	49,000	12,000	0	0	8/22	Brennan	6
259-233	0	0	25	0	0	8/12	Brennan	3
259-242	0	8,200	0	0	0	7/26	Brennan	
	0	70,000	10,000	0	0	8/30	Prokopowich	
	0	-	-	900	0	9/6	Gretsch	7
259-243	0	3,500	0	0	0	7/26	Brennan	
	0	3,700	0	0	0	8/22	Brennan	3
259-244	0	400	0	0	0	8/12	Brennan	
	0	4,200	0	0	0	8/22	Brennan	4
259-245	0	16,000	0	0	0	8/22	Brennan	4
259-251	0	23,900	0	-	0	8/22	Brennan	
	0	0	0	882	0	10/4	Sampson	4
259-252	0	2,500	0	0	0	7/26	Brennan	
	0	4,000	0	0	0	8/2	Brennan	2
259-253	0	500	0	0	0	8/2	Brennan	1
259-254	0	15,000	0	0	0	8/2	Brennan	2
259-255	0	0	50	0	0	8/2	Brennan	
	9,794	326,614	26,116	10,836	0			61

Appendix E.8. Index peak salmon escapement counts for the Mainland District, by stream and species, 1991.

Stream	Number of fish					Date	Observer	Number of Surveys
	Sockeye	Pink	Chum	Coho	Chinook			
262-151	28,000	0	0	0	0	8/2	Prokopowich	3
	0	0	0	14,700	0	9/6	Brennan	
262-152	0	35,000	-	0	0	8/6	Prokopowich	5
	0	-	30,000	0	0	8/17	Prokopowich	
262-153	0	25,800	-	19,000	0	9/6	Brennan	5
	0	20,000	-	0	0	8/6	Prokopowich	
	0	-	55,000	0	0	8/17	Prokopowich	5
	0	40,400	0	0	0	9/6	Brennan	
262-154	0	0	49,600	0	0	8/6	Prokopowich	5
262-203	0	0	11,000	0	0	8/6	Prokopowich	2
	0	13,500	0	0	0	9/6	Brennan	
262-204	0	0	0	0	0	8/6	Prokopowich	3
262-205	0	130,000	35,000	0	0	8/17	Prokopowich	2
262-207	0	0	15,000	0	0	8/17	Prokopowich	3
262-271	0	21,000	8,000	0	0	9/6	Brennan	4
262-301	25,500	0	0	0	0	7/20	Prokopowich	1
262-351	1,200	0	0	0	0	7/20	Prokopowich	2
	1,500	5,100	0	0	0	8/22	Prokopowich	
262-352	0	4,000	0	0	0	8/22	Prokopowich	2
262-401	0	4,800	0	0	0	8/22	Prokopowich	1
262-402	0	67,000	0	0	0	8/22	Prokopowich	1
262-451	0	70,800	0	0	0	9/6	Brennan	5
262-501	0	4,200	0	0	0	8/6	Prokopowich	4
	0	25,400	0	0	0	9/6	Brennan	
262-502	0	2,200	0	0	0	8/22	Prokopowich	1
262-504	0	8,000	0	0	0	8/22	Prokopowich	2
262-551	0	39,700	10,000	0	0	8/22	Prokopowich	5
262-602	0	0	4,000	0	0	8/22	Prokopowich	2
262-604	0	80,000	15,000	0	0	8/22	Prokopowich	4
262-605	0	3,000	0	0	0	8/22	Prokopowich	1

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Stream	Number of fish					Date	Observer	Number of Surveys
	Sockeye	Pink	Chum	Coho	Chinook			
262-651	0	10,500	0	0	0	8/2	Prokopowich	
	0	65,000	2,700	0	0	9/6	Brennan	4
262-652	0	37,000	500	0	0	9/6	Brennan	3
262-653	0	15,000	0	0	0	8/2	Prokopowich	3
262-654	0	1,000	0	0	0	7/25	Prokopowich	
	0	18,500	5,500	0	0	8/22	Prokopowich	4
262-656	0	12,800	0	0	0	8/22	Prokopowich	2
262-702	0	3,500	0	0	0	8/2	Prokopowich	1
262-703	0	9,500	2,500	0	0	9/6	Brennan	3
262-704	0	0	7,000	0	0	8/2	Prokopowich	
	0	11,800	-	0	0	9/6	Brennan	2
262-705	0	0	2,000	0	0	7/25	Prokopowich	
	0	10,000	0	0	0	8/2	Prokopowich	2
262-706	0	2,000	0	0	0	8/2	Prokopowich	1
262-751	0	6,000	0	0	0	8/2	Prokopowich	
	0	15,700	0	0	0	9/6	Brennan	3
262-752	0	800	17,000	0	0	9/6	Brennan	3
262-802	0	40,000	7,000	0	0	9/6	Brennan	1
262-851	0	4,000	-	0	0	7/25	Prokopowich	
	0	220,000	60,000	0	0	8/23	Prokopowich	3
262-852	0	45,000	0	0	0	8/23	Prokopowich	2
262-853	0	9,000	36,000	0	0	8/23	Prokopowich	2
262-854	0	0	1,500	0	0	7/25	Prokopowich	1
262-858	0	0	400	0	0	7/25	Prokopowich	1
262-859	0	5,000	32,500	0	0	8/23	Prokopowich	2
262-963	0	0	0	0	0	7/25	Prokopowich	1
	56,200	1,142,000	407,200	33,700	0			107

Appendix E.9. Indexed peak salmon escapement, by District, by species, Kodiak Management Area, 1991.

District	Number of fish					Number of Observations
	Sockeye	Pink	Chum	Coho	Chinook	
Afognak	103,857	310,984	12,514	22,043	0	54
Northwest	117,765	1,086,139	103,503	33,899	0	106
Southwest	1,508,945	135,712	51,765	97,040	27,010	20
Alitak	636,591	468,244	139,520	32,235	283	67
Eastside	80,507	847,917	193,718	30,097	13	117
Northeast	9,794	326,614	26,116	10,836	0	61
Mainland	56,200	1,142,000	407,200	33,700	0	107
<b>TOTAL</b>	<b>2,513,659</b>	<b>4,317,610</b>	<b>934,336</b>	<b>259,850</b>	<b>27,306</b>	<b>532</b>

Appendix E.10. Escapement summary for systems with fish weirs in the Kodiak Management Area, 1991.

Weir Location	Dates		Salmon Species Enumerated					Total
	Installed	Removed	Sockeye	Chinook	Pink	Coho	Chum	
1. Karluk	5/26	9/23	1,134,086	14,022	116,329	27,331	140	1,291,908
2. Red River	5/25	8/14	374,859	12,988	16,053	414	25	404,339
3. Dog Salmon	6/6	9/6	288,013	282	114,158	5,158	3,277	410,888
4. Frazer Lake <sup>a</sup>	6/14	7/14	190,358 <sup>a</sup>	127 <sup>a</sup>	0 <sup>a</sup>	0 <sup>a</sup>	0 <sup>a</sup>	190,485
5. Upper Station	5/31	9/8	292,886	1	763	4,250	0	297,900
6. Akalura	5/6	9/15	44,189	0	7,402	7,672	0	59,263
7. Saltery	6/11	9/4	52,592	0	34,087	1,047	18	87,744
8. Buskin	4/23 8/23	7/25 9/28	9,789	0	37,736	8,929	21	56,475
9. Litnik	5/24	9/8	88,557	0	13,985	14,409	0	116,951
10. Paul's Bay	6/5	7/17	3,237	0	1	0	2	3,240
11. Perenosa (Portage)	6/18	7/17	5,466	0	0	0	0	5,466
12. Uganik	5/19	10/7	89,305	1	185,414	11,704	11,823	298,247
13. Waterfall	7/18	9/9	151	0	115,000	29	12	115,192
14. Shuyak (Big Creek)	8/14	9/13	2	0	718	2,823	0	3,543
TOTALS			2,383,132	27,294	641,646	83,766	15,318	3,151,156

<sup>a</sup> Numbers not used in species totals as Frazer Lake salmon are initially counted through Dog Salmon weir.

Appendix E.11. Fish weirs in the Kodiak Management Area, 1991.

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Fish weirs are man-made structures whose primary function is to yield accurate total enumeration of adult salmon during their upstream spawning migration from saltwater to freshwater. This escapement information provides the basis for in-season management actions which regulate all user-groups harvesting salmon (which are excess to management needs). Those salmon species benefiting from the use of these weirs are identified in Table 11 on page 40; these are the primary target species by the various user-groups. The remaining species tallied at these weirs are monitored for trends in abundance and includes not only salmon stocks untargeted by the various user-groups but also steelhead and Dolly Varden, both of which have downstream spring migrations from freshwater to saltwater. and mid to late summer migration from saltwater to freshwater.

Operation of these weirs generally begins in mid-May to early-June until late-August to late-September depending upon the nature of salmon populations in a particular system.

During the 1991 field season eleven fish-weirs were installed in Kodiak and Afognak Island streams. These weirs are identified below:

1. **KARLUK WEIR** - Approximately 320' long, located about 1/8 mile upstream from confluence of Karluk River and Karluk Lagoon. First constructed in 1924; a three to five person camp. Operational from mid-May to late September.
2. **AYAKULIK WEIR** - Approximately 190' long, located about 1/8 mile upstream from confluence of Ayakulik River and Shelikof Strait. First constructed in 1929; a two to three person camp. Operational from late-May to early-September.
3. **UPPER STATION WEIR** - Approximately 80' long, located 60 yards below the outlet of lower Upper Station Lake. First constructed in 1929; a two person camp. Operational from late-May to mid-September.
4. **DOG SALMON WEIR** - Consists of two 100' weirs and one 25' weir on the three forks of Dog Salmon River which drains from the Fraser Lake system. First constructed in 1983; a two person camp. Operational from early-June to early-September.
5. **FRAZER LAKE STATIONS** - Consists of a series of "fish ladders" which allow salmon to ascend a 30' falls. Constructed in 1962 to accommodate a sockeye salmon stock introduced in 1951; a two person camp. Operational from mid-May to mid-August.
6. **AKALURA WEIR** - Approximately 60' long, located about 1/8 mile upstream from confluence of Akalura Creek and Akalura Lagoon. First constructed in 1923; a one to two person camp. Operational from late-May to late-September.

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7. **SALTERY WEIR** - Approximately 120' long, located about 1/4 mile below the outlet of Saltery Lake. First constructed in 1985; a one man camp. Operational from early-June to mid-September.
  8. **BUSKIN WEIR** - Approximately 100' long, located about 1 mile above confluence of Buskin River and Chiniak Bay. First constructed in 1985; a two man camp. Operational from late-April to early-October.
  9. **LITNIK WEIR** - Approximately 120' long, located about 30 yards above the confluence of Litnik River and Litnik Lagoon. First constructed in 1982; a two man camp. Operational from late-May to mid-September.
  10. **PAUL'S WEIR** - Approximately 20' long, located at the confluence of Paul's Creek and Perenosa Bay. First constructed in 1984; a two person camp. Operational from early-June to mid-September.
  11. **PERENOSA WEIR** - Approximately 60' long, located below the fish pass on Portage Creek in Discoverer Bay. First constructed in 1987; a two person camp (same crew oversees Paul's Bay weir). Operational primarily from early-August to mid-September.
  12. **BIG BAY WEIR** - Approximately 20' long, located at the head of Big Bay on Shuyak Island. First constructed in 1986; operated by the State Park Service. Operational; from early-August to mid-September.
  13. **UGANIK WEIR** - Approximately 220' long, located 1/4 mile from the confluence of the Uganik River into the Soth Arm Uganik Bay. First constructed in 1989; materials purchased by ADF&G and project is run by the USF&WS Fisheries Division with 2 or 3 persons, from early-May to mid-September.
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Appendix F.1. Definition of total return for the Kodiak Management Area, 1991.

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**GENERAL STATEMENT**

- *Definition*

Total return, as used in this report, refers to the total number of adult salmon which have escaped interception in the marine environment and have made it into the freshwater environment as well as those salmon which were recorded harvested in the commercial salmon net fishery. It does not include subsistence, recreational sport, or commercial sport harvests. The subsistence harvest is generally insignificant when compared to the commercial harvest except in the case of the heaviest subsistence use areas such as the Buskin and Litnik River sockeye and coho subsistence harvest.

- *Natural vs. Artificial*

The "total return" data for the Kodiak Area needs to be qualified regarding the contribution of naturally occurring stocks vs. enhanced (newly created) stocks in order to better document historical production and provide a more accurate perspective as to the impact of enhanced production.

The natural stocks are managed for the commercial and subsistence fisheries by the Commercial Fisheries Division and for the sport fishery (both recreational and commercial) by the Sport Fish Division. The Fisheries Enhancement and Rehabilitation Division (F.R.E.D.) is responsible for increasing total production through the process of creating new salmon runs where none previously occurred, e.g. Spiridon Lake sockeye and to rehabilitate runs which have been severely deleted e.g. Karluk sockeye. Because the commercial fisheries historically has accounted for the majority of the harvest on all stocks, the management actions by the Commercial Fisheries Division must ensure that traditional fishing opportunities are provided for all user groups within the regulatory framework provided by the Board of Fisheries and most importantly must ensure that biological escapement requirements for all species for all systems are provided for, at least in terms of number of spawners which escape the commercial and subsistence harvest in saltwater and are allowed to enter the freshwater systems to complete their spawning migration and activity.

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Appendix G.1.

Commercial salmon harvest by species by statistical week all gear combined, Kodiak Management Area, 1991.

SECTION (STAT. AREA)	STAT WEEK/ WEEK END	CHINOOK			SOCKEYE			COHO			PINK			CHUM			
		#	LBS.	AVG.	#	LBS.	AVG.	#	LBS.	AVG.	#	LBS.	AVG.	#	LBS.	AVG.	
S.W.AFOGNAK & RASPBERRY (COMBINED) (251-10, 20)	24 06/15	21	246	11.7	4070	18114	4.5	0	0	0.0	102	311	3.0	141	901	6.4	
	25 06/22	3	24	8.0	4341	20803	4.8	0	0	0.0	168	372	2.2	171	1292	7.6	
	27 07/06	3	17	5.7	79	375	4.7	0	0	0.0	121	298	2.5	5	30	6.0	
	28 07/13	120	1043	8.7	6540	33920	5.2	223	1428	6.4	24317	63088	2.6	1808	11869	6.6	
	29 07/20	66	650	9.8	20951	120369	5.7	1208	7336	6.1	36976	102341	2.8	1552	10956	7.1	
	30 07/27	153	1245	8.1	7011	38885	5.5	2969	18609	6.3	46538	124163	2.7	1067	8770	8.2	
	31 08/03	58	563	9.7	2162	10507	4.9	1441	9645	6.7	44102	119407	2.7	1871	12731	6.8	
	32 08/10	8	86	10.8	1404	7125	5.1	1920	13738	7.2	90806	250437	2.8	3583	26260	7.3	
	33 08/17	64	672	10.5	5468	28105	5.1	3762	27329	7.3	129594	385743	3.0	13439	105084	7.8	
	34 08/24	170	1807	10.6	19191	101930	5.3	5017	35611	7.1	52690	158418	3.0	4938	33914	6.9	
	35 08/31	0	0	0.0	485	2356	4.9	532	3964	7.5	83	239	2.9	80	454	5.7	
	38 09/21	0	0	0.0	8	37	4.6	599	4932	8.2	0	0	0.0	0	0	0.0	
	39 09/28	7	90	12.9	767	3914	5.1	0	0	0.0	0	0	0.0	193	1294	6.7	
TOTAL		673	6443	9.6	72477	386440	5.3	17671	122592	6.9	425497	1204817	2.8	28848	213555	7.4	
N.W.AFOGNAK (251-30, 40, 50)	25 06/22	0	0	0.0	4690	22143	4.7	0	0	0.0	232	581	2.5	15	105	7.0	
	26 06/29	0	0	0.0	1168	5957	5.1	0	0	0.0	281	703	2.5	46	327	7.1	
	28 07/13	40	190	4.8	1652	6841	4.1	17	101	5.9	2265	4951	2.2	344	2087	6.1	
	29 07/20	5	76	15.2	971	5326	5.5	169	1072	6.3	7096	17037	2.4	180	1371	7.6	
	30 07/27	45	285	6.3	4538	26038	5.7	1057	6718	6.4	21588	57493	2.7	674	4679	6.9	
	31 08/03	1	3	3.0	157	674	4.3	41	247	6.0	5119	12865	2.5	224	1474	6.6	
	32 08/10	0	0	0.0	15	70	4.7	16	87	5.4	700	1900	2.7	9	51	5.7	
	33 08/17	0	0	0.0	80	294	3.7	0	0	0.0	7519	22502	3.0	16	104	6.5	
	34 08/24	0	0	0.0	0	0	0.0	323	2266	7.0	3283	10893	3.3	0	0	0.0	
	37 09/14	0	0	0.0	69	356	5.2	1482	9935	6.7	0	0	0.0	0	0	0.0	
	38 09/21	0	0	0.0	0	0	0.0	350	2784	8.0	0	0	0.0	0	0	0.0	
	TOTAL		91	554	6.1	13340	67699	5.1	3455	23210	6.7	48083	128925	2.7	1508	10198	6.8
	SHUYAK (251-60, 70, 81)	30 07/27	0	0	0.0	144	895	6.2	3	20	6.7	363	908	2.5	18	123	6.8
36 09/07		0	0	0.0	0	0	0.0	3254	24610	7.6	0	0	0.0	0	0	0.0	
37 09/14		0	0	0.0	0	0	0.0	2042	14591	7.1	0	0	0.0	0	0	0.0	
39 09/28		0	0	0.0	0	0	0.0	552	4486	8.1	0	0	0.0	0	0	0.0	
TOTAL		0	0	0.0	144	895	6.2	5851	43707	7.5	363	908	2.5	18	123	6.8	
PERENOSA (251-83, 83)	32 08/10	0	0	0.0	1	7	7.0	1	7	7.0	6505	19475	3.0	0	0	0.0	
	38 09/21	0	0	0.0	0	0	0.0	236	1704	7.2	0	0	0.0	0	0	0.0	
TOTAL		0	0	0.0	1	7	7.0	237	1711	7.2	6505	19475	3.0	0	0	0.0	
N.E.AFOGNAK (251-90, 252-10, 20)	28 07/13	65	490	7.5	663	3093	4.7	16	97	6.1	15592	31286	2.0	3314	19489	5.9	
	30 07/27	32	311	9.7	631	3448	5.5	1454	10844	7.5	36837	104717	2.8	3500	22677	6.5	
	31 08/03	0	0	0.0	121	522	4.3	303	1356	4.5	10767	27915	2.6	1440	5547	3.9	
	32 08/10	0	0	0.0	8	44	5.5	13	109	8.4	2079	4159	2.0	24	174	7.3	
	33 08/17	0	0	0.0	104	544	5.2	386	2715	7.0	32918	100060	3.0	143	1151	8.0	
	40 10/05	0	0	0.0	0	0	0.0	158	1185	7.5	0	0	0.0	0	0	0.0	
TOTAL		97	801	8.3	1527	7651	5.0	2330	16306	7.0	98193	268137	2.7	8421	49038	5.8	

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SECTION (STAT. AREA)	STAT WEEK/ WEEK END	CHINOOK		SOCKEYE		COHO		PINK		CHUM		
		#	LBS. AVG.	#	LBS. AVG.	#	LBS. AVG.	#	LBS. AVG.	#	LBS. AVG.	
IZHUT (252-30)	25 06/22	4	40 10.0	2	13 6.5	0	0 0.0	0	0 0.0	1455	9004 6.2	
	26 06/29	9	127 14.1	199	924 4.6	0	0 0.0	133	289 2.2	1092	6719 6.2	
	30 07/27	2	51 25.5	416	2106 5.1	229	1308 5.7	17566	44230 2.5	1021	7849 7.7	
	31 08/03	30	626 20.9	927	3953 4.3	571	3459 6.1	235874	588380 2.5	3506	18524 5.3	
	32 08/10	16	314 19.6	584	2537 4.3	960	6240 6.5	295444	765275 2.6	1534	10037 6.5	
	33 08/17	3	36 12.0	230	1108 4.8	1146	6873 6.0	144116	399442 2.8	909	6390 7.0	
	35 08/31	0	0 0.0	1	9 9.0	1025	5341 5.2	1168	3504 3.0	0	0 0.0	
TOTAL		64	1194 18.7	2359	10650 4.5	3931	23221 5.9	694301	1801120 2.6	9517	58523 6.1	
KITOI BAY (252-32)	30 07/27	0	0 0.0	42	162 3.9	25	133 5.3	24748	57003 2.3	995	4587 4.6	
	31 08/03	2	13 6.5	232	928 4.0	79	467 5.9	115893	283089 2.4	4625	22291 4.8	
	32 08/10	0	0 0.0	54	217 4.0	83	497 6.0	44553	122766 2.8	237	1290 5.4	
	35 08/31	0	0 0.0	0	0 0.0	771	5025 6.5	1095	2993 2.7	0	0 0.0	
TOTAL		2	13 6.5	328	1307 4.0	958	6122 6.4	186289	465851 2.5	5857	28168 4.8	
DUCK BAY (252-31)	24 06/15	6	70 11.7	117	588 5.0	0	0 0.0	0	0 0.0	131	790 6.0	
	25 06/22	41	409 10.0	1261	5547 4.4	0	0 0.0	836	1787 2.1	4067	25170 6.2	
	26 06/29	4	80 20.0	581	2774 4.8	0	0 0.0	439	855 1.9	2525	15140 6.0	
	28 07/13	1	36 36.0	603	2962 4.9	210	1345 6.4	1972	5225 2.6	405	2257 5.6	
	29 07/20	10	99 9.9	1617	8342 5.2	606	3890 6.4	16425	41905 2.6	2241	14777 6.6	
	30 07/27	3	21 7.0	985	4597 4.7	658	3865 5.9	61134	150161 2.5	2081	11922 5.7	
	31 08/03	8	170 21.3	1518	7185 4.7	1166	7267 6.2	220885	551041 2.5	2557	16798 6.6	
	32 08/10	8	103 12.9	536	2583 4.8	877	5939 6.8	136472	367740 2.7	1616	11522 7.1	
	33 08/17	1	18 18.0	198	894 4.5	953	4655 4.9	71928	195494 2.7	722	4889 6.8	
	TOTAL		82	1006 12.3	7416	35472 4.8	4470	26961 6.0	510091	1314208 2.6	16345	103265 6.3
	S.E.AFOGNAK (252-33, 34)	24 06/15	34	411 12.1	10800	49342 4.6	0	0 0.0	23	53 2.3	106	763 7.2
25 06/22		22	300 13.6	20053	86667 4.3	0	0 0.0	510	1050 2.1	111	712 6.4	
26 06/29		14	179 12.8	8743	35581 4.1	1	5 5.0	408	866 2.1	79	490 6.2	
27 07/06		2	24 12.0	1919	8163 4.3	6	40 6.7	391	944 2.4	4	17 4.3	
28 07/13		7	21 3.0	4015	18746 4.7	52	272 5.2	1780	4310 2.4	137	719 5.2	
29 07/20		0	0 0.0	1240	5200 4.2	2	22 11.0	685	1677 2.4	6	25 4.2	
30 07/27		0	0 0.0	1101	4514 4.1	18	99 5.5	602	1617 2.7	35	276 7.9	
31 08/03		0	0 0.0	119	673 5.7	21	120 5.7	6786	17319 2.6	351	1837 5.2	
32 08/10		0	0 0.0	2	8 4.0	2	14 7.0	1044	2903 2.8	25	175 7.0	
33 08/17		0	0 0.0	1	5 5.0	1	8 8.0	375	1005 2.7	0	0 0.0	
37 09/14	0	0 0.0	0	0 0.0	32	212 6.6	0	0 0.0	0	0 0.0		
TOTAL		79	935 11.8	47993	208899 4.4	135	792 5.9	12604	31744 2.5	854	5014 5.9	
CENTRAL, TERROR BAY, INNER UGANIK, SPIRIDON, ZACHAR, & UYAK COMBINED (253-11, 12, 13, 14, 31, 32, 33, 35, 25410, 20 30, 40)	24 06/15	373	3558 9.5	81530	409536 5.0	17	112 6.6	774	2094 2.7	2397	16791 7.0	
	25 06/22	48	928 19.3	11343	54043 4.8	0	0 0.0	54	118 2.2	55	414 7.5	
	27 07/06	45	589 13.1	14764	81304 5.5	21	147 7.0	17118	50176 2.9	2698	19971 7.4	
	28 07/13	280	3225 11.5	68553	378359 5.5	657	4145 6.3	137627	405277 2.9	18845	135853 7.2	
	29 07/20	318	3697 11.6	85162	482631 5.7	2338	15084 6.5	287986	871770 3.0	22312	165590 7.4	
	30 07/27	264	3348 12.7	44766	249929 5.6	4910	32443 6.6	255623	780608 3.1	20017	151487 7.6	
	31 08/03	104	1429 13.7	28529	160330 5.6	4701	32708 7.0	376638	1205268 3.2	31957	239399 7.5	
32 08/10	413	4060 9.8	31233	170226 5.5	9230	67649 7.3	704738	2242675 3.2	41907	309511 7.4		

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SECTION (STAT. AREA)	STAT WEEK/ WEEK END	CHINOOK			SOCKEYE			COHO			PINK			CHUM		
		LBS.	AVG.		LBS.	AVG.		LBS.	AVG.		LBS.	AVG.		LBS.	AVG.	
	33 08/17	1160	12236	10.5	186262	992528	5.3	27883	206284	7.4	1085585	3509648	3.2	61074	444142	7.3
	34 08/24	976	11152	11.4	303846	1586211	5.2	20789	154452	7.4	595803	1944023	3.3	23288	161499	6.9
	35 08/31	387	4279	11.1	78490	399971	5.1	16626	134170	8.1	68414	228323	3.3	6183	41504	6.7
	36 09/07	97	1267	13.1	76982	394792	5.1	13153	110036	8.4	30401	102699	3.4	1845	11500	6.2
	37 09/14	85	1237	14.6	104245	508115	4.9	9408	82301	8.7	3811	12322	3.2	732	4728	6.5
	38 09/21	96	1323	13.8	37616	181773	4.8	2042	17577	8.6	107	317	3.0	184	1149	6.2
	39 09/28	0	0	0.0	454	2011	4.4	35	301	8.6	0	0	0.0	1	6	6.0
	40 10/05	1	16	16.0	161	688	4.3	9	67	7.4	0	0	0.0	0	0	0.0
	41 10/12	0	0	0.0	93	465	5.0	0	0	0.0	0	0	0.0	0	0	0.0
	TOTAL	4647	52344	11.3	1154029	6052912	5.2	111819	857476	7.7	3564679	11355318	3.2	233495	1703544	7.3
NORTH CAPE, ANTON	24 06/15	11	150	13.6	7735	39894	5.2	1	5	5.0	386	773	2.0	1535	9327	6.1
LARSEN, SHERATIN, &	25 06/22	3	75	25.0	189	945	5.0	0	0	0.0	0	0	0.0	61	483	7.9
KIZHUYAK COMBINED	27 07/06	1	15	15.0	613	3101	5.1	21	90	4.3	1924	5114	2.7	130	981	7.5
(259-36, 37, 38, 39)	28 07/13	48	372	7.8	5820	29751	5.1	1047	5625	5.4	32622	83489	2.6	6782	40747	6.0
	29 07/20	24	209	8.7	3664	19240	5.3	2053	11415	5.6	24880	67425	2.7	2162	13340	6.2
	30 07/27	103	1218	11.8	3326	16520	5.0	1218	7237	5.9	33164	86620	2.6	4095	27030	6.6
	31 08/03	0	0	0.0	617	3357	5.4	277	1637	5.9	23684	64482	2.7	1960	13462	6.9
	32 08/10	9	133	14.8	424	2280	5.4	314	2028	6.5	28111	81896	2.9	6032	43326	7.2
	33 08/17	17	181	10.6	734	3770	5.1	795	5188	6.5	68951	204717	3.0	18404	136258	7.4
	34 08/24	1	8	8.0	147	769	5.2	481	3405	7.1	8698	26510	3.0	7875	57926	7.4
	35 08/31	0	0	0.0	109	546	5.0	629	4865	7.7	511	1749	3.4	1050	7230	6.9
	TOTAL	217	2361	10.9	23378	120173	5.1	6836	41495	6.1	222931	622775	2.8	50086	350110	7.0
OUTER KARLUK (255-20)	36 09/07	0	0	0.0	230	922	4.0	0	0	0.0	0	0	0.0	0	0	0.0
	37 09/14	2	48	24.0	31170	143490	4.6	2329	21244	9.1	39	101	2.6	58	368	6.3
	38 09/21	0	0	0.0	4476	20837	4.7	825	6153	7.5	0	0	0.0	5	40	8.0
	39 09/28	7	87	12.4	9817	44501	4.5	314	2700	8.6	0	0	0.0	8	62	7.8
	40 10/05	0	0	0.0	481	1872	3.9	45	329	7.3	0	0	0.0	0	0	0.0
	TOTAL	9	135	15.0	46174	211622	4.6	3513	30426	8.7	39	101	2.6	71	470	6.6
INNER KARLUK (255-10)	36 09/07	3	76	25.3	9409	43338	4.6	1689	15580	9.2	222	704	3.2	14	96	6.9
	37 09/14	6	97	16.2	50797	234630	4.6	8191	78183	9.5	345	997	2.9	97	685	7.1
	38 09/21	23	375	16.3	34980	153266	4.4	3174	31654	10.0	0	0	0.0	42	266	6.3
	39 09/28	3	30	10.0	10823	47486	4.4	624	5934	9.5	0	0	0.0	1	8	8.0
	40 10/05	0	0	0.0	1966	8265	4.2	106	944	8.9	0	0	0.0	0	0	0.0
	TOTAL	35	578	16.5	107975	486985	4.5	13784	132295	9.6	567	1701	3.0	154	1055	6.9
STURGEON (256-40)	24 06/15	1	11	11.0	228	1044	4.6	0	0	0.0	2	5	2.5	26	134	5.2
	29 07/20	0	0	0.0	162	935	5.8	7	50	7.1	252	874	3.5	17	124	7.3
	30 07/27	5	56	11.2	1240	6628	5.3	7	56	8.0	3686	11150	3.0	271	1956	7.2
	33 08/17	0	0	0.0	1140	5769	5.1	64	392	6.1	2400	7600	3.2	17	116	6.8
	34 08/24	0	0	0.0	100	513	5.1	2	14	7.0	91	285	3.1	1	8	8.0
	37 09/14	0	0	0.0	770	3854	5.0	119	833	7.0	0	0	0.0	0	0	0.0
	TOTAL	6	67	11.2	3640	18743	5.1	199	1345	6.8	6431	19914	3.1	332	2338	7.0

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SECTION (STAT. AREA)	STAT WEEK/ WEEK END	CHINOOK			SOCKEYE			COHO			PINK			CHUM		
		#	LBS.	AVG.	#	LBS.	AVG.	#	LBS.	AVG.	#	LBS.	AVG.	#	LBS.	AVG.
HALIBUT BAY (256-25, 30)	24 06/15	13	272	20.9	4373	20749	4.7	0	0	0.0	38	74	1.9	35	272	7.8
	25 06/22	96	1834	19.1	25816	122925	4.8	0	0	0.0	725	1810	2.5	274	1822	6.6
	26 06/29	49	729	14.9	43400	212852	4.9	0	0	0.0	1262	3195	2.5	504	3568	7.1
	28 07/13	23	305	13.3	18207	94460	5.2	41	302	7.4	14707	42835	2.9	739	5164	7.0
	29 07/20	255	2849	11.2	142895	762220	5.3	1896	12979	6.8	234338	678966	2.9	5484	37094	6.8
	30 07/27	246	2155	8.8	27096	141866	5.2	1068	7552	7.1	54145	160624	3.0	1439	10550	7.3
	31 08/03	101	1415	14.0	45400	242610	5.3	2021	14171	7.0	166056	490350	3.0	1797	13757	7.7
	32 08/10	0	0	0.0	4360	23222	5.3	194	1419	7.3	12193	35546	2.9	59	405	6.9
	33 08/17	20	333	16.7	8450	46984	5.6	882	6725	7.6	17804	56416	3.2	199	1269	6.4
	34 08/24	124	2007	16.2	43969	229340	5.2	7068	51573	7.3	55042	174905	3.2	828	5645	6.8
	35 08/31	124	1235	10.0	8671	43610	5.0	3467	22853	6.6	10101	30377	3.0	139	902	6.5
TOTAL		1051	13134	12.5	372637	1940838	5.2	16637	117574	7.1	566411	1675098	3.0	11497	80448	7.0
INNER & OUTER AYAKULIK (256-10, 20)	23 06/08	0	0	0.0	602	2909	4.8	0	0	0.0	45	124	2.8	12	120	10.0
	24 06/15	2170	41187	19.0	151325	730256	4.8	4	23	5.8	458	1201	2.6	456	3575	7.8
	25 06/22	1674	32125	19.2	277668	1327767	4.8	9	58	6.4	3669	9013	2.5	1084	8326	7.7
	26 06/29	245	4275	17.4	117081	561639	4.8	8	40	5.0	2625	5942	2.3	901	6684	7.4
	27 07/06	155	2443	15.8	59378	298442	5.0	14	98	7.0	8259	22706	2.7	1046	7717	7.4
	28 07/13	527	6025	11.4	136800	684334	5.0	321	2037	6.3	32905	91150	2.8	5213	34838	6.7
	29 07/20	120	1237	10.3	100940	529911	5.2	693	4595	6.6	162462	485596	3.0	3489	24311	7.0
	30 07/27	145	1574	10.9	37558	194824	5.2	854	6130	7.2	108320	322659	3.0	2757	21751	7.9
	31 08/03	54	859	15.9	81171	418755	5.2	2136	14341	6.7	198191	593970	3.0	3421	25152	7.4
	32 08/10	41	589	14.4	76028	399396	5.3	4467	31609	7.1	268545	772418	2.9	2140	15510	7.2
	34 08/24	10	158	15.8	23830	111921	4.7	887	6420	7.2	16911	53747	3.2	1190	7057	5.9
TOTAL		5141	90472	17.6	1062381	5260154	5.0	9393	65351	7.0	802390	2358526	2.9	21709	155041	7.1
CAPE ALITAK (257-10, 20)	23 06/08	0	0	0.0	6820	34815	5.1	0	0	0.0	1836	4854	2.6	721	5624	7.8
	24 06/15	153	2760	18.0	74583	361602	4.8	0	0	0.0	235	738	3.1	198	1787	9.0
	25 06/22	100	0	17.7	102020	481947	4.7	16	40	2.5	853	2092	2.5	594	4794	8.1
	26 06/29	0	0	0.0	2364	12112	5.1	0	0	0.0	27	81	3.0	3	26	8.7
	27 07/06	30	599	20.0	49479	236368	4.8	14	130	9.3	4675	12357	2.6	494	3695	7.5
	28 07/13	236	2509	10.6	144429	689633	4.8	223	1350	6.1	58810	159427	2.7	11260	77277	6.9
	29 07/20	48	782	16.3	72496	365959	5.0	314	2125	6.8	135360	379703	2.8	5539	38914	7.0
	30 07/27	37	547	14.8	36852	194125	5.3	473	3439	7.3	72858	208657	2.9	9861	59512	6.0
	31 08/03	14	306	21.9	35955	191183	5.3	285	2128	7.5	181045	540410	3.0	3669	25152	6.9
	32 08/10	19	385	20.3	59466	325095	5.5	1435	11465	8.0	230807	664483	2.9	3339	22244	6.7
	33 08/17	32	562	17.6	128791	667868	5.2	1998	14951	7.5	287085	892714	3.1	3674	27594	7.5
	34 08/24	2	35	17.5	14061	73298	5.2	712	5717	8.0	26879	88889	3.3	1084	7887	7.3
	35 08/31	0	0	0.0	2181	10975	5.0	825	6552	7.9	1591	4956	3.1	39	274	7.0
36 09/07	0	0	0.0	8177	43247	5.3	2849	27153	9.5	6	18	3.0	101	756	7.5	
37 09/14	1	20	20.0	1193	6115	5.1	457	4413	9.7	0	0	0.0	28	170	6.1	
TOTAL		672	10273	15.3	738867	3694342	5.0	9601	79463	8.3	1002067	2959379	3.0	40604	275706	6.8
MOSER/OLGA BAY & DOG SALMON FLATS (257-40, 41)	22 06/01	0	0	0.0	81	402	5.0	0	0	0.0	0	0	0.0	0	0	0.0
	23 06/08	0	0	0.0	188	951	5.1	0	0	0.0	0	0	0.0	0	0	0.0
	24 06/15	7	137	19.6	96349	475691	4.9	0	0	0.0	2	8	4.0	193	1676	8.7
	25 06/22	8	191	23.9	132828	652669	4.9	1	10	10.0	24	83	3.5	588	4702	8.0

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SECTION (STAT. AREA)	STAT WEEK/ WEEK END	CHINOOK			SOCKEYE			COHO			PINK			CHUM		
		#	LBS.	AVG.	#	LBS.	AVG.	#	LBS.	AVG.	#	LBS.	AVG.	#	LBS.	AVG.
	26 06/29	0	0	0.0	3499	17559	5.0	0	0	0.0	0	0	0.0	20	239	12.0
	27 07/06	16	288	18.0	347878	1704249	4.9	4	31	7.8	433	1454	3.4	1689	12918	7.6
	28 07/13	33	521	15.8	200976	911898	4.5	42	310	7.4	7173	23761	3.3	6373	50179	7.9
	29 07/20	4	64	16.0	36372	184644	5.1	75	541	7.2	17601	61453	3.5	1700	11821	7.0
	30 07/27	8	134	16.8	39332	211539	5.4	188	1383	7.4	22132	75940	3.4	1049	7225	6.9
	31 08/03	4	64	16.0	49806	277844	5.6	267	1804	6.8	16958	57292	3.4	409	2899	7.1
	32 08/10	1	25	25.0	81308	451591	5.6	881	7011	8.0	14542	50706	3.5	652	4608	7.1
	33 08/17	2	29	14.5	107769	583959	5.4	1672	13040	7.8	23640	84937	3.6	1866	14252	7.6
	34 08/24	0	0	0.0	22793	123029	5.4	861	7245	8.4	4274	15765	3.7	962	7463	7.8
	35 08/31	0	0	0.0	45386	242186	5.3	3699	32739	8.9	2555	9190	3.6	1901	13899	7.3
	36 09/07	0	0	0.0	21059	111020	5.3	3899	34900	9.0	287	1072	3.7	1616	10990	6.8
	37 09/14	0	0	0.0	5703	29994	5.3	1838	16928	9.2	0	0	0.0	1032	7371	7.1
	TOTAL	83	1453	17.5	1191327	5979225	5.0	13427	115942	8.6	109621	381661	3.5	20050	150242	7.5
HUMPY/DEADMAN (257-50, 60, 70)	24 06/15	7	155	22.1	11237	54558	4.9	0	0	0.0	1	3	3.0	35	331	9.5
	25 06/22	6	130	21.7	12763	60491	4.7	0	0	0.0	45	105	2.3	158	1327	8.4
	27 07/06	10	197	19.7	1813	8460	4.7	3	22	7.3	769	2150	2.8	158	1238	7.8
	28 07/13	5	113	22.6	2487	12084	4.9	1	8	8.0	2265	5964	2.6	162	1193	7.4
	29 07/20	5	109	21.8	4429	21806	4.9	19	127	6.7	58096	158828	2.7	260	1824	7.0
	30 07/27	17	271	15.9	6639	34371	5.2	126	850	6.7	209503	571879	2.7	2138	15956	7.5
	31 08/03	3	56	18.7	34456	179288	5.2	224	1544	6.9	475300	1362857	2.9	6265	43956	7.0
	32 08/10	11	132	12.0	25853	137184	5.3	309	2122	6.9	274783	808870	2.9	2281	17737	7.8
	33 08/17	4	76	19.0	25496	131946	5.2	363	2356	6.5	173494	529642	3.1	3785	29444	7.8
	34 08/24	0	0	0.0	6358	32819	5.2	175	1393	8.0	62946	199227	3.2	4131	33045	8.0
	35 08/31	0	0	0.0	2601	13393	5.1	353	3265	9.2	4874	15579	3.2	3006	23406	7.8
	TOTAL	68	1239	18.2	134132	686400	5.1	1573	11687	7.4	1262076	3655104	2.9	22379	169457	7.6
SEVEN RIVERS (258-70, 80, 83, 85, 90)	30 07/27	0	0	0.0	831	3747	4.5	3	20	6.7	18654	50437	2.7	52	352	6.8
	31 08/03	1	25	25.0	3037	11280	3.7	145	1071	7.4	211604	568834	2.7	3773	26550	7.0
	32 08/10	0	0	0.0	98	535	5.5	1	5	5.0	143685	403786	2.8	959	6684	7.0
	TOTAL	1	25	25.0	3966	15562	3.9	149	1096	7.4	373943	1023057	2.7	4784	33586	7.0
TWO HEADED (258-54, 55, 60)	23 06/08	0	0	0.0	3394	18762	5.5	100	800	8.0	3859	9001	2.3	2200	12960	5.9
	28 07/13	26	307	11.8	1350	7515	5.6	0	0	0.0	0	0	0.0	0	0	0.0
	29 07/20	19	165	8.7	3260	17333	5.3	527	2668	5.1	4974	12981	2.6	1622	8943	5.5
	30 07/27	7	148	21.1	709	3640	5.1	290	1797	6.2	19118	53405	2.8	563	3892	6.9
	31 08/03	28	410	14.6	6938	35739	5.2	1280	8406	6.6	361242	1045381	2.9	5020	36587	7.3
	32 08/10	34	446	13.1	2452	12750	5.2	477	3228	6.8	248517	695262	2.8	4618	32637	7.1
	33 08/17	63	657	10.4	675	3447	5.1	802	5623	7.0	122413	358158	2.9	5517	42316	7.7
	34 08/24	0	0	0.0	65	333	5.1	46	345	7.5	4829	13327	2.8	228	1857	8.1
	TOTAL	177	2133	12.1	18843	99519	5.3	3522	22867	6.5	764952	2187515	2.9	19768	139192	7.0
SITKALIDAK (258-10, 20, 30, 40, 51, 52, 53)	23 06/08	0	0	0.0	6937	35895	5.2	171	1022	6.0	15431	34734	2.3	5901	31952	5.4
	25 06/22	82	712	8.7	5933	33634	5.7	0	0	0.0	319	655	2.1	316	2244	7.1
	26 06/29	27	530	19.6	1179	6017	5.1	0	0	0.0	71	179	2.5	290	2034	7.0
	27 07/06	19	121	6.4	913	4153	4.5	0	0	0.0	1399	3280	2.3	1287	6881	5.3
	28 07/13	1295	8857	6.8	80044	399613	5.0	7890	45047	5.7	174451	416440	2.4	66532	377465	5.7

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SECTION (STAT. AREA)	STAT WEEK/ WEEK END	CHINOOK			SOCKEYE			COHO			PINK			CHUM		
		#	LBS.	AVG.	#	LBS.	AVG.	#	LBS.	AVG.	#	LBS.	AVG.	#	LBS.	AVG.
	29 07/20	1085	6062	5.6	49665	252782	5.1	11742	64498	5.5	265207	682830	2.6	21573	125430	5.8
	30 07/27	154	1859	12.1	39588	205580	5.2	10887	63827	5.9	534035	1431982	2.7	19142	129275	6.8
	31 08/03	644	7909	12.3	20438	106700	5.2	4641	30554	6.6	1291326	3747365	2.9	30623	219480	7.2
	32 08/10	203	2986	14.7	5753	30989	5.4	2954	19816	6.7	958405	2733683	2.9	39491	291122	7.4
	33 08/17	439	6234	14.2	4725	24852	5.3	5407	37828	7.0	1021227	3070092	3.0	69707	512287	7.3
	34 08/24	25	378	15.1	4068	19319	4.7	2683	19845	7.4	154601	466556	3.0	13086	97912	7.5
	35 08/31	0	0	0.0	109	509	4.7	50	360	7.2	337	1155	3.4	3	22	7.3
	TOTAL	3973	35648	9.0	219352	1120043	5.1	46425	282797	6.1	4416809	12588951	2.9	267951	1796104	6.7
INNER & OUTER UGAK (259-40, 41, 42)	27 07/06	14	189	13.5	214	1274	6.0	2	11	5.5	99	228	2.3	2	16	8.0
	28 07/13	100	1318	13.2	3566	18648	5.2	36	193	5.4	6118	14195	2.3	1586	9550	6.0
	29 07/20	87	840	9.7	5725	31683	5.5	227	1377	6.1	16514	41179	2.5	916	5347	5.8
	30 07/27	37	297	8.0	3530	18245	5.2	119	657	5.5	15396	40880	2.7	974	6316	6.5
	31 08/03	17	202	11.9	233	1129	4.8	23	158	6.9	24931	67465	2.7	1134	8650	7.6
	32 08/10	8	113	14.1	12	48	4.0	14	98	7.0	6390	19242	3.0	918	6710	7.3
	33 08/17	12	182	15.2	13	68	5.2	12	96	8.0	24581	72346	2.9	8536	66613	7.8
	34 08/24	0	0	0.0	0	0	0.0	0	0	0.0	451	1353	3.0	272	1635	6.0
	TOTAL	275	3141	11.4	13293	71095	5.3	433	2590	6.0	94480	256888	2.7	14338	104837	7.3
OUTER CHINIAK (259-21, 25)	28 07/13	64	706	11.0	2883	14071	4.9	336	2408	7.2	15045	39287	2.6	6331	42209	6.7
	29 07/20	147	738	5.0	8427	43545	5.2	3522	20167	5.7	45480	111717	2.5	5797	31482	5.4
	30 07/27	11	49	4.5	2371	11367	4.8	2339	13232	5.7	23810	58289	2.4	2439	15354	6.3
	31 08/03	1	22	22.0	14	77	5.5	13	78	6.0	14938	42494	2.8	407	2511	6.2
	32 08/10	1	10	10.0	63	293	4.7	6	40	6.7	57733	157292	2.7	867	6248	7.2
	33 08/17	1	4	4.0	4	22	5.5	19	117	6.2	25351	74495	2.9	2131	16348	7.7
	34 08/24	0	0	0.0	0	0	0.0	2	10	5.0	309	929	3.0	10	79	7.9
	TOTAL	225	1529	6.8	13762	69375	5.0	6237	36052	5.8	182666	484503	2.7	17982	114231	6.4
INNER CHINIAK (259-23, 24)	29 07/20	1	6	6.0	5	15	3.0	0	0	0.0	4411	10672	2.4	155	893	5.8
	30 07/27	4	40	10.0	490	1775	3.6	62	251	4.0	1860	5671	3.0	26	112	4.3
	31 08/03	9	146	16.2	7	37	5.3	1	6	6.0	5552	14818	2.7	105	791	7.5
	32 08/10	9	131	14.6	11	73	6.6	4	21	5.3	39093	106605	2.7	1959	14260	7.3
	33 08/17	29	324	11.2	22	112	5.1	24	136	5.7	28136	81465	2.9	2520	19945	7.9
	34 08/24	4	37	9.3	0	0	0.0	91	609	6.7	12589	37086	2.9	3297	25072	7.6
	TOTAL	56	684	12.2	535	2012	3.8	182	1023	5.6	91641	256317	2.8	8062	61073	7.6
BUSKIN RIVER (259-22)	29 07/20	0	0	0.0	1	4	4.0	0	0	0.0	410	1030	2.5	15	149	9.9
	30 07/27	1	13	13.0	4	12	3.0	0	0	0.0	1950	4968	2.5	285	2495	8.8
	31 08/03	0	0	0.0	1	2	2.0	0	0	0.0	158	429	2.7	0	0	0.0
	32 08/10	1	18	18.0	0	0	0.0	1	6	6.0	9135	26488	2.9	253	1850	7.3
	33 08/17	0	0	0.0	10	88	8.8	1	6	6.0	3506	9763	2.8	193	1660	8.6
	34 08/24	0	0	0.0	0	0	0.0	13	99	7.6	6622	20067	3.0	397	3135	7.9
	TOTAL	2	31	15.5	16	106	6.6	15	111	7.4	21781	62745	2.9	1143	9289	8.1
MONASHKA/MILL BAY (259-10)	29 07/20	0	0	0.0	92	433	4.7	73	328	4.5	350	1065	3.0	30	168	5.6
	TOTAL	0	0	0.0	92	433	4.7	73	328	4.5	350	1065	3.0	30	168	5.6

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SECTION (STAT. AREA)	STAT WEEK/ WEEK END	CHINOOK			SCKEYE			COHO			PINK			CHUM			
		#	LBS.	AVG.	#	LBS.	AVG.	#	LBS.	AVG.	#	LBS.	AVG.	#	LBS.	AVG.	
OUTER KUKAK (262-25, 30)	25 06/22	0	0	0.0	1150	4016	3.5	0	0	0.0	0	0	0.0	0	0	0.0	
	26 06/29	0	0	0.0	1298	4583	3.5	0	0	0.0	1	3	3.0	0	0	0.0	
	28 07/13	1	13	13.0	13	51	3.9	20	221	11.1	6453	22586	3.5	29	236	8.1	
	31 08/03	0	0	0.0	231	1146	5.0	107	642	6.0	7863	20100	2.6	726	5112	7.0	
	32 08/10	3	27	9.0	562	2795	5.0	1479	9978	6.7	11116	31779	2.9	2747	17145	6.2	
	33 08/17	18	224	12.4	587	2966	5.1	2339	15729	6.7	29376	88346	3.0	36088	235814	6.5	
	34 08/24	2	23	11.5	440	2170	4.9	702	4491	6.4	12338	37431	3.0	17804	120269	6.8	
TOTAL		24	287	12.0	4281	17727	4.1	4647	31061	6.7	67147	200245	3.0	57394	378576	6.6	
DAKAVAK (262-35, 40, 45, 50, & 55)	28 07/13	143	1156	8.1	2052	11252	5.5	13	71	5.5	628	1651	2.6	375	2998	8.0	
	29 07/20	779	5244	6.7	3899	21351	5.5	206	1142	5.5	3367	9754	2.9	1157	8253	7.1	
	30 07/27	1456	9752	6.7	5640	32348	5.7	1353	8465	6.3	7254	23098	3.2	1075	8041	7.5	
	31 08/03	118	1271	10.8	2573	13170	5.1	3804	26585	7.0	74658	227571	3.0	6055	40127	6.6	
	32 08/10	119	1430	12.0	2499	12329	4.9	3819	26075	6.8	155963	435497	2.8	9013	59641	6.6	
	33 08/17	20	201	10.1	620	3182	5.1	1482	10511	7.1	33312	101712	3.1	3174	24077	7.6	
	34 08/24	0	0	0.0	0	0	0.0	0	0	0.0	660	1981	3.0	955	6170	6.5	
TOTAL		2635	19054	7.2	17283	93632	5.4	10677	72849	6.8	275842	801264	2.9	21804	149307	6.8	
KATMAI (262-60)	24 06/15	1	12	12.0	818	4869	6.0	0	0	0.0	6	12	2.0	5	30	6.0	
	25 06/22	3	42	14.0	91	455	5.0	0	0	0.0	22	45	2.0	2	15	7.5	
	28 07/13	34	349	10.3	46	231	5.0	0	0	0.0	34	69	2.0	1	8	8.0	
	32 08/10	0	0	0.0	6	40	6.7	0	0	0.0	26040	76476	2.9	2220	15706	7.1	
	33 08/17	22	255	11.6	468	2189	4.7	337	2146	6.4	20863	62593	3.0	1695	11950	7.1	
TOTAL		60	658	11.0	1429	7784	5.4	337	2146	6.4	46965	139195	3.0	3923	27709	7.1	
ALINCHAK (262-65, 70)	24 06/15	1	22	22.0	917	5998	6.5	0	0	0.0	0	0	0.0	5	64	12.8	
	25 06/22	0	0	0.0	167	860	5.1	0	0	0.0	15	32	2.1	0	0	0.0	
	27 07/06	6	48	8.0	695	3583	5.2	9	41	4.6	518	1122	2.2	22	191	8.7	
	28 07/13	36	353	9.8	829	4350	5.2	13	88	6.8	817	1856	2.3	79	568	7.2	
	31 08/03	0	0	0.0	46	229	5.0	30	239	8.0	36176	107341	3.0	4992	34998	7.0	
	32 08/10	0	0	0.0	299	1197	4.0	833	4998	6.0	82751	247580	3.0	12074	86985	7.2	
	33 08/17	5	52	10.4	112	573	5.1	30	213	7.1	76741	229553	3.0	12973	100326	7.7	
	37 09/14	0	0	0.0	1	4	4.0	703	5461	7.8	0	0	0.0	318	2043	6.4	
TOTAL		48	475	9.9	3066	16794	5.5	1618	11040	6.8	197018	587484	3.0	30463	225175	7.4	
CAPE IGVAK (262-75, 80, 90, 95)	24 06/15	336	5666	16.9	100473	623971	6.2	46	324	7.0	5245	11153	2.1	1796	12514	7.0	
	25 06/22	180	3426	19.0	227236	1300803	5.7	31	227	7.3	24866	51947	2.1	7015	49267	7.0	
	28 07/13	233	1931	8.3	23286	121349	5.2	124	810	6.5	16052	40667	2.5	2554	19625	7.7	
	29 07/20	129	2447	19.0	25277	150813	6.0	2473	16731	6.8	37754	106512	2.8	9902	76188	7.7	
	30 07/27	515	5492	10.7	30046	166492	5.5	5466	38099	7.0	98264	270391	2.8	13962	102365	7.3	
	31 08/03	158	1864	11.8	11457	60034	5.2	6929	44741	6.5	157062	484626	3.1	30891	212346	6.9	
	32 08/10	172	2184	12.7	6468	34031	5.3	7968	65349	8.2	172399	499594	2.9	30239	217897	7.2	
	33 08/17	15	195	13.0	2360	12368	5.2	1544	10795	7.0	61202	186566	3.0	10658	76667	7.2	
	34 08/24	0	0	0.0	310	1730	5.6	0	0	0.0	6372	14626	2.3	1947	17522	9.0	
	TOTAL		1738	23205	13.4	426913	2471591	5.8	24581	177076	7.2	579216	1666082	2.9	108964	784391	7.2
WIDE BAY (262-85)	25 06/22	0	0	0.0	150	855	5.7	0	0	0.0	0	0	0.0	0	0	0.0	
	TOTAL	0	0	0.0	150	855	5.7	0	0	0.0	0	0	0.0	0	0	0.0	
KODIAK AREA TOTALS			22233	269904	12.1	5704041	29162064	5.1	324860	2359566	7.3	16642804	48547440	2.9	1029070	7184466	7.0

Appendix G.2.

Salmon harvest by statistical area all gear combined, Kodiak Management Area, 1991.

STAT AREA	PERMITS	# LNDGS	CHINOOK		SOCKEYE		COHO		PINK		CHUM		TOTAL SALMON	
			#	LBS	#	LBS	#	LBS	#	LBS	#	LBS	#	LBS
25110	67	165	319	2892	40040	215691	6724	45725	189586	534005	16197	121107	252866	919420
25120	60	197	354	3551	32437	170749	10947	76867	235911	670812	12651	92448	292300	1014427
25130	14	19	43	272	5405	25314	1624	10845	12408	33237	360	2534	19840	72202
25140	19	31	48	282	7935	42385	1508	10099	30519	78873	1148	7664	41158	139303
25150	1	2	0	0	0	0	323	2266	5156	16815	0	0	5479	19081
25160	3	3	0	0	144	895	2983	22716	363	908	18	123	3508	24642
25170	3	3	0	0	0	0	2102	15856	0	0	0	0	2102	15856
25181	1	1	0	0	0	0	766	5135	0	0	0	0	766	5135
25182	4	4	0	0	1	7	237	1711	6505	19475	0	0	6743	21193
25183	3	3	1	12	34	201	14	99	3532	8972	30	184	3611	9468
25190	2	2	0	0	0	0	359	2595	247	768	0	0	606	3363
TOTAL	106	430	765	7009	85996	455242	27587	193914	484227	1363865	30404	224060	628979	2244090
25210	17	24	97	801	1519	7607	1958	13602	95867	263210	8397	48864	107838	334084
25220	1	1	0	0	8	44	13	109	2079	4159	24	174	2124	4486
25230	56	191	64	1194	2359	10650	3931	23221	694301	1801120	9517	58523	710172	1894708
25231	65	209	82	1006	7416	35472	4470	26961	510091	1314208	16345	103265	538404	1480912
25232	31	67	2	13	328	1307	958	6122	186289	465851	5857	28168	193434	501461
25233	10	13	9	58	756	3536	87	517	9342	23883	535	2866	10729	30860
25234	50	218	70	877	47237	205363	48	275	3262	7861	319	2148	50936	216524
25235	6	6	1	20	901	4921	130	755	7324	18395	689	4349	9045	28440
TOTAL	132	729	325	3969	60524	268900	11595	71562	1508555	3898687	41683	248357	1622682	4491475
25311	113	911	341	4204	138508	735638	18268	138958	388133	1235655	26904	192437	572154	2306892
25312	32	120	13	186	12989	71928	127	892	9837	30760	2365	17806	25331	121572
25313	27	578	59	723	33480	179212	2353	18601	82907	291232	16134	116186	134933	605954
25314	39	713	130	1607	52751	288224	7985	61674	154424	556460	20599	143999	235889	1051964
25331	133	1274	1503	16446	166182	889712	22532	167029	588690	1802886	54315	388022	833222	3264095
25332	9	15	1	15	1592	8720	6	49	7035	20151	659	5400	9293	34335
25333	25	120	26	473	1746	9616	81	585	184430	530743	8791	69243	195074	610660
25335	29	299	35	485	22139	118772	1275	8341	56458	182808	6038	39983	85945	350389
TOTAL	219	4030	2108	24139	429387	2301822	52627	396129	1471914	4650695	135805	973076	2091841	8345861

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Appendix G.2. (page 2 of 4)

STAT AREA	PERMITS	# LNDGS	CHINOOK		SOCKEYE		COHO		PINK		CHUM		TOTAL SALMON	
			#	LBS	#	LBS	#	LBS	#	LBS	#	LBS	#	LBS
25410	188	1275	1933	20955	519803	2656795	36151	278914	604926	1915739	21075	152870	1183888	5025273
25420	74	1337	175	2441	105880	556467	9394	79215	847861	2684361	28728	217786	992038	3540270
25430	44	266	102	1424	7062	38923	3738	30815	313387	988332	23155	180806	347444	1240300
25440	85	543	329	3385	91897	498905	9909	72403	326591	1116191	24732	179006	453458	1869890
TOTAL	222	3421	2539	28205	724642	3751090	59192	461347	2092765	6704623	97690	730468	2976828	11675733
25510	47	164	35	578	107975	486985	13784	132295	567	1701	154	1055	122515	622614
25520	26	45	9	135	46174	211622	3513	30426	39	101	71	470	49806	242754
TOTAL	51	209	44	713	154149	698607	17297	162721	606	1802	225	1525	172321	865368
25610	36	38	108	1519	6091	30770	197	1275	9992	28898	1115	6979	17503	69441
25620	253	2418	5033	88953	1056290	5229384	9196	64076	792398	2329628	20594	148062	1883511	7860103
25625	147	447	355	5083	203870	1040775	5345	39396	206967	614017	4693	32698	421230	1731969
25630	122	541	696	8051	168767	900063	11292	78178	359444	1061081	6804	47750	547003	2095123
25640	16	16	6	67	3640	18743	199	1345	6431	19914	332	2338	10608	42407
TOTAL	273	3460	6198	103673	1438658	7219735	26229	184270	1375232	4053538	33538	237827	2879855	11799043
25710	11	19	6	101	11161	55455	118	997	19202	56415	6827	45119	37314	158087
25720	178	1752	666	10172	727706	3638887	9483	78466	982865	2902964	33777	230587	1754497	6861076
25740	68	1092	49	920	571923	2761036	1515	13218	26617	88661	7820	62729	607924	2926564
25741	68	2022	34	533	619404	3218189	11912	102724	83004	293000	12230	87513	726584	3701959
25750	85	367	36	739	95186	482202	1004	7574	469395	1406946	9009	68147	574630	1965608
25760	65	255	18	271	23540	123051	321	2378	610037	1724267	11806	90199	645722	1940166
25770	51	83	14	229	15406	81147	248	1735	182644	523891	1564	11111	199876	618113
TOTAL	275	5590	823	12965	2064326	10359967	24601	207092	2373764	6996144	83033	595405	4546547	18171573
25810	85	201	1278	7418	56061	275769	10267	58814	420925	1134541	46330	270691	534861	1747233
25820	80	356	686	8878	18848	97241	6357	42362	988052	2874810	65971	476506	1079914	3499797
25830	71	179	246	1993	36155	188523	6011	36002	416268	1148780	24181	155923	482861	1531221
25840	76	170	943	7187	78133	399449	13912	79204	262071	667958	52606	303631	407665	1457429

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Appendix G.2. (page 3 of 4)

STAT AREA	PERMITS	# LNDGS	CHINOOK		SOCKEYE		COHO		PINK		CHUM		TOTAL SALMON	
			#	LBS	#	LBS	#	LBS	#	LBS	#	LBS	#	LBS
25851	66	316	757	9264	23203	122078	7656	51523	1465326	4244804	46912	342209	1543854	4769878
25852	54	254	63	908	6851	36363	2187	14556	837741	2441144	31103	241039	877945	2734010
25853	6	6	0	0	101	620	35	336	26426	76914	848	6105	27410	83975
25854	9	12	16	260	811	4250	231	1400	51881	148997	2072	14605	55011	169512
25855	35	77	118	1327	7248	38407	1894	13025	376428	1084608	9546	69239	395234	1206606
25860	39	75	43	546	10784	56862	1397	8442	336643	953910	8150	55348	357017	1075108
25870	21	57	1	25	3936	15443	149	1096	348354	946365	1246	8066	353686	970995
25880	4	4	0	0	0	0	0	0	13246	43725	3422	24688	16668	68413
25890	5	5	0	0	30	119	0	0	12343	32967	116	832	12489	33918
<b>TOTAL</b>	<b>181</b>	<b>1712</b>	<b>4151</b>	<b>37806</b>	<b>242161</b>	<b>1235124</b>	<b>50096</b>	<b>306760</b>	<b>5555704</b>	<b>15799523</b>	<b>292503</b>	<b>1968882</b>	<b>6144615</b>	<b>19348095</b>
25910	2	2	0	0	92	433	73	328	350	1065	30	168	545	1994
25921	17	47	7	88	609	2747	607	3123	95824	264484	3691	27491	100738	297933
25922	10	19	2	31	16	106	15	111	21781	62745	1143	9289	22957	72282
25923	10	25	7	93	1	8	4	24	23261	63482	4391	34654	27664	98261
25924	17	45	49	591	534	2004	178	999	68380	192835	3671	26419	72812	222848
25925	26	55	218	1441	13153	66628	5630	32929	86842	220019	14291	86740	120134	407757
25936	26	125	25	294	3688	19380	1702	11411	60495	178901	20370	149015	86280	359001
25937	14	90	9	110	1823	9684	697	4512	16378	50893	10530	77442	29437	142641
25938	27	85	10	132	4359	22303	1049	6459	44684	129592	5253	37038	55355	195524
25939	53	174	173	1825	13508	68806	3388	19113	101374	263389	13933	86615	132376	439748
25940	4	4	10	161	857	4531	250	1542	6750	15934	1857	11104	9724	33272
25941	21	57	180	1990	6787	36109	94	508	40143	108863	5885	43622	53089	191092
25942	19	37	85	990	5649	30455	89	540	47587	132091	6596	50111	60006	214187
<b>TOTAL</b>	<b>125</b>	<b>765</b>	<b>775</b>	<b>7746</b>	<b>51076</b>	<b>263194</b>	<b>13776</b>	<b>81599</b>	<b>613849</b>	<b>1684293</b>	<b>91641</b>	<b>639708</b>	<b>771117</b>	<b>2676540</b>
26225	24	44	20	247	1011	5031	2955	19545	42298	127520	54697	359534	100981	511877
26230	10	11	4	40	3270	12696	1692	11516	24849	72725	2697	19042	32512	116019
26235	1	1	0	0	0	0	0	0	660	1981	955	6170	1615	8151
26240	8	10	121	903	1939	10223	262	1746	24168	64776	1576	9846	28066	87494
26245	14	20	114	956	1850	9713	1670	13802	39560	118667	3189	23108	46383	166246
26250	20	29	1021	7011	5073	26622	3536	22162	102913	302607	7153	48205	119696	406607
26255	16	36	1379	10184	8421	47074	5209	35139	108541	313233	8931	61978	132481	467608
26260	8	11	60	658	1429	7784	337	2146	46965	139195	3923	27709	52714	177492

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Appendix G.2. (page 4 of 4)

STAT AREA	PERMITS	# LNDGS	CHINOOK		SOCKEYE		COHO		PINK		CHUM		TOTAL SALMON	
			#	LBS	#	LBS	#	LBS	#	LBS	#	LBS	#	LBS
26265	14	50	47	456	2793	15399	1599	10922	182508	543296	27589	202642	214536	772715
26270	7	9	1	19	273	1395	19	118	14510	44188	2874	22533	17677	68253
26275	64	200	619	7489	126826	730725	6001	39399	205176	579173	33890	234834	372512	1591620
26280	102	407	680	9452	156907	918628	16855	126715	310238	898882	56280	413165	540960	2366842
26285	1	1	0	0	150	855	0	0	0	0	0	0	150	855
26290	18	39	70	1019	33674	202688	116	811	4007	9169	821	5932	38688	219619
26295	57	163	369	5245	109506	619550	1609	10151	59795	178858	17973	130460	189252	944264
TOTAL	172	1031	4505	43679	453122	2608383	41860	294172	1166188	3394270	222548	1565158	1888223	7905662
GRAND TOTAL	551	21377	22233	269904	5704041	29162064	324860	2359566	16642804	48547440	1029070	7184466	23723008	87523440

Appendix G.3. Historic salmon harvest for the Alitak Bay District, by species, for the Kodiak Management Area, June 1 - October 10, 1991.

YEAR	CHINOOK	SOCKEYE	COHO	PINKS	CHUMS
1970	8	81,544	4,540	949,871	93,320
1971	4	12,798	1,209	100,896	66,947
1972	15	22,127	1,289	188,477	95,135
1973	4	10,338	125	49,932	24,408
1974	19	67,743	1,284	355,154	23,939
1975	0	16,498	1,627	235,711	2,853
1976	18	97,015	3,535	1,826,482	68,132
1977	20	78,812	1,343	961,673	70,969
1978	694	218,301	2,788	4,191,756	72,166
1979	108	317,260	15,007	1,664,410	22,462
1980	33	197,928	13,120	2,052,273	67,641
1981	45	346,073	17,011	2,073,629	61,513
1982	43	476,862	29,378	519,880	101,543
1983	159	460,087	28,947	1,428,526	107,786
1984	290	382,729	25,299	433,806	84,924
1985	199	703,235	43,914	1,057,940	84,760
1986	134	1,247,976	30,548	728,205	75,643
1987	105	515,484	17,960	916,883	59,727
1988	624	1,124,073	30,001	385,735	93,401
1989	106	1,286,022	1,613	182,230	19,919
1990	807	1,436,292	18,176	144,927	50,306
1991	821	2,064,064	24,601	2,373,521	83,017

UPDATED 5/6/92

Appendix G.4. Commercial salmon harvest by number of fish and percentage of total by species, Kodiak Management Area, 1969-1991.

YEAR	GEAR TYPE <sup>a</sup>	CHINOOK		SOCKEYE		COHO		PINK		CHUM		TOTAL	
		Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
1969	Purse	2,354	95	397,572	67	47,071	97	11,994,626	96	511,551	96	12,953,174	95
	Beach	53	02	8,173	02	182	<01	20,913	<01	299	<01	29,620	<01
	Gillnet	62	03	185,736	31	1,506	03	485,284	04	23,083	04	695,671	05
	TOTAL	2,469	100	591,481	100	48,759	100	1,500,823	100	534,933	100	13,678,465	100
1970	Purse	1,003	92	781,054	85	59,722	90	11,176,353	93	860,771	94	12,878,903	92
	Beach	49	05	7,661	01	970	01	127,259	01	3,500	<01	139,439	01
	Gillnet	37	03	128,330	14	5,729	09	741,937	06	54,831	06	930,864	07
	TOTAL	1,089	100	917,045	100	66,421	100	12,045,549	100	919,102	100	13,949,206	100
1971	Purse	837	91	366,739	76	19,140	84	4,010,855	84	1,471,637	96	4,869,208	92
	Beach	1	<01	1,136	01	133	<01	63,675	<01	5,972	<01	70,917	01
	Gillnet	82	09	110,604	23	3,571	16	259,962	06	63,835	04	438,054	07
	TOTAL	920	100	478,479	100	22,844	100	4,334,492	100	1,541,444	100	6,378,179	100
1972	Purse	1,232	95	175,484	79	14,017	85	2,273,852	92	1,084,685	93	3,549,270	91
	Beach	3	01	2,325	01	53	<01	31,800	01	6,657	01	40,838	01
	Gillnet	65	04	44,991	20	2,518	15	173,085	07	72,430	06	293,089	08
	TOTAL	1,300	100	222,800	100	16,588	100	2,478,737	100	1,163,772	100	3,883,197	100
1973	Purse	780	98	139,017	83	3,171	89	431,749	85	303,694	96	878,411	88
	Beach	2	<01	476	<01	6	<01	7,190	01	907	<01	8,581	<01
	Gillnet	18	02	27,848	17	396	11	72,769	14	13,320	04	114,351	11
	TOTAL	800	100	167,341	100	3,573	100	511,708	100	317,921	100	1,001,343	100
1974	Purse	405	74	346,237	83	12,664	93	2,395,212	91	235,248	94	2,989,766	90
	Beach	1	<01	2,200	<01	9	<01	32,302	01	632	01	35,144	01
	Gillnet	139	26	70,324	17	958	07	219,682	08	13,414	05	304,517	09
	TOTAL	545	100	418,761	100	13,631	100	2,647,196	100	249,294	100	3,329,427	100
1975	Purse	89	88	75,041	55	18,547	78	2,663,539	91	73,109	87	2,830,325	89
	Beach	2	02	749	01	4,269	18	34,842	01	280	<01	40,142	01
	Gillnet	10	10	60,628	44	843	04	244,420	08	11,042	13	316,943	10
	TOTAL	101	100	136,418	100	23,659	100	2,942,801	100	84,431	100	3,187,410	100

-Continued-

Appendix G.4. (page 2 of 4)

YEAR	GEAR TYPE <sup>a</sup>	CHINOOK		SOCKEYE		COHO		PINK		CHUM		TOTAL	
		Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
1976	Purse	704	92	484,912	76	16,716	71	9,712,179	88	706,773	95	10,921,284	88
	Beach	8	01	1,721	01	3,859	16	149,371	01	3,479	01	158,438	01
	Gillnet	54	07	154,851	24	3,139	13	1,216,442	11	30,243	04	1,404,729	11
	TOTAL	766	100	641,484	100	23,714	100	11,077,992	100	740,495	100	12,484,451	100
1977	Purse	528	90	409,016	66	19,115	69	5,245,137	84	1,023,513	95	6,697,309	84
	Beach	3	01	1,279	<01	5,995	21	126,827	02	10,017	01	144,121	02
	Gillnet	54	09	213,173	34	2,810	10	880,441	14	38,783	04	1,135,261	14
	TOTAL	585	100	623,468	100	27,920	100	6,252,405	100	1,072,313	100	7,976,691	100
1978	Purse	2,625	81	803,608	75	35,443	73	13,259,413	88	754,933	93	14,856,022	87
	Beach	38	01	7,418	01	9,513	20	224,209	02	9,467	01	250,645	02
	Gillnet	565	18	260,756	24	3,839	07	1,520,443	10	49,945	06	1,835,548	11
	TOTAL	3,228	100	1,071,782	100	48,795	100	15,004,065	100	814,345	100	16,942,215	100
1979	Purse	1,708	90	355,513	56	102,184	73	9,995,862	89	319,109	89	10,774,376	87
	Beach	13	01	7,407	01	12,821	09	279,661	02	4,183	02	304,085	02
	Gillnet	184	09	268,815	43	25,624	18	1,012,068	09	35,108	09	1,341,799	11
	TOTAL	1,905	100	631,735	100	140,629	100	11,287,591	100	358,400	100	12,420,260	100
1980	Purse	266	50	385,999	59	113,027	82	15,346,820	89	987,685	92	16,833,797	87
	Beach	6	01	4,086	01	13,058	09	535,559	03	23,679	02	576,388	03
	Gillnet	257	49	261,309	40	13,069	09	1,408,236	08	64,193	06	1,747,064	10
	TOTAL	529	100	651,394	100	139,154	100	17,290,615	100	1,075,557	100	19,157,249	100
1981	Purse	1,150	81	847,281	66	93,514	77	8,330,252	81	1,212,509	90	10,484,706	80
	Beach	23	02	6,768	01	12,713	10	385,524	04	11,091	01	416,119	03
	Gillnet	245	17	434,931	33	15,317	13	1,621,053	15	121,728	09	2,193,274	17
	TOTAL	1,418	100	1,288,980	100	121,544	100	10,336,829	100	1,345,328	100	13,094,099	100
1982	Purse	919	74	588,355	49	290,565	85	6,595,164	82	1,080,175	85	8,555,178	79
	Beach	7	01	9,142	01	18,711	05	169,082	02	17,666	02	214,608	02
	Gillnet	312	25	607,296	50	34,255	10	1,311,957	16	168,346	13	2,122,166	19
	TOTAL	1,238	100	1,204,793	100	343,531	100	8,076,203	100	1,266,187	100	10,891,952	100
1983	Purse	3,096	80	782,719	63	128,655	81	3,887,6781	84	964,581	89	5,766,722	81
	Beach	22	01	3,929	01	4,306	03	125,629	03	7,267	01	141,153	02
	Gillnet	721	19	445,341	36	24,651	16	590,071	13	113,317	10	1,174,101	17
	TOTAL	3,839	100	1,231,989	100	157,612	100	4,603,371	100	1,085,165	100	7,081,976	100

-Continued-

Appendix G.4. (page 3 of 4)

YEAR	GEAR TYPE <sup>a</sup>	CHINOOK		SOCKEYE		COHO		PINK		CHUM		TOTAL	
		Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
1984	Purse	3,926	84	1,507,840	77	198,665	87	9,230,010	85	563,659	87	11,504,100	84
	Beach	32	01	8,524	01	6,836	03	186,459	02	10,931	02	212,782	02
	Gillnet	699	15	434,075	22	24,023	10	1,427,824	13	74,502	11	1,961,123	14
	TOTAL	4,657	100	1,950,439	100	229,524	100	10,844,293	100	649,092	100	13,678,005	100
1985	Purse	4,528	91	1,195,010	64	245,987	86	6,407,842	87	336,077	78	8,189,444	83
	Beach	23	01	3,762	01	4,317	02	137,018	02	2,590	01	147,710	01
	Gillnet	419	08	644,413	35	33,862	12	789,965	11	92,090	21	1,560,749	16
	TOTAL	4,970	100	1,843,185	100	284,166	100	7,334,825	100	430,757	100	9,897,903	100
1986	Purse	4,042	92	2,010,828	63	134,509	80	9,580,094	82	972,383	85	12,701,856	78
	Beach	21	01	1,989	0	1,744	01	172,986	01	5,673	01	182,413	01
	Gillnet	318	07	1,175,452	37	32,420	19	2,055,195	17	156,502	14	3,419,887	21
	TOTAL	4,381	100	3,188,269	100	168,773	100	11,808,275	100	1,134,558	100	16,304,165	100
1987 <sup>b</sup>	Purse	4,379	95	1,248,368	70	160,403	83	4,263,023	84	542,009	80	6,184,019	80
	Beach	4	0	1,582	0	3,703	02	203,000	04	9,462	01	150,389	02
	Gillnet	229	05	542,360	30	28,327	15	609,003	12	129,482	19	1,256,151	16
	TOTAL	4,612	100	1,792,819	100	192,540	100	5,075,027	100	681,982	100	7,746,980	100
1988	Purse	21,167	95	1,839,153	68	266,446	88	11,948,730	82	1,220,405	85	15,295,901	80
	Beach	75	<01	2,075	<01	860	<01	234,258	02	21,805	02	259,073	01
	Gillnet	1,132	05	856,744	32	35,961	12	2,079,367	14	184,190	13	3,157,394	17
	Testnet	0	0	66	<01	31	<01	296,683	02	0	0	296,780	02
	TOTAL	22,374	100	2,698,637	100	303,298	100	14,559,038	100	1,426,410	100	19,009,757	100
1988 <sup>c</sup>	Purse	4,850		2,529,068		146,433		16,597,269		765,680		20,038,250	
<p>Beach gear harvested approximately 100% of the actual commercial harvest which occurred. The vast majority of the Kodiak Area was closed to commercial salmon fishing due to the presence of oil from the Exxon Valdez oil spill.</p>													
1990	Purse	17,550	93	3,869,523	74	238,684	81	5,350,284	89	471,638	82	9,947,779	82
	Beach	38	01	8,934	<01	1,625	01	84,188	02	11,205	02	105,990	01
	Gillnet	1,218	06	1,396,044	26	53,390	18	549,233	09	94,895	16	2,067,780	17
	Testnet	0	0	838	<01	0	0	0	0	2	<01	840	<01
	TOTAL	18,806	100	5,248,339	100	293,699	100	5,983,805	100	577,740	100	12,122,389	100

-Continued-

Appendix G.4. (page 4 of 4)

YEAR	GEAR TYPE <sup>a</sup>	CHINOOK		SOCKEYE		COHO		PINK		CHUM		TOTAL	
		Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
1991	Purse	20,979	94	3,818,673	67	254,464	78	15,382,910	92	851,421	83	20,328,447	86
	Beach	29	<01	5,386	<01	49	<01	148,648	01	4,468	<01	158,580	<01
	Gillnet	1,225	06	1,878,584	33	70,347	22	1,111,241	07	173,167	17	3,234,564	14
	Testnet	0	0	1,398	<01	0	0	5	<01	14	<01	1,417	<01
	TOTAL	22,233	100	5,704,041	100	324,860	100	16,642,804	100	1,029,070	100	23,723,008	100

- a Gear Description: purse-purseine, beach-beach seine, gillnet-set gillnet, testnet-fish caught in test fisheries, cost recovery fisheries, or fish forfeited due to illegal fishing.
- b Fish caught in test fisheries, cost recovery fisheries and forfeitures due to illegal fishing accounted for approximately 2% of the total harvest.
- c 1989 harvest data does not include the Kitoi Bay catch of approximately 6,437,666 fish. These harvest numbers are estimates by ADF&G of what the actual commercial harvest would have been had there not been major fishery restrictions caused by the M/V Exxon Valdez oil spill. Sockeye harvest data does not include an additional 4,880 Chignik River sockeye salmon which would have been caught in the Cape Igvak fishery pre-July 26 or any other interception fish which may have been harvested in the course of conducting normal Kodiak Management Area fisheries.

Appendix H.1. Tide tables for the Kodiak Management Area, 1991.

HIGH Tides KODIAK District						LOW Tides KODIAK District						HIGH Tides KODIAK District						LOW Tides KODIAK District						
JUNE 1991						JUNE 1991						JULY 1991						JULY 1991						
DATE	DOTS	TIME	AM	PM	FT	DATE	DOTS	TIME	AM	PM	FT	DATE	DOTS	TIME	AM	PM	FT	DATE	DOTS	TIME	AM	PM	FT	
1 Sat	•	4:25	8:5	5:58	6.5	1 Sat	•	11:19	-0.6	11:05	3.1	1 Mon	•	4:42	8.1	5:58	7.2	1 Mon	•	11:24	-0.5	11:31	2.5	
2 SUN	•	5:02	8.0	6:38	6.4	2 SUN	•	11:56	-0.2	11:48	3.2	2 Tues	•	5:19	7.6	6:30	7.3	2 Tues	•	11:56	0.0			
3 Mon	•	5:40	7.5	7:17	6.5	3 Mon	•	12:33	0.2			3 Wed	•	6:03	6.9	7:06	7.5	3 Wed	•	0:19	2.4	12:28	0.6	
4 Tues	•	6:29	6.8	8:03	6.7	4 Tues	•	0:45	3.2	1:12	0.7	4 Thur	•	6:55	6.2	7:47	7.7	4 Thur	•	1:14	2.2	1:04	1.2	
5 Wed	•	7:31	6.2	8:47	7.1	5 Wed	•	1:48	3.0	1:58	1.2	5 Fri	•	7:59	5.5	8:34	8.0	5 Fri	•	2:18	1.9	1:46	1.8	
6 Thur	•	8:43	5.7	9:33	7.5	6 Thur	•	3:00	2.6	2:48	1.6	6 Sat	•	9:29	5.1	9:30	8.4	6 Sat	•	3:30	1.4	2:41	2.4	
7 Fri	•	10:07	5.5	10:22	8.1	7 Fri	•	4:09	1.8	3:41	2.0	7 SUN	•	11:01	5.1	10:33	8.9	7 SUN	•	4:43	0.6	3:50	2.8	
8 Sat	•	11:22	5.6	11:12	8.7	8 Sat	•	5:12	0.9	4:37	2.3	8 Mon	•	12:18	5.5	11:35	9.4	8 Mon	•	5:49	-0.3	5:01	2.9	
9 SUN	•			12:31	6.0	9 SUN	•	6:11	-0.2	5:35	2.4	9 Tues	•			1:21	6.0	9 Tues	•	6:50	-1.2	6:10	2.7	
10 Mon	•	0:00	9.4	1:31	6.4	10 Mon	•	7:03	-1.2	6:31	2.4	10 Wed	•	0:34	10.0	2:12	6.6	10 Wed	•	7:43	-2.0	7:13	2.3	
11 Tues	•	0:51	10.0	2:24	6.8	11 Tues	•	7:54	-2.0	7:26	2.3	11 Thur	•	1:30	10.4	2:58	7.2	11 Thur	•	8:31	-2.5	8:10	1.9	
12 Wed	•	1:40	10.5	3:13	7.1	12 Wed	•	8:41	-2.6	8:19	2.1	12 Fri	•	2:22	10.7	3:43	7.7	12 Fri	•	9:17	-2.7	9:04	1.4	
13 Thur	•	2:31	10.7	4:02	7.4	13 Thur	•	9:31	-2.8	9:11	1.9	13 Sat	•	3:14	10.5	4:25	8.2	13 Sat	•	10:00	-2.6	9:57	1.1	
14 Fri	•	3:23	10.6	4:47	7.6	14 Fri	•	10:18	-2.7	10:06	1.9	14 SUN	•	4:03	10.0	5:07	8.5	14 SUN	•	10:42	-2.1	10:52	0.9	
15 Sat	•	4:12	10.2	5:36	7.7	15 Sat	•	11:03	-2.3	11:03	1.8	15 Mon	•	4:55	9.2	5:49	8.6	15 Mon	•	11:21	-1.4	11:45	0.9	
16 SUN	•	5:07	9.4	6:25	7.9	16 SUN	•	11:50	-1.7			16 Tues	•	5:45	8.2	6:33	8.6	16 Tues	•			12:01	-0.4	
17 Mon	•	6:03	8.5	7:14	8.0	17 Mon	•	0:03	1.9	12:38	-0.8	17 Wed	•	6:40	7.1	7:17	8.5	17 Wed	•	0:43	1.0	12:42	0.6	
18 Tues	•	7:03	7.4	8:06	8.1	18 Tues	•	1:07	1.9	1:24	0.1	18 Thur	•	7:42	6.0	8:06	8.2	18 Thur	•	1:46	1.2	1:24	1.6	
19 Wed	•	8:11	6.4	8:58	8.2	19 Wed	•	2:21	1.8	2:13	1.1	19 Fri	•	8:59	5.2	9:00	8.0	19 Fri	•	2:57	1.3	2:10	2.4	
20 Thur	•	9:30	5.7	9:52	8.3	20 Thur	•	3:34	1.5	3:06	1.9	20 Sat	•	10:30	4.9	10:02	7.9	20 Sat	•	4:14	1.1	3:09	3.1	
21 Fri	•	10:54	5.4	10:45	8.4	21 Fri	•	4:47	1.0	4:02	2.5	21 SUN	•	11:54	5.0	11:01	8.0	21 SUN	•	5:27	0.8	4:21	3.5	
22 Sat	•	12:11	5.4	11:34	8.5	22 Sat	•	5:51	0.5	5:01	2.9	22 Mon	•	12:58	5.3	11:59	8.2	22 Mon	•	6:26	0.4	5:30	3.5	
23 SUN	•			1:09	5.6	23 SUN	•	6:45	0.0	5:57	3.1	23 Tues	•			1:43	6.7	23 Tues	•	7:11	-0.1	6:29	3.3	
24 Mon	•	0:20	8.7	1:58	5.9	24 Mon	•	7:27	-0.5	6:48	3.1	24 Wed	•	0:45	8.5	2:19	6.1	24 Wed	•	7:50	-0.5	7:16	3.0	
25 Tues	•	1:03	8.9	2:37	6.2	25 Tues	•	8:09	-0.8	7:30	2.9	25 Thur	•	1:27	8.8	2:51	6.5	25 Thur	•	8:26	-0.8	7:59	2.6	
26 Wed	•	1:45	9.0	3:15	6.4	26 Wed	•	8:44	-1.0	8:13	2.9	26 Fri	•	2:06	8.3	3:23	6.9	26 Fri	•	8:55	-1.0	8:38	2.3	
27 Thur	•	2:21	9.1	3:51	6.6	27 Thur	•	9:18	-1.2	8:51	2.7	27 Sat	•	2:41	9.0	3:51	7.2	27 Sat	•	9:26	-1.0	9:13	2.0	
28 Fri	•	2:59	9.0	4:23	6.8	28 Fri	•	9:51	-1.2	9:30	2.6	28 SUN	•	3:16	8.9	4:18	7.5	28 SUN	•	9:54	-1.0	9:49	1.8	
29 Sat	•	3:31	8.9	4:55	6.9	29 Sat	•	10:23	-1.1	10:09	2.6	29 Mon	•	3:51	8.6	4:45	7.7	29 Mon	•	10:20	-0.7	10:27	1.6	
30 SUN	•	4:07	8.6	5:27	7.0	30 SUN	•	10:52	-0.8	10:49	2.5	30 Tues	•	4:26	8.1	5:13	7.9	30 Tues	•	10:49	-0.3	11:07	1.3	
												31 Wed	•	5:02	7.6	5:42	8.0	31 Wed	•	11:17	0.2	11:50	1.3	

\* BIGGER THE DOT - BETTER THE FISHING

ALASKA DAYLIGHT TIME

\* BIGGER THE DOT - BETTER THE FISHING

ALASKA DAYLIGHT TIME

HIGH Tides KODIAK District  
AUGUST 1991

LOW Tides KODIAK District  
AUGUST 1991

HIGH Tides KODIAK District  
SEPTEMBER 1991

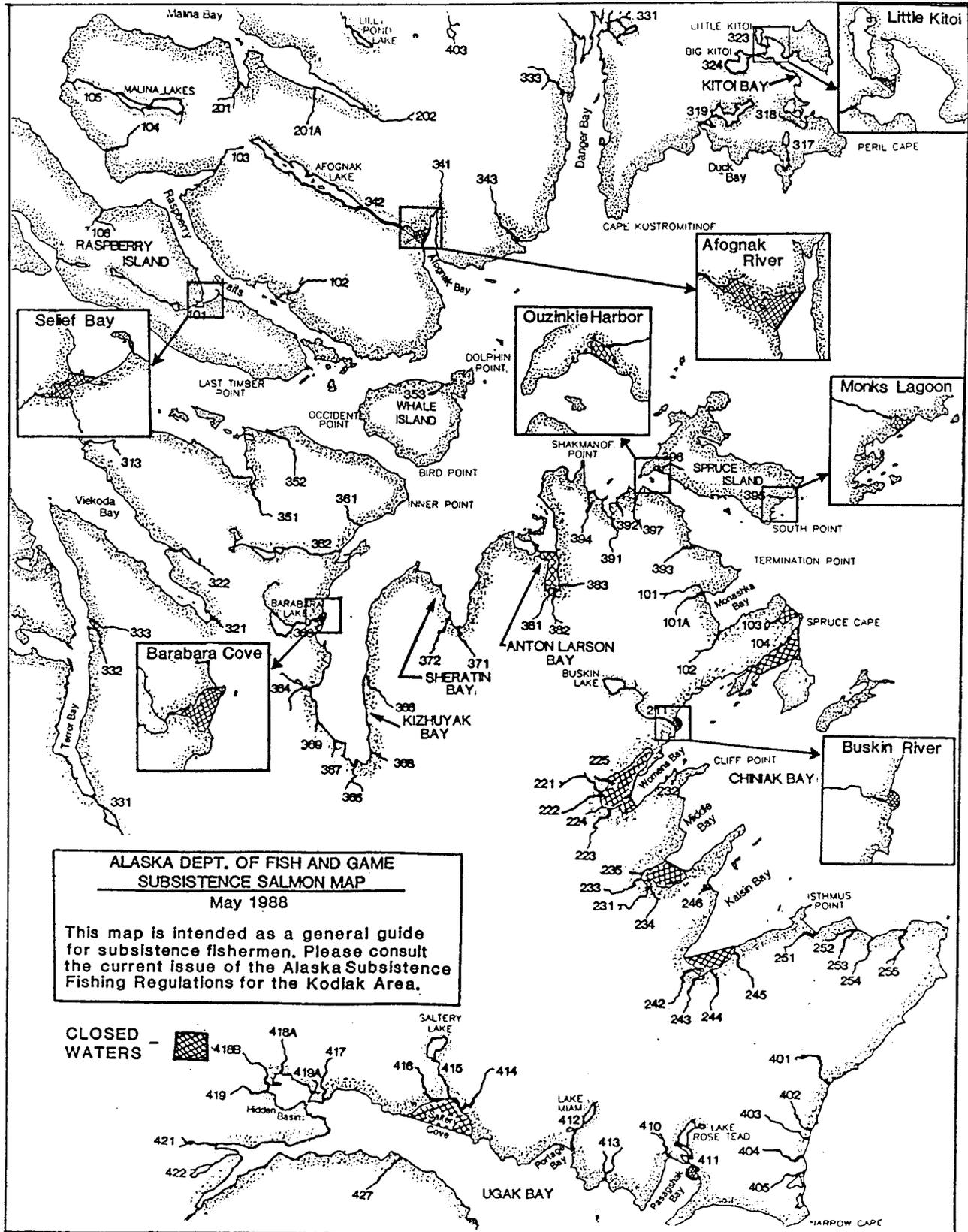
LOW Tides KODIAK District  
SEPTEMBER 1991

DATE	DOTS	TIME	AM	PM	FT
1 Thur	•	5:45	6.9	6:14	8.2
2 Fri	•	6:33	6.1	6:56	8.2
3 Sat	•	7:36	5.4	7:46	8.3
4 SUN	•	9:09	4.8	8:52	8.4
5 Mon	•	10:50	4.9	10:08	8.6
6 Tues	•	12:11	5.4	11:23	9.1
7 Wed	•			1:08	6.2
8 Thur	•	0:26	9.7	1:53	7.0
9 Fri	•	1:25	10.1	2:35	7.7
10 Sat	•	2:17	10.3	3:16	8.4
11 SUN	•	3:06	10.1	3:53	8.8
12 Mon	•	3:53	9.6	4:31	9.1
13 Tues	•	4:39	8.8	5:07	9.1
14 Wed	•	5:26	7.8	5:48	8.9
15 Thur	•	6:17	6.8	6:27	8.5
16 Fri	•	7:10	5.8	7:12	8.1
17 Sat	•	8:25	5.0	8:08	7.6
18 SUN	•	10:03	4.7	9:15	7.4
19 Mon	•	11:37	4.9	10:32	7.4
20 Tues	•	12:36	5.3	11:35	7.7
21 Wed	•			1:15	5.8
22 Thur	•	0:26	8.1	1:46	6.4
23 Fri	•	1:11	8.4	2:15	6.9
24 Sat	•	1:50	8.6	2:43	7.4
25 SUN	•	2:25	8.7	3:09	7.8
26 Mon	•	3:00	8.7	3:34	8.2
27 Tues	•	3:34	8.4	4:02	8.5
28 Wed	•	4:10	8.0	4:28	8.6
29 Thur	•	4:47	7.4	5:00	8.7
30 Fri	•	5:31	6.8	5:34	8.7
31 Sat	•	6:22	6.0	6:17	8.5

DATE	DOTS	TIME	AM	PM	FT
1 Thur	•	11:46	0.8		
2 Fri	•	0:40	1.3	12:21	1.5
3 Sat	•	1:42	1.2	1:03	2.2
4 SUN	•	2:55	1.0	2:02	2.8
5 Mon	•	4:21	0.5	3:21	3.2
6 Tues	•	5:35	-0.2	4:48	3.1
7 Wed	•	6:35	-1.0	6:05	2.6
8 Thur	•	7:27	-1.6	7:08	1.9
9 Fri	•	8:14	-2.0	8:04	1.2
10 Sat	•	8:54	-2.1	8:54	0.5
11 SUN	•	9:35	-1.9	9:44	0.1
12 Mon	•	10:11	-1.4	10:33	-0.1
13 Tues	•	10:47	-0.6	11:19	0.0
14 Wed	•	11:24	0.3		
15 Thur	•	0:11	0.3	11:59	1.2
16 Fri	•	1:07	0.8	12:38	2.1
17 Sat	•	2:11	1.2	1:20	2.9
18 SUN	•	3:28	1.4	2:22	3.5
19 Mon	•	4:51	1.2	3:48	3.8
20 Tues	•	5:59	0.8	5:12	3.6
21 Wed	•	6:44	0.4	6:13	3.2
22 Thur	•	7:22	0.0	7:03	2.6
23 Fri	•	7:54	-0.3	7:40	2.1
24 Sat	•	8:23	-0.6	8:20	1.5
25 SUN	•	8:51	-0.6	8:54	1.0
26 Mon	•	9:19	-0.5	9:29	0.6
27 Tues	•	9:45	-0.2	10:05	0.3
28 Wed	•	10:13	0.2	10:43	0.2
29 Thur	•	10:39	0.7	11:27	0.2
30 Fri	•	11:13	1.4		
31 Sat	•	0:17	0.3	11:49	2.0

DATE	DOTS	TIME	AM	PM	FT
1 SUN	•	7:27	5.3	7:15	8.3
2 Mon	•	9:05	4.9	8:29	8.1
3 Tues	•	10:48	5.2	9:59	8.2
4 Wed	•	11:54	5.9	11:18	8.6
5 Thur	•			12:45	6.7
6 Fri	•	0:21	9.1	1:27	7.6
7 Sat	•	1:19	9.4	2:06	8.4
8 SUN	•	2:08	9.5	2:42	9.0
9 Mon	•	2:54	9.3	3:17	9.4
10 Tues	•	3:39	8.9	3:52	9.5
11 Wed	•	4:23	8.2	4:26	9.4
12 Thur	•	5:08	7.4	5:02	9.0
13 Fri	•	5:53	6.6	5:37	8.5
14 Sat	•	6:46	5.7	6:19	7.9
15 SUN	•	7:52	5.1	7:15	7.3
16 Mon	•	9:25	4.8	8:26	6.9
17 Tues	•	10:57	5.1	9:52	6.8
18 Wed	•	11:54	5.5	11:06	7.1
19 Thur	•			12:36	6.1
20 Fri	•	0:00	7.4	1:04	6.8
21 Sat	•	0:47	7.8	1:29	7.4
22 SUN	•	1:27	8.1	1:57	8.0

Appendix I.1. Map showing closed water areas to subsistence salmon fishing in the northend Kodiak and southend Afognak Islands.



## ARTICLE 10. - KODIAK AREA.

**5 AAC 01.500. DESCRIPTION OF KODIAK AREA.** The Kodiak Area includes all waters of Alaska south of a line extending east from Cape Douglas (58°52' N. lat.), west of 150° W. long., north of 55°30' N. lat.; and east of the longitude of the southern entrance of Imuya Bay near Kilokak Rocks (156°20'13" W. long.).

**5 AAC 01.510. FISHING SEASONS.** (a) Salmon may be taken for subsistence purposes from 6:00 a.m. until 9:00 p.m. from January 1 through December 31, with the following exceptions:

(1) from June 1 through September 15, salmon seine vessels may not be used to take subsistence salmon for 24 hours before, during, and for 24 hours after any open commercial salmon fishing period;

(2) from June 1 through September 15, purse seine vessels may be used to take salmon only with gill nets and no other type of salmon gear may be on board the vessel.

(c) Fish other than salmon may be taken at any time unless restricted by the terms of a subsistence fishing permit.

**5 AAC 01.520. LAWFUL GEAR AND GEAR SPECIFICATIONS.** (a) Unless restricted by this section or under the terms of a subsistence fishing permit, fish may be taken by gear listed in 5 AAC 01.010(a).

(b) Salmon may be taken only by gill net and seine.

(c) Halibut may be taken only by a single hand-held line with not more than two hooks attached to it.

(d) Subsistence fishermen must be physically present at the net at all times the net is being fished.

**5 AAC 01.525. WATERS CLOSED TO SUBSISTENCE FISHING.** The following locations are closed to the subsistence taking of salmon:

(1) all waters of Mill Bay and all those waters bounded by a line from Spruce Cape to the northernmost point of Woody Island, then to the northernmost point of Holiday Island, then to a point on Near Island opposite the Kodiak small boat harbor entrance and then to the small boat harbor entrance;

(2) all freshwater systems of Little Afognak River and Portage Creek drainage in Discoverer Bay;

(4) all waters closed to commercial salmon fishing in the Barbara Cove, Chiniak Bay, Saltery Cove, Pasagshak Bay, Monashka Bay and Anton Larsen Bay as described in 5 AAC 18.350, and all waters closed to commercial salmon fishing within 100 yards of the terminus of Selief Bay Creek and north and west of a line from the tip of Last Point to the tip of River Mouth Point in Afognak Bay;

(6) all waters 300 yards seaward of the terminus of Monks Creek;

(7) from August 15 through September 30, all waters 500 yards seaward of the terminus of Little Kitoi Creek;

(8) all freshwater systems of Afognak Island;

(9) all waters of Ouzinkie Harbor north of a line from 57°55'10" N. lat., 152°36' W. long. to 57°55'03" N. lat., 152°29'20" W. long.

**5 AAC 01.530. SUBSISTENCE FISHING PERMITS.** (a) A subsistence fishing permit is required for taking salmon, trout and char for subsistence purposes. A subsistence fishing permit is required for taking herring and bottomfish for subsistence purposes during the commercial herring sac roe season from May 1 through June 30.

(b) A subsistence salmon fishing permit allows the holder to take 25 salmon plus an additional 25 salmon for each member of the same household whose names are listed on the permit. An additional permit may be obtained if it can be shown that more fish are needed.

(c) All subsistence fishermen shall keep a record of the number of subsistence fish taken each year. The number of subsistence fish taken shall be recorded on the reverse side of the permit. The record must be completed immediately upon landing subsistence caught fish and must be returned to the local representative of the department by February 1 of the year following the year the permit was issued.

**5 AAC 01.545. SUBSISTENCE BAG AND POSSESSION LIMITS.** The daily bag limit for halibut is two fish and the possession limit is two daily bag limits. No person may possess sport-taken and subsistence-taken halibut on the same day.

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