

4K91-15

1991

HARVEST STRATEGY

KODIAK AREA COMMERCIAL SALMON FISHERY

By:

Dave Prokopowich
Kevin Brennan
and
Dennis Gretsch

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Alaska Department of Fish and Game
Division of Commercial Fisheries
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Kodiak, Alaska 99615

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INTRODUCTION

The 1991 salmon harvest strategy for Area K salmon management will, as in the past, emphasize these three management criteria:

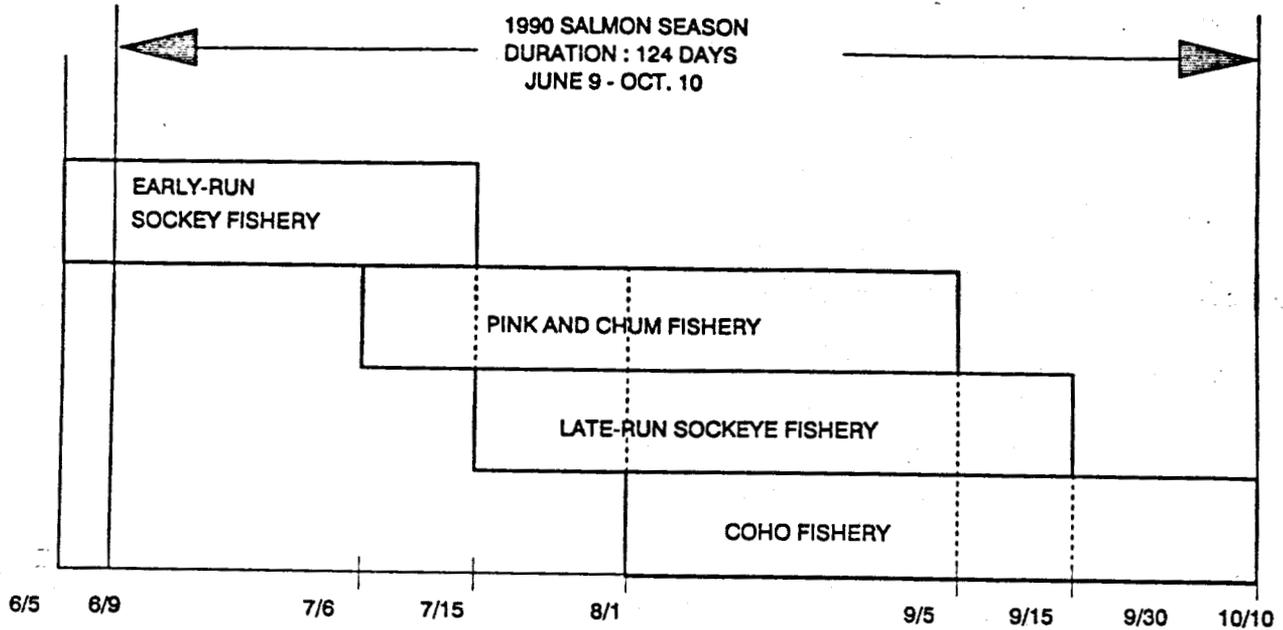
- (1) **To ensure that the 1991 escapement occurs in the proper magnitude and distribution in order that the potential for maximum production for subsequent returns is established.**
 - The results of ADF&G's 1991 management activities will directly affect the following future commercially targeted returns:
 - 1993 pink salmon return
 - 1994 - 95 coho salmon returns
 - 1993, 1995, and 1996 chum salmon returns
 - 1995, 1996, 1997 sockeye and chinook salmon returns
- (2) **To provide for an orderly harvest on the highest quality salmon by pursuing an aggressive harvest approach which maximizes harvest opportunities during each fishing period.**
 - This has always required a species-oriented approach which:
 - For sockeye and coho salmon emphasizes using in-season weir escapement data on major systems to determine fishing time by geographical area.
 - Fishing time on minor sockeye and coho systems without fish weirs determined by ADF&G's perception of run strength for these systems.
 - Managing pink and chum salmon returns emphasizes using pre-season forecasts initially to determine fishing time and then provides for in-season adjustments in fishing time as the actual run strength becomes more apparent during normal peak harvest periods.
- (3) **To adhere to the biological and allocative requirements of all Board of Fisheries Management Plans and to ensure that traditional fishing opportunities for all commercial gear types and all user-groups occur in a manner consistent with the criteria identified in (1) and (2).**

An overview of how ADF&G expects to manage the 1991 salmon fishery to implement the aforementioned harvest strategy is detailed in the following pages. Along with this overview, the management chronology identified on the next page can be used as a guide to clarify why in-season adjustments in harvest strategy, as dictated by species-specific management requirements, are needed. For example, sockeye management requires that fishing time and areas open to fishing be strictly regulated by the sockeye escapement information obtained from eight salmon weirs used to enumerate adult salmon upstream migrants. Pro-rating fishing time for sockeye solely on the basis of pre-season expectations, other than for the June 9 commercial test fisheries, is not an acceptable method of managing Kodiak's sockeye stocks as history has proven. However, for pink salmon management, pro-rating fishing time based upon pre-season expectations is mandatory for prosecuting Kodiak's pink salmon fishery successfully. This can be done with little chance of incurring adverse effects on future production and is the most acceptable way of managing the harvest of Kodiak's relatively large pink salmon returns. Chum and coho salmon require a blend of these two management approaches in that both species are initially harvested as a bycatch in fisheries where fishing time is generally targeted on pink salmon. Targeted management and stock-specific fisheries on chum and coho salmon requires proper run strength assessment before these fisheries can occur. This requires that a combination of both weir and aerial escapement data and assessment of fish "build-ups" be used along with an in-season assessment of bycatch levels of these species to determine if the post-by-catch returns can adequately support additional near-terminal harvests.

Figure 1.

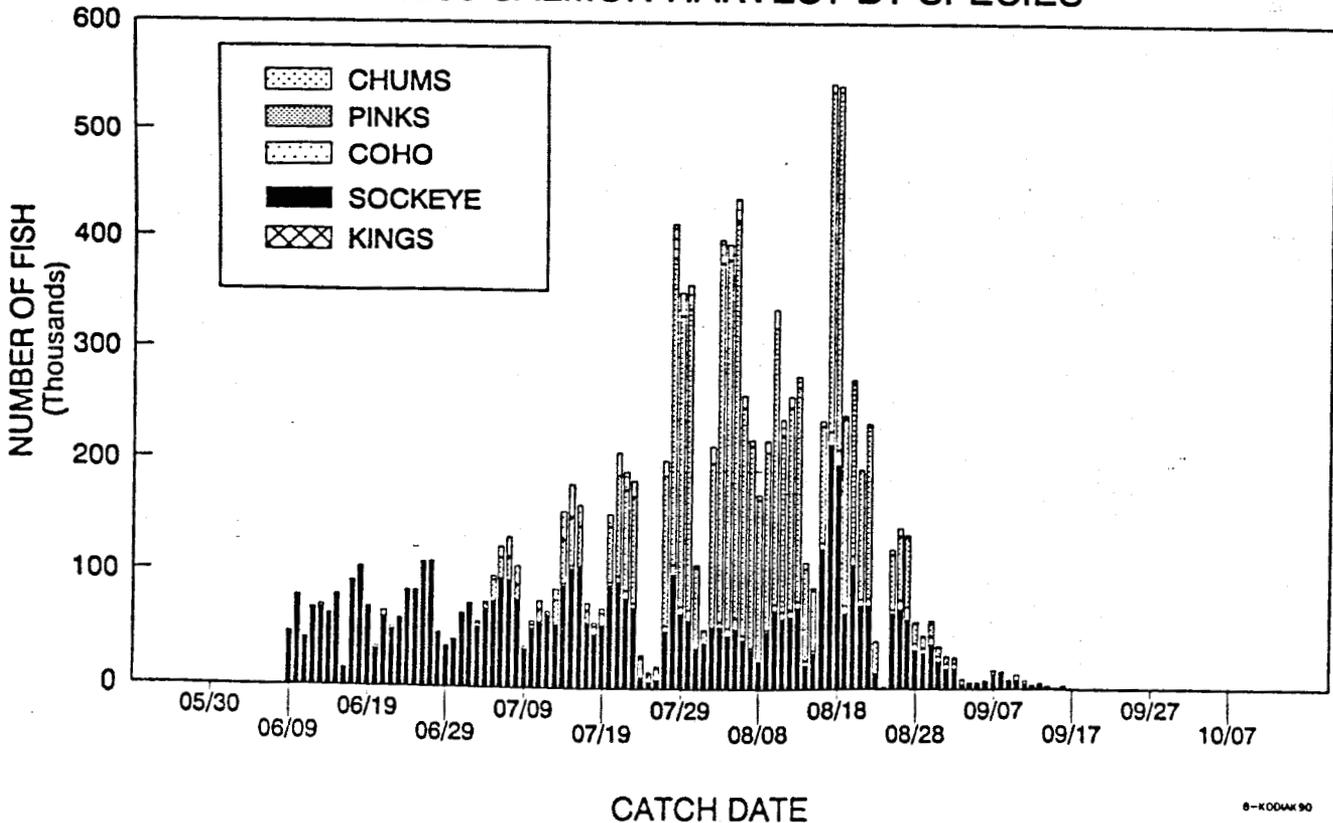
The management chronology shown below provides a general overview of when species-specific harvest strategies are applied and the 1990 graphical summary of the total salmon harvest by species clarifies why these harvest strategies are applied in the chronology shown.

KODIAK COMMERCIAL SALMON FISHERIES MANAGEMENT CHRONOLOGY



1-CHRONO90

KODIAK MANAGEMENT AREA 1990 SALMON HARVEST BY SPECIES



8-KODAK 90

Table 1.

KODIAK MANAGEMENT AREA
1990 COMMERCIAL SALMON HARVEST/1991 HARVEST PROJECTIONS

	KINGS	REDS	COHO	PINKS	CHUMS	TOTAL
1990 Projected Harvest	8,000	2,540,000	190,000	11,790,000	705,000	15,233,000
1990 Actual Harvest	18,810	5,248,340	293,700	5,983,810	577,740	12,123,580
1991 Projected Harvest ^{2/}	15,000	4,304,000	230,000	20,530,000	805,000	25,884,000
FISHERY						
				1990 HARVEST ^{5/}	1991 HARVEST ^{2/5/}	
<u>Early Run Sockeye Salmon Fisheries (6/9-7/15)</u>				Projection	Actual ^{6/}	Projection (As of 2/28/91)
Cape Igvak				.060	.052	.430
Karluk				.250	.127	.150
Ayakulik				.468	1.274	.731
Fraser				.394	.666	.561
Upper Station				.020	.159	.177
Minor Systems				.040	.062	.050
Other				.070	.074	.070
	Sub-Total			1.302	2.414	2.169
<u>Late Run Sockeye Salmon Fisheries (7/16-9/15)</u>						
Cape Igvak				.115	.085	.100
Karluk				.550	1.364	.900
Ayakulik				.312	.586	.487
Fraser				.000	.060	.140
Upper Station				.211	.581	.458
Minor Systems				.020	.062	.020
Other				.030	.096	.030
	Sub-Total			1.238	2.834	2.135
TOTAL SOCKEYE						
				2.540	5.248	4.304
<u>Coho Salmon Fisheries (8/1-10/1)</u>						
Afognak				.027	.063	.030
Westside				.095	.139	.110
Alitak				.025	.018	.030
Eastside/Northend Kodiak				.022	.026	.025
Mainland				.032	.048	.035
	Sub-Total			.190	.294	.230
<u>Pink Salmon Fisheries (7/6-9/5)</u>						
Afognak (Hatchery)				2.890	.539	2.830
Afognak (Natural)				1.850	1.011	.950
Westside Kodiak				3.350	3.000	4.100
Alitak				.400	.145	6.100
Eastside/Northend Kodiak				1.600	.413	5.050
Mainland				1.700	.876	1.500
	Sub-Total			11.790	5.984	20.530
<u>Chum Salmon Fisheries (6/6-9/5)</u>						
Afognak (Hatchery)				.000	.004	.050
Afognak (Natural)				.035	.030	.040
Westside Kodiak				.325	.173	.300
Alitak				.055	.050	.070
Eastside/Northend Kodiak				.060	.120	.110
Mainland				.230	.201	.235
	Sub-Total			.705	.578	.805
GRAND TOTAL				15.233 ^{3/}	12.122 ^{4/}	25.884 ^{1/}

FOOTNOTES ON NEXT PAGE

FOOTNOTES

1/ Includes 15,000 kings - projected harvest.

2/ 1991 harvest projections as of 2/28/91. Forecasts for Chignik and Kodiak sockeye returns have been finalized.

3/ Includes 8,000 kings - projected harvest.

4/ Includes 18,810 kings - actual harvest.

5/ Numbers represent millions of fish.

6/ Actual harvest estimates by fishery as of 12/15/90. Sockeye harvest estimates by fishery could change as further stock composition work is completed.

Table 2

SEASON OPENING TIMES/DATES BY SPECIES
(For 1991 Kodiak Commercial Salmon Fishery)

<u>FISHERY</u>		<u>EARLIEST OPENING TIME/DATE</u>	
		<u>Firm Time/Date</u>	<u>Approximate Time/Date</u>
<u>Early-Run Sockeye Salmon Fisheries</u>			
-	Cape Igvak Section ^{1/}	-	12:01 A.M. June 7-9
-	N.W. Kodiak District ^{2/}	12:00 Noon June 9	
-	Inner Ayakulik and Outer Ayakulik Sections ^{3/}	-	Low tide June 7-9
-	Alitak District ^{4/}	12:00 Noon June 9	
-	Minor Systems ^{5/}		
	Uganik	-	12:00 Noon June 14
	Paramanof	-	12:00 Noon June 14
	Pauls/Perenosa	-	12:00 Noon June 14
	Litnik	-	12:00 Noon June 14
	Saltery	-	12:00 Noon June 14
	Kafliia/Swikshak	-	12:00 Noon June 14
<u>Pink/Chum Salmon Fisheries^{6/}</u>			
-	Mainland District	12:00 Noon July 6	-
-	Afognak District	12:00 Noon July 6	-
-	N.W. Kodiak District	12:00 Noon July 6	-
-	S.W. Kodiak District	12:00 Noon July 6	-
-	Alitak District	12:00 Noon July 6	-
-	Eastside Kodiak District	12:00 Noon July 6	-
-	N.E. Kodiak District	12:00 Noon July 6	-
<u>Late Run Sockeye Salmon Fishery</u>			
-	Cape Igvak Section ^{2/}	-	12:01 A.M. July (?)
-	All remaining late-run sockeye fisheries ^{8/}	-	12:00 Noon July 15
<u>System Specific Coho Salmon Fisheries^{9/}</u>			
-	Mainland District	-	12:00 Noon Sept. 1
-	Afognak District	-	12:00 Noon Aug. 15
-	N.W. Kodiak District	-	12:00 Noon Sept. 1
-	S.W. Kodiak District	-	12:00 Noon Sept. 1
-	Alitak District	-	12:00 Noon Sept. 1
-	Eastside Kodiak District	-	12:00 Noon Sept. 5
-	N.E. Kodiak District	-	12:00 Noon Sept. 5

^{1/} Actual opening date will be determined by sockeye escapement levels into the Chignik River system. Fishing time will be in 24 hour increments.

^{2/} Actual opening time/date is as shown. This opening is considered a commercial test fishery; fishing time for this initial period will be 33 hours (12:00 noon 6/9 through 9:00 P.M. 6/10).

^{3/} Actual opening date will be determined by the sockeye escapement level into Ayakulik River and opening time by low tide timing during daylight hours.

^{4/} Actual opening time/date is as shown. This opening is considered to be a commercial test fishery; fishing time for the initial period will be 33 hours (12:00 noon 6/9 through 9:00 P.M. 6/10).

^{5/} Actual opening time will be determined by sockeye escapement levels into minor systems. Fishing time for this period will be 33 hours (12:00 noon through 9:00 P.M.)

^{6/} Actual opening time/date is as shown. Fishing time for this initial period will be 57 hours (12:00 noon 7/6 through 9:00 P.M. 7/8). See section on Fishing Periods for additional information.

^{7/} Actual opening date will be determined by sockeye escapement levels into the Chignik River System. Fishing time will be in 24 hour increments.

^{8/} Actual opening date for system-specific fishing time will be determined by sockeye escapement levels into major systems. All fishing periods will begin at 12:00 noon and end at 9:00 P.M. prior to 8/16 and end at 6:00 P.M. from 8/16 to season's end.

^{9/} Actual opening date for system specific fishing time will be determined by overall coho run strength evaluation and by escapement levels into major systems and minor systems with reliable escapement data.

FISHING PERIODS

- **ALL FISHING PERIODS WILL BE BY EMERGENCY ORDER** and will generally be based upon in-season assessment of actual run strength.
- **ALL FISHING PERIODS WILL BEGIN AT 12:00 NOON AND END AT 9:00 P.M.**, except that:
 - The Cape Igvak fisheries will always begin at 12:01 A.M. and end at 12:00 Midnight during the period 6/5 - 7/25.
 - The Inner Ayakulik Section fisheries will always begin at approximately low water. These will be daylight openings with pre-announced opening times and these fisheries will be initiated by ADF&G "flare openings". When such openings occur, the opening time for Outer Ayakulik Section may be adjusted to coincide with the Inner Ayakulik Section.
 - Beginning on August 16, all fishing periods will end at 6:00 P.M. instead of 9:00 P.M.
- **ADVANCE NOTICE FOR EACH FISHING PERIOD**
 - All advance notice time will be based upon the initial announcements being made on SSB frequency 4125 Khz, by Peggy Dyson following her 6:00 P.M. daily weather broadcasts.
 - For the Cape Igvak fishery, the initial fishing period will have at least a 36 hour advance notice. All subsequent fishing periods will have at least 18 hours advance notice.
 - For the June sockeye fisheries in the Alitak, S.W. Kodiak, and N.W. Kodiak Districts, the initial fishing periods will have at least a 42 hour advance notice; this includes the normal June 9 fishing period for the Alitak and N.W. Kodiak Districts and the approximate June 14 fishing period for the N.W. Kodiak District.
 - All subsequent fishing periods for the remainder of the Kodiak Area prior to July 6 will have at least 18 hours advance notice.
 - For the initial pink/chum fisheries which will begin at 12:00 noon on July 6, at least 42 hours advance notice will be provided.
 - All subsequent fishing periods for the remainder of the Kodiak Area after the initial July 6 fishing period will have at least 18 hours advance notice.
 - All extensions in fishing time from a pre-announced fishing period will have at least 3 hours advance notice.
- **IN PERIOD CLOSURES**
 - During the period July 6 through July 25 in period closures of "Seaward Zones" designated in the North Shelikof Sockeye Salmon Management Plan may occur. Fishermen who are fishing in management units covered by this plan are advised that in period closures of "Seaward Zones" are possible and that such closures will be announced on SSB frequency 4.125 at 8:00 A.M., 10:00 A.M., 2:00 P.M., or 6:00 P.M. with the effective closure time occurring three hours following the initial announcement time.

LENGTH OF FISHING PERIODS

SOCKEYE: In general, each fishing period targeting on sockeye for both early and late runs to all major systems will be dependent upon "weir" escapements. This will also apply to those minor "weired" systems targeted by the commercial fishery.

The exceptions to this will be the normal June 9 commercial test fisheries in the Alitak District and the N.W. Kodiak District (see statistical map on page 32 showing approximate boundaries of these districts). Both of these commercial test fisheries will be 33 hours long. The first period will extend from 12:00 noon Saturday June 9 through 9:00 P.M. Sunday June 10. A second 33 hour commercial test fishery will occur in the N.W. Kodiak District on approximately June 14 or 15 depending upon when this fishery can be coordinated with other terminal sockeye fisheries in order to spread the fishing effort. This second commercial test fishing period will only occur on those years when harvestable surpluses of sockeye are projected for Kodiak's three (3) major early-run sockeye systems; 1991 is such a year. Additional fishing time in the Alitak District will depend on the results of the June 9 commercial test fishery, the ADF&G test fishery, weir escapements and positive build-up trends. (See Alitak District Management Plan).

In conjunction with this second commercial test fishing period in the N.W. Kodiak District, will be the initial 33 hour fishing period for healthy minor sockeye systems (Uganik, Saltery, etc.). Specific management units (sections) open for this fishery will be dependent upon the health of the pertinent systems associated with these units. The E.O. announcement for this opening will specify which sections are to be opened.

In the case of the Igvak sockeye fishery, fishing periods in the Cape Igvak Section will continue to be in increments of 24 hours running from 12:01 A.M. to 12:00 Midnight. Fishing time will be dependent upon an evaluation of the Chignik System sockeye run, the predominant contributing stock harvested in this section. A review of the Cape Igvak management plan listed in this document should clarify the biological and allocative requirements of this plan. For the 1991 season, as in recent past seasons, fishing time will initially be allocated in the Cape Igvak Section based upon the criteria listed in paragraph (c) of the plan.

For most late-run sockeye stocks, a portion of the harvestable surplus is commonly taken as bycatch during targeted pink salmon fishing periods. Consequently, a "blended" management strategy is needed to insure that minimum escapements are achieved for each species into each system and that desired escapement requirements are not exceeded. The Westside Kodiak Management Plan on page 21 provides an overview of which stocks during which time period are targeted for management.

Pink Salmon

The total 1991 projected pink salmon harvest of 20.53 million fish, which includes Kitoi Bay Hatchery's expected contribution of 2.83 million pinks, represents a potential historical record high harvest. Overall, pre-emergent fry densities from the 1989 brood year in which the majority of returning pinks were utilized as "escapement" were some of the highest on record for the Westside, Alitak, Eastside and Afognak Districts. Streams sampled in the Mainland District showed minor signs of scouring and freezing damage. Favorable early marine conditions combined with record high fry densities are the main factors which resulted in this year's record high pink salmon forecast. However, for planning purposes actual harvest expectations may approach the lower end of the forecast 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 return haven't improved, the 1991 pink salmon return may also be less than expected.

If the 1991 pink salmon return develops as forecast closed waters in Uganik Bay may need to be increased to include the Inner Uganik Bay Section due to the lower pre-emergent fry index for Uganik River, in order to assure pink salmon escapement goals are achieved for Uganik River.

The 1991 harvest strategy for Area K pink salmon management will, as in the past, emphasize the three critical management criteria identified in the Introduction of this document.

In consideration of the forecasted strength of the 1991 pink return and the expected strong early production associated with odd year returns, the 1991 pattern of fishing periods for those management units where pink salmon are the targeted management species is expected to vary in fishing time from 4-1/2 days to 5-1/2 days per week up to 7 days per week during the time frame of July 6 through approximately August 25.

Listed below are projected fishing period scenarios which can be used for planning purposes by both ADF&G and industry. Changes in these scenarios should be expected if significant deviations in the actual pink salmon return occurs. Less fishing time should be expected in management units where chum salmon are the targeted management species.

- **First Period: 4-1/2 days/105 hours - 12:00 Noon July 6 through 9:00 P.M. July 10.**
 - In recent years this initial fishing period has consistently been 2-1/2 days in duration. Due to the expected strong early production associated with an odd year return a larger initial fishing period is warranted. This period provides harvest data important for early run-strength assessment for Area K's entire pink run as well as for specific chum stocks. No extensions in fishing time based on pink or chum harvests would occur during this period.
- **Second Period: 4-1/2 days/105 hours - 12:00 Noon July 13 through 9:00 P.M. July 17.**
 - This second period will help ensure that early run pink salmon stocks and several major chum salmon stocks are adequately harvested per the stated management goals and that at least minimum escapements are ensured. Assessment of run strength for both species will emphasize harvest data, however bay build-ups for both species will be somewhat apparent during this period. No extensions in fishing time based on pinks or chum harvests would occur during this period. The Inner Uganik Bay Section may remain closed beginning with this fishing period.
- **Third Period: 4-1/2 days/105 hours - 12:00 Noon July 20 through 9:00 P.M. July 24.**
 - This third period will occur following a 2-1/2 day closure to allow an influx of fish into terminal areas of pink and chums to enhance the "build-ups" of potential escapement fish. This is the first fishing period when the combination of harvest and early escapement/build-up information will provide the initial indications of actual run strength for major pink salmon fisheries. While no extensions in fishing time are expected during this period, the assessment results of this period have commonly resulted in reduced fishing time during the fourth period for years of weaker than expected pink returns.
- **Fourth Period: 4-1/2 days/105 hours - 12:00 Noon July 27 through 9:00 P.M. July 31.**
 - This fourth period is a very critical period in that the peak harvest dates and a fairly accurate assessment of total run strength should be evident by period's end. Commonly, extensions in fishing time occur off of this period for years when returns are equal to or stronger than expected.
- **Fifth Period: 5-1/2 days/129 hours - 12:00 Noon August 3 through 9:00 P.M. August 8.**
 - This fifth period should yield the peak harvest date and should be the peak harvest period in 1991 provided normal run timing occurs. If pre-season expectations appear valid extensions in fishing time could occur in portions of the management area. This period commonly yields the first significant announcement of differential fishing time by management unit as heavy production areas are targeted for extensions while moderate or lower production areas are not.

- **Sixth Period: 4-1/2 days/105 hours - 12:00 Noon August 11 through 9:00 P.M. August 15.**
 - This sixth period should be the first post-peak period and is important from the standpoint that returns to major late production systems should be evident by period's end. Also this is a critical period for seriously considering expansions in closed water sanctuaries to enhance escapement levels and to make a final evaluation of run strength to determine if further reductions in fishing time are needed for the remaining periods to ensure adequate escapement; a strategy for "topping-off" escapement for all systems stems from this period.
- **Seventh Period: 4-1/2 days/102 hours - 12:00 Noon August 18 through 6:00 P.M. August 22.**
 - This seventh period is when a more "blended", multi-species management approach is needed for those sections where pinks had been the targeted species for the previous six periods. Emphasis will still be on harvest of excess good quality pink salmon and on achieving at least minimum pink escapements where applicable, however major concern will be directed toward the run strength of late run sockeye and chum salmon.
- **Eighth Period: 3-1/2 days/78 hours - 12:00 Noon August 26 through 6:00 P.M. August 29.**
 - This eighth period will be primarily a "clean-up" period for most pink salmon stocks in the sense that all escapement requirements should be mostly assured and all excess pinks of acceptable quality should be available for harvest in near terminal areas where applicable. Again this period will require a major emphasis on multi-species management; it is a critical management period for late run sockeye and chum stocks as well as early run coho stocks.
- **CHUMS AND COHO** A large portion of the 1991 Kodiak chum and coho salmon harvest will occur as bycatch in non-terminal locations during fishing periods having fishing time associated with major pink salmon fisheries. System-specific chum and coho salmon fisheries which occur during the pink salmon fishery will commonly result in pertinent management units having less fishing time than management units targeting primarily pink salmon stocks. This approach emphasizes the use of more terminally located management units for targeted chum and coho management (i.e. Inner Kukak Section, Zachar Bay Section, Kizhuyak Section, etc.)

EMERGENCY ORDER IN-SEASON ANNOUNCEMENTS ("GETTING THE WORD")

- **Fishing period announcements are never predictable** because the fishery is managed on an evaluation data which is compiled daily, i.e. (1) escapements via weir counts and/or aerial surveys, (2) harvest trends (total catch and C.P.U.E.) and (3) information on fish "build-ups".
- **Once enough information has been collected to determine adequate fishing time to harvest surplus fish an emergency order is "immediately" issued in the following manner:**
 - 1/ A news release is constructed detailing:
 - a. The date, time, and number of the emergency order announcement.
 - b. The length of the fishing period.
 - c. The opening and closing times and dates of the fishing period.
 - d. The areas open to fishing.

- e. The areas closed to fishing (those sections not listed as being open).
 - f. The location of "closed water" marker adjustments.
- 2/ Copies of the news release are posted on the windows of the entrance doors to the Kodiak ADF&G office.
 - 3/ Copies are made available for the public at the Kodiak office during working hours; for after-hours availability, copies are stored in a manila envelope taped to the window by the main entrance door.
 - 4/ The news release is recorded on a 24-hour recorded message phone (Number 486-4559).
 - 5/ The news release is made available to three local radio stations (K.V.O.K., K.M.X.T., and K.G.T.L.) to be played by these stations at pre-designated times during the day.
 - 6/ The news release is announced over 4125 by Peggy Dyson following her weather schedules. Commonly, the first reading of a news release occurs after Peggy's 6:00 P.M. schedule, but occasionally the 8:00 A.M. schedule yields the initial reading.
 - 7/ The news release is distributed to all processors either by hand, verbally on the telephone, by tele-fax, or by calling the ADF&G recorded message phone; this information is then passed along to their respective tenders.
 - 8/ Information on the most current news release or emergency order can also be obtained by calling the Kodiak ADF&G office during working hours or by calling either Dave Prokopowich (486-6007), or Kevin Brennan (486-6475) after working hours or on weekends.
 - 9/ Copies of emergency orders for each news release are mailed to a current listing of required and interested recipients.
 - 10/ Many fishermen, ADF&G vessels and camps, and Fish and Wildlife Protection vessels use a small tape recorder to document the exact wording of each announcement as broadcast by Peggy Dyson. This is a very prudent thing to do when considering the complicated nature of each announcement and considering the new District and Section boundaries.

NEW REGULATIONS

There are no new regulations pertaining to the Kodiak commercial salmon fishery in 1991.

MISCELLANEOUS REGULATORY CLARIFICATIONS

Boundary Determinations:

- When determining the location of a particular district/section boundary, or any in-season emergency order boundary, the latitude and longitude as plotted on a NOAA navigational chart (approximate scale 1:80,000.) will represent the correct boundary locations. Latitude and longitude as determined by Loran bearings represent incorrect boundary locations for purposes of determining the aforementioned boundaries.

Boundaries - The Raspberry Straits Section is not part of the Southwest Afognak Section.

Closed Water Adjustments

- As a result of conflicting interpretations of Alaska Statute 16.05.785 FAILURE TO REMOVE MARKERS (see the 1990/91 Finfish Regulation Book) there will be no in-season adjustments

of closed waters (as described in Section 5 AAC 18.350) unless ADF&G personnel will be able to remove old markers and install new markers or unless in-season adjustments of closed waters are made to a specific stream terminus. All adjustments to closed waters listed in 5 AAC 18.350 will be made by emergency order.

Closed Water Sanctuaries

- In areas where ADF&G has deployed regulatory markers to establish waters closed to fishing, a straight line closure is in effect provided that no portion of that line is less than 500 yards from the seaward extremities of the exposed tideland banks which designates the stream mouth. Consequently, common closed water configurations will be areas of various shapes, depending upon the nature of each individual stream mouth extending between the two regulatory markers.

In areas where ADF&G has deployed regulatory markers to establish waters closed to fishing in bays a straight line closure is in effect.

In the Mainland District, ADF&G is expanding its stream marker program. Fishermen participating in salmon fisheries located in portions of the Mainland District should be aware that closed water sanctuaries may be larger in some areas due to the placement of markers which will normally provide some protection for "build-up" fish during low tide.

Three Mile Limit

- According to Title 50, part 674 of the Code of Federal Regulations it is unlawful to engage in commercial fishing for salmon in waters seaward of the state (the "three mile limit") territorial sea boundary west of Cape Suckling.

During the 1989 Board of Fisheries meeting held in Kodiak, board members expressed concern regarding increasing numbers of Kodiak purse seine fishermen fishing further than three miles offshore; Board members decided that no changes needed to occur in state regulations in regard to prohibiting fishing outside the territorial sea boundary since they were informed by ADF&G Headquarters staff there were federal regulations which already prohibited salmon fishing outside the "three mile limit" and the state baseline description of "Waters of Alaska" was not valid.

However, in 1991, it will continue to be illegal to commercial fish for salmon beyond the "three mile limit". This will be enforced by both National Marine Fisheries Service Enforcement Division and State Fish & Wildlife protection officers. If conflicts between State and Federal jurisdiction outside the "three mile limit" are not resolved prior to the initial opening then an E.O. will be issued which closes all waters of the Kodiak Management Area outside the State Territorial sea boundary ("three mile limit") to commercial salmon fishing for the entire 1991 season.

Purse Seine Practice Sets

- Under the current regulations there are not any provisions that allow for practice seine sets in areas which are closed to commercial salmon fishing.

Purse Seine Leads

- Minimum mesh size is seven (7) inches. Double panels of web overlapped in the lead will not be considered legal.

Set Gillnets - Operation of Gear

- Leads: "Seine webbing" used as a lead for set gillnets is not intended to "gill salmon". Set gillnet leads which have similar mesh size and web construction to the actual set gillnet gear will not be considered legal gear.
- Operation of Set Gillnets: Set gillnets must be operated in substantially a straight line, except that no more than 25 fathoms of a set gillnet may be used as a hook. A hook may be used in any configuration. When a set gillnet is being operated primarily as a "hook in any configuration" it will be considered illegal to actively operate that gillnet as a seine or beach seine (such as "round hauling").

FISH TICKETS

A reminder to all fishermen to check the statistical area recorded on each of your fish tickets. It is required that the correct harvest location(s) be shown on each ticket and it is the responsibility of each fisherman that the tender operators or the cannery personnel record the correct harvest location on each ticket. This information is extremely useful in evaluating in-season harvest levels, stock contribution, and effort distribution.

SEINERS:

Please provide estimates of harvest by area to tender operators. For example "1/3 of my reds were from Cape Alitak (257-20) and the rest were from Red River (256-20). The rest of my fish were 1/2 and 1/2 from each of these areas". Prior to signing your tickets, ensure that the proper harvest information by **STATISTICAL AREA** has been entered.

Of particular importance will be to ensure that the harvest from that portion of the Shelikof Straits regulated by the Shelikof Straits sockeye management plan is properly recorded. In order to provide an accurate accounting of sockeye harvests in the area, ADF&G in conjunction with Fish and Wildlife Protection, will conduct an extra monitoring effort of harvest activity and tendering operations in this area during the time period pertinent to this plan, i.e. July 6 -25.

GILLNETTERS:

Because of the fixed nature of your gear, each permit holder's reporting area should be consistent between landings. However, in the event that you become "exploratory" with your nets and move into a new statistical area, please provide the tender operator with that information. Prior to signing your tickets, ensure that the proper harvest information by **STATISTICAL AREA** has been entered.

MANAGEMENT PLANS

Currently there are five (5) Board of Fisheries approved management plans which provide management guidance to ADF&G for specific portions of the Kodiak Management Area. Also, there is a sixth (6) management plan associated with the production from Kitoi Bay hatchery. A listing of these management plans and the management units affected by these plans are as follows:

MANAGEMENT PLAN	YEAR INITIATED	MGMT. UNITS AFFECTED	DATES IN EFFECT
Cape Igvak Mgmt. Plan	1978	Cape Igvak Section Wide Bay Section	6/5 - 7/25
Kitoi Bay Hatchery Mgmt. Plan	1981	Kitoi Bay Section Izhut Bay Section Duck Bay Section	6/9 - 10/1
Alitak District Mgmt. Plan	1987	Alitak Bay District	6/9 - 10/1
Westside Kodiak Mgmt. Plan	1990	N.W. Kodiak District S.W. Kodiak District S.W. Afognak Section	6/9 - 10/1
Crescent Lake Mgmt. Plan	1990	Portion of the Central Section in Vicinity of Port Lions	8/1 - 9/15
N. Shelikof Strait Sockeye Strait Sockeye Mgmt. Plan	1990	S.W. Afognak Section N.W. Afognak Section Shuyak Section Big River Section Hallo Bay Section Inner and Outer Kukak Sect. Dakavak Section	7/6 - 7/25

As with any good plan, the test of time and a continued review process will determine its effectiveness at accomplishing the desired biological and allocative goals. To date only the Cape Igvak, the Kitoi Bay hatchery, and the Alitak District Management plan have been adequately exposed to this degree of scrutiny. The 1991 season will provide additional opportunities to evaluate the merits of the other three Board approved plans. One of these, the Westside Kodiak Management Plan, is basically one which has been implemented for the most part by Emergency Order over a several year period. This plan covers the greatest geographical area and affects more user groups and gear types than any other plan, it's expected to be implemented without any problems. Likewise, the Crescent Lake Plan is associated with a relatively small coho enhancement project which could impact the subsistence fishery in the vicinity of Port Lions and thus a plan was needed to clarify coho fishery priorities for that area. Undoubtedly the greatest test of a management plans intended purposes will occur in those management units effected by the North Shelikof Strait Sockeye Management Plan. Because this new plan potentially restricts the fishing locations of Kodiak's mobile seine fleet under certain harvest situations identified in the plan, many permit holders are apprehensive that the plan will adversely affect normal fishing opportunities on Kodiak stocks. Proper implementation of this plan in 1991 will require a major communication effort between ADF&G and the industry. As with any of these plans, if there is a need for plan clarification from ADF&G, all inquiries, suggestions, and concerns are encouraged to be directed to ADF&G, Kodiak.

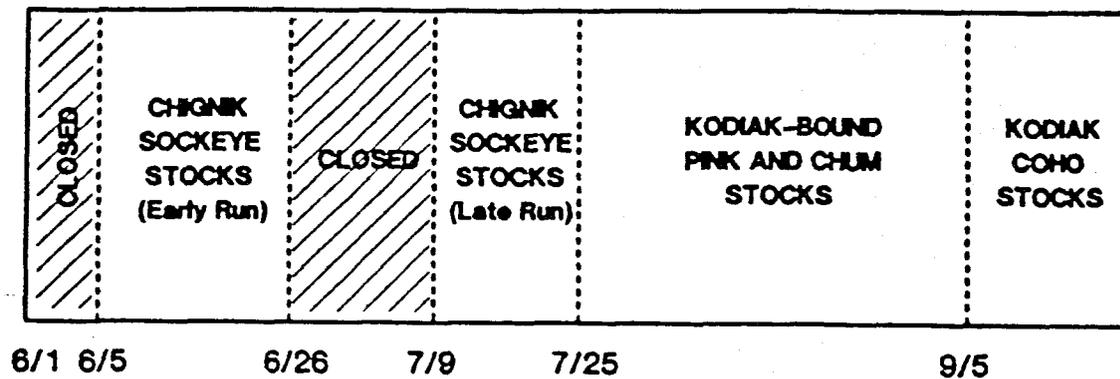
Figure 2.

KODIAK MANAGEMENT AREA

CAPE IGVAK MANAGEMENT PLAN

The regulatory requirements of this plan are described in the 1990/91 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 early run is forecasted to be one of the larger early runs. The Cape Igvak harvest projections for the 1991 season are shown on page 3 of this document.

Management Chronology For Chignik-Bound Sockeye And Kodiak Pink, Chum And Coho



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 8/30: 350,000 - 400,000	-	(a)	Expectations of • 600,000 Occur	CLOSED
-		-	-	(b)	Expectations of • 600,000 Are In Doubt	OPEN THEN CLOSED
(a) (b) (c)		-	Through 7/30: 195,000 - 200,000	(c)	Expectations of • 600,000 Occur	OPEN TO ACHIEVE 15 %
-		-	-	(d)	Chignik Sockeye % Interception Calculations	80% of Catch At Igvak Are Chignik Sockeye
-		-	-	(e)	ALLOCATION PERIOD:	6/5 - 7/25
(f)		From June 28 - July 9 Cape Igvak Section Closed Until Chignik Late Run Evaluated		-	-	-
-		-	-	(g)	-	ONE DAY ADVANCE NOTICE
TOTAL		400,000	250,000		600,000 Minimum	15 %

Figure 3.

KODIAK MANAGEMENT AREA

KITOI BAY HATCHERY MANAGEMENT PLAN

This plan reflects the relatively complex harvest strategies which are required to properly manage the returns of hatchery produced fish and still provide protection for eastside Afognak natural salmon runs. Because of the revenue generated from the record hatchery return in 1989, no cost-recovery fisheries are expected for the 1991 season. All other aspects of the plan diagramed below will be implemented per the approximate dates shown. A detailed management plan is available at either the Kitoi Bay hatchery or the Kodiak ADF&G office.

SALMON MANAGEMENT PLAN FOR KITOI BAY HATCHERY
TARGETED SPECIES BY SYSTEM AND TIME FOR SPECIFIC MANAGEMENT UNITS 1/

S.E. AFOGNAK SECTION (Seine)	CLOSED	CLOSED	FUTURE LITNIK REDS	LOCAL PINKS				LOCAL COHO
DUCK BAY SECTION (Seine)		HATCHERY CHUMS	FUTURE HATCHERY CHUMS	HATCHERY / LOCAL PINKS				LOCAL COHO
IZHUT BAY SECTION (Seine)		HATCHERY CHUMS	FUTURE HATCHERY CHUMS	CLOSED UNTIL COST RECOVERY ASSURED	HATCHERY / LOCAL PINKS			LOCAL COHO
KITOI BAY SECTION 2/ (Seine) Broodstock					a/			
PINKS: Cost Recovery					b/			
Common Property					c/		c/	
Broodstock				d/				
CHUM: Common Property			e/	e/				
COHO: Broodstock							f/	
Common Property							g/	
	6/9	6/14	6/20	7/1 7/3 7/6 7/10	7/20 7/25	8/1	8/8 8/10 8/15 8/20 8/24 9/1	

 - fishing time dependent upon sockeye escapement into Litnik system.

¹Included in this management plan are harvest strategies for current natural and hatchery production as well as future hatchery production.

²The management plan required for the Kitoi Bay Section is rather complicated in order to achieve broodstock, cost recovery, and common property harvest requirements. This is further complicated by the multispecies production currently occurring at Kitoi hatchery. The diagram shown attempts to approximate dates for when specific management strategies should be implemented to insure achievement of hatchery goals and an orderly harvest of quality common property fish.

- ^aHatchery pink salmon broodstock captured.
- ^bHatchery pink salmon cost recovery fishery when necessary.
- ^cHatchery pink salmon common property fishery.
- ^dHatchery chum salmon broodstock captured.
- ^eHatchery chum salmon common property fishery.
- ^fHatchery coho salmon broodstock captured.
- ^gHatchery coho salmon common property fishery.

ALITAK DISTRICT MANAGEMENT PLAN

This plan will follow the diagram shown (Figure 4) as much as possible. Dates listed in the plan are approximate and may vary slightly with changes in run timing; an exception is the June 9 commercial test fishery, which is a firm date.

The management chronology for Olga Bay stocks (Figure 4) identifies the targeted management stocks by approximate time period. In situations where two or more targeted stocks overlap in their timing a "blended" management approach will occur, whereby adequate fishing time will be provided to ensure that desired escapement goals are not exceeded for the more dominant stock(s) yet that the minimum escapement goals for the less dominant stock(s) are achieved. As decreed by the Board of Fisheries, fishing time directed on these stocks will occur simultaneously in the traditional management units for harvesting these stocks, namely the Cape Alitak Section and the Moser/Olga Bay Section. Management for these stocks will emphasize an aggressive strategy to contain the harvest to these traditional harvest units; this strategy also applies to the remainder of the stocks in the Alitak Bay District.

The regulatory wording for implementing this management plan appears in the 1990/91 Commercial Finfish Regulation Book. However, the specifics for managing the 1991 returns need to consider the expected magnitude of the targeted stocks returning to the Olga Bay systems. As indicated in the pre-season harvest expectations on page 3, the sockeye returns to Alitak are expected to yield relatively strong early-run sockeye production from the Fraser system and comparatively moderate production from late-run sockeye from the Upper Station system. In conjunction with the late-run sockeye production, a moderate (at best) return of Dog Salmon pinks is expected to be simultaneously available to the fishery. However because both stocks are expected to be of moderate proportions, harvestable surpluses for both stocks should be taken in the traditional Cape Alitak, and Moser/Olga Bay Sections; fishing time in the Upper Olga Bay Sections is not expected in 1991 unless the Upper Station return is stronger than forecasted.

Some specific points to stress this year are:

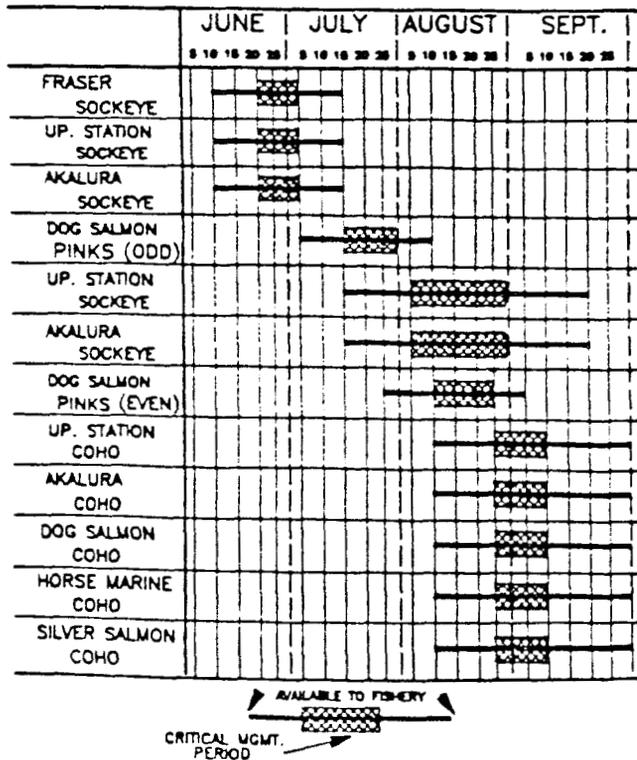
- That the period from approximately June 12 through June 24 is identified as an aggressive management period for Fraser sockeye.
- This means, in order to maintain equitable and orderly harvest opportunities for all gear types, and the need to insure that escapement requirements are achieved for the 1991 season, the minimum escapement goal for Fraser sockeye (140,000) will be targeted.
- the minimum pink salmon escapement requirements for the Dog Salmon system is 60,000 fish and the desired goal is 180,000 fish..
- In the unanticipated event that fishing time is required in Upper Olga Bay management units, minimum advance notice will remain consistent with that identified on page 5.

Figure 4.

ALITAK BAY DISTRICT MANAGEMENT PLAN

CAPE ALITAK SECTION (seine)	CLOSED	FRASER SOCKEYE (aggressive management strategy)	FRASER SOCKEYE (conservative management strategy)	ODD YEAR CYCLE FRASER PINKS	ODD YR. CYCLE UP. STA. SOCK.	ALL ALITAK DISTRICT COHO SYSTEMS
				EVEN YEAR CYCLE UP. STA. SOCKEYE (late run)	EVEN YR. CYCLE UP. STA. SOCK. FRASER PINK	
MOSEY/OLGA BAY SECTION (gillnet) (traditional)	CLOSED	FRASER SOCKEYE (aggressive management strategy)	FRASER SOCKEYE (conservative management strategy)	ODD YEAR CYCLE FRASER PINKS	ODD YR. CYCLE UP. STA. SOCK.	ALL OLGA BAY COHO SYSTEMS
				EVEN YEAR CYCLE UP. STA. SOCKEYE (late run)	EVEN YR. CYCLE UP. STA. SOCK. FRASER PINKS	
OUT. UPPER STA. IN. UPPER STA. (gillnet) (non-traditional)	CLOSED	UPPER STATION SOCKEYE (early run)		UPPER STATION SOCKEYE (late run)		UPPER STATION COHO
OUT. AKALURA IN. AKALURA (gillnet) (non-traditional)	CLOSED	AKALURA SOCKEYE (early run)		AKALURA SOCKEYE (late run)		AKALURA COHO
DOG SALMON FLATS SECTION (gillnet) (non-traditional)	CLOSED	FRASER SOCKEYE (mop-up fishery)		FRASER PINKS		FRASER AND HORSE MARINE COHO
HUMPY/DEADMAN SECTION (seine)	CLOSED	FRASER SOCKEYE (aggressive management strategy)	FRASER SOCKEYE (conservative management strategy)	ALITAK BAY PINKS/CHUMS/COHO		
		6/1 6/9-10 2/	6/24 7/9 7/15	8/9 9/20 8/26		9/25

KODIAK MANAGEMENT AREA - ALITAK BAY DISTRICT
PRIMARY MANAGEMENT SPECIES BY SYSTEM BY TIME



KODIAK MANAGEMENT AREA

NORTH SHELIKOF STRAITS SOCKEYE SALMON MANAGEMENT PLAN

The Board of Fisheries in December 1989 created this management plan in response to concern that the fishing patterns and quantities of sockeye harvested by Area K seiners in 1988 represented the onset of an expansion of the interception of Cook Inlet bound sockeye in Kodiak Area waters. This plan was meant to contain this interception to not exceed estimated historical interception levels yet still provide for traditional opportunities to harvest high quality pink and chum salmon from local stocks. The major impact of this plan was to create "sockeye harvest caps" for that portion of the North Shelikof which encompasses eight (8) management units.

The regulatory wording for this new management plan is listed below and a map identifying the "location of the boundaries" between the seaward and shoreward zones is on the following page.

- **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:**
 - **Management of the fishery must be based on local stocks;**
 - **the fishery may remain open during normal fishing periods until the harvest exceeds 15,000 sockeye salmon;**
 - **when the harvest exceeds 15,000 sockeye salmon, the department shall restrict the fishery by emergency order to waters of the (shoreward zones):**
 - 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.,
 - 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. 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.
- **From July 6 through July 25 in the Southwest Afognak Section of the Afognak District, the department shall manage the fishery as follows:**
 - **management of the fishery must be based on local stocks;**
 - **the fishery may remain open during normal fishing periods until the harvest exceeds 50,000 sockeye salmon;**
 - **when the harvest exceeds 50,000 sockeye salmon, the department shall restrict the fishery by emergency order to waters of the Southwest Afognak Section (shoreward zones) east of a line from Cape Paramanof at 58°18'21" N. lat.,**

KODIAK MANAGEMENT AREA
WESTSIDE KODIAK MANAGEMENT PLAN

The Board of Fisheries, at their December 1989 meeting in Kodiak, adopted into regulation this management plan which identifies the management chronology for major Westside Kodiak salmon stocks.

The goal of this Management Plan is to achieve escapement and harvest objectives of sockeye salmon returning to the Karluk, Ayakulik, and other Westside minor 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 was the intent of the Board to insure that salmon bound to these systems be harvested to the extent possible by the traditional fisheries located in all 17 sections. It directed the department to manage the Northwest Kodiak and the Southwest Kodiak Districts and the Southwest Afognak Section in accordance with the guidelines set out in this plan as described in the 1990/91 Commercial Finfish Regulation Book and as described in Figure 6.

This plan was submitted as a proposed regulation to the Board of Fisheries by the Kodiak Management Staff in order to allow industry the opportunity to comment on existing harvest strategies and to clarify their intent. Frequently Kodiak fishermen had expressed concerns over how the department will manage the Westside management units (sections) in the 1990's when local sockeye stocks are projected to be near maximum production, since this will affect the traditional harvest opportunities between fixed and mobile gear. The annual harvest strategy has traditionally invoked a "blend" of fishing time between the 17 management units covered by this plan. At times this "blend" has not been totally understood by industry and has resulted in enough allocative uneasiness that future management stability could be jeopardized. Guidelines for this "blend" needed to occur in regulatory form to specifically identify in-season harvest strategy and to dispel any concern and confusion. Again, the previous regulatory structure did not provide the information needed by industry to evaluate in-season management decisions which affect allocation concerns of the three gear types affected by this plan.

This management plan reflects the realization of long-term management goals and identifies current management practices both of which were initially implemented in 1971. The basis for these goals and practices was primarily to rebuild depleted Karluk and depressed Ayakulik sockeye stocks. This plan provides a predictable management framework for these rebuilt stocks, as well as pertinent major pink, chum and coho stocks, and helps to stabilize fishing opportunities between the three gear types on the highest quality fish in these districts and sections.

The regulatory wording of this plan appears in the 1990/91 Commercial Finfish Regulation Book and a diagram summarizing the plan occurs on the next page.

Figure 6.

WESTSIDE KODIAK MANAGEMENT PLAN
 MANAGEMENT CHRONOLOGY BY MANAGEMENT UNITS FOR MAJOR WESTSIDE SALMON STOCKS

AFSG DIST.	6/1	8/9	6/16	8/23	7/8	7/18	8/1	8/18	8/25	9/8	10/31	
SW. AFOGNAK (SENE)	CLOSED			E. R. KARLUK SOCKEYE	LOCAL AND MIXED PINKS			L. R. KARLUK SOCKEYE / LOCAL AND MIXED PINKS	L. R. KARLUK SOCKEYE	LOCAL COHO		
NORTH CAPE:				E. R. KARLUK SOCKEYE	LOCAL AND MIXED PINKS			L. R. KARLUK SOCKEYE / LOCAL AND MIXED PINKS	L. R. KARLUK SOCKEYE	LOCAL COHO		
CENTRAL	CLOSED			E. R. KARLUK SOCKEYE	LOCAL AND MIXED PINKS			L. R. KARLUK SOCKEYE / LOCAL AND MIXED PINKS	L. R. KARLUK SOCKEYE	LOCAL COHO		
ANTON LARSEN												
SHERATIN												
KIZHIUYAK												
TERROR												
N. UGANIK	CLOSED			LOCAL SOCKEYE AND E. R. CHUMS	LOCAL SOCKEYE, E. R. CHUMS AND PINKS	LOCAL PINKS AND L. R. CHUMS		LOCAL PINKS / L. R. CHUMS / COHO	LOCAL COHO			
SPRIDON												
ZACHAR												
UYAK												
OUT. KARLUK	CLOSED			E. R. KARLUK SOCKEYE	ODD-YEAR CYCLE: L. R. KARLUK SOCKEYE EVEN-YEAR CYCLE: L. R. KARLUK SOCKEYE / KARLUK PINKS			L. R. KARLUK SOCKEYE	KARLUK COHO			
IN. KARLUK	CLOSED			E. R. KARLUK SOCKEYE	ODD-YEAR CYCLE: L. R. KARLUK SOCKEYE EVEN-YEAR CYCLE: L. R. KARLUK SOCKEYE / KARLUK PINKS			L. R. KARLUK SOCKEYE	KARLUK COHO			
STURGEON		CLOSED		E. R. KARLUK AND AYAKULIK SOCKEYE / STURGEON CHUMS	ODD-YEAR CYCLE: L. R. KARLUK SOCKEYE EVEN-YEAR CYCLE: L. R. KARLUK SOCKEYE / KARLUK PINKS			L. R. KARLUK SOCKEYE	LOCAL COHO			
HALIBUT		CLOSED		E. R. KARLUK AND AYAKULIK SOCKEYE	ODD-YEAR CYCLE: L. R. KARLUK SOCKEYE EVEN-YEAR CYCLE: L. R. KARLUK SOCKEYE / KARLUK PINKS L. R. AYAKULIK SOCKEYE / PINKS			L. R. KARLUK SOCKEYE / AYAKULIK PINKS	L. R. KARLUK SOCKEYE	LOCAL COHO		
OUT. AYAKULIK	CLOSED			E. R. AYAKULIK SOCKEYE	ODD-YEAR CYCLE: L. R. AYAKULIK SOCKEYE EVEN-YEAR CYCLE: L. R. AYAKULIK SOCKEYE / AYAKULIK PINKS				AYAKULIK COHO			
IN. AYAKULIK	CLOSED			E. R. AYAKULIK SOCKEYE	ODD-YEAR CYCLE: L. R. AYAKULIK SOCKEYE EVEN-YEAR CYCLE: L. R. AYAKULIK SOCKEYE / AYAKULIK PINKS				AYAKULIK COHO			

COMMERCIAL TEST FISHERIES

E. R. = EARLY RUN STOCKS

L. R. = LATE RUN STOCKS

KODIAK MANAGEMENT AREA
CRESCENT LAKE MANAGEMENT PLAN

As indicated earlier, this management plan is associated with a relatively small coho enhancement project which could impact the subsistence fishery in the vicinity of Port Lions. This plan clarifies the harvest priorities for coho salmon returning to the Settler's Cove area near Port Lions. A copy of the regulations guiding this plan are listed below as well as in the 1990/91 Commercial Finfish Regulation Book.

5 AAC 18.364. CRESCENT 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:

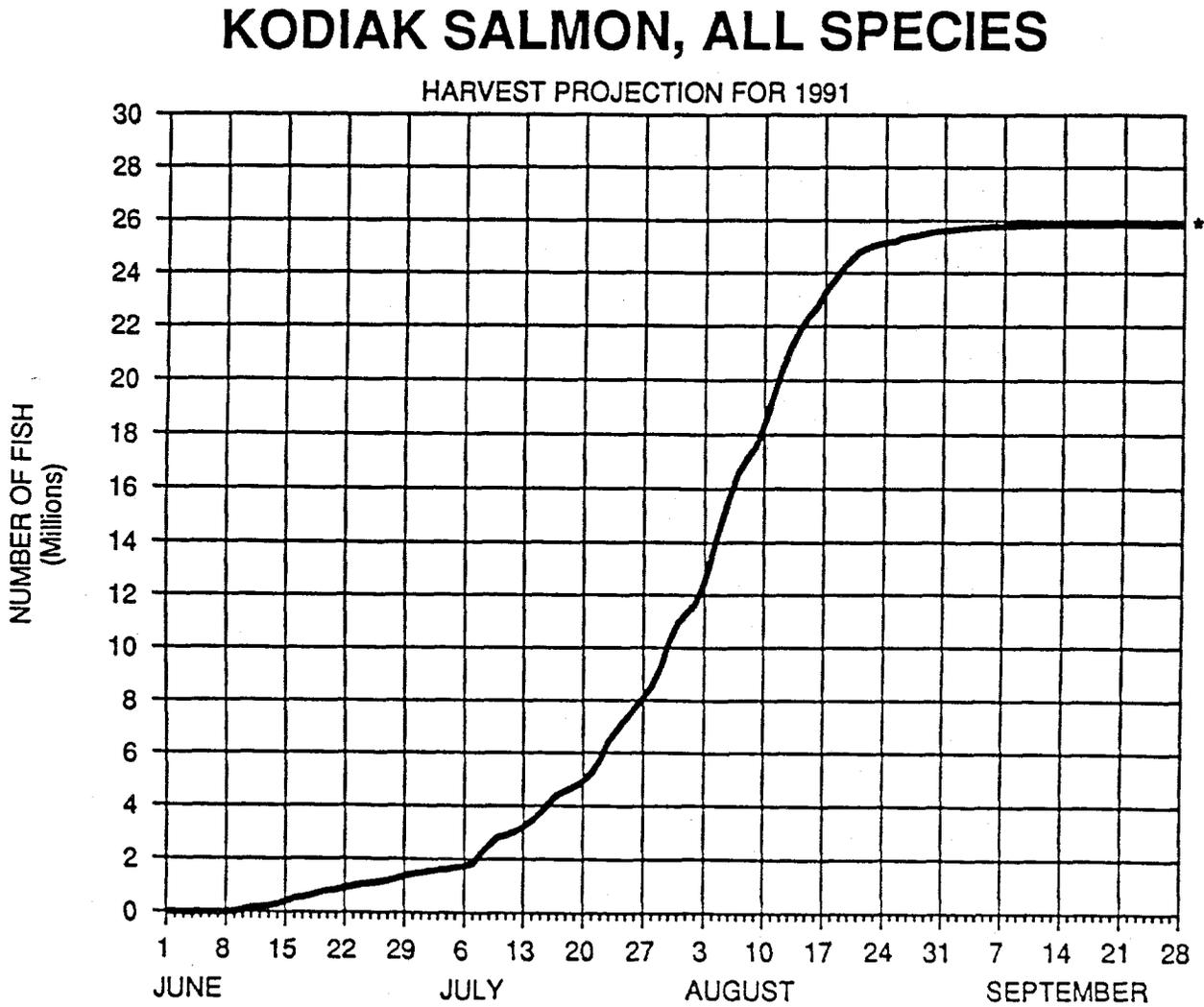
(1) the department shall not allow the commercial taking of salmon before September 16; and

(2) before opening the fishery, the department shall determine that 500 or more coho salmon are available in Settler Cove for harvest. (Eff. __/__/90, Register __)

Figure 7.

THE PROJECTED 1991 SALMON HARVEST

The following graphs represent cumulative harvest expectations by specific dates for each of Kodiak's commercially targeted salmon species as well as for all species combined. The shape of each curve is an historical representation of the average cumulative harvest by date and the magnitude of each curve is determined by ADF&G's pre-season harvest projection. These graphs can be used for planning purposes by both industry and ADF&G to identify if pre-season operational or management strategies need to be modified in-season because of unexpected deviations in actual run strength. In-season harvest data will be made available in order that trends in actual harvest can be plotted on these graphs.

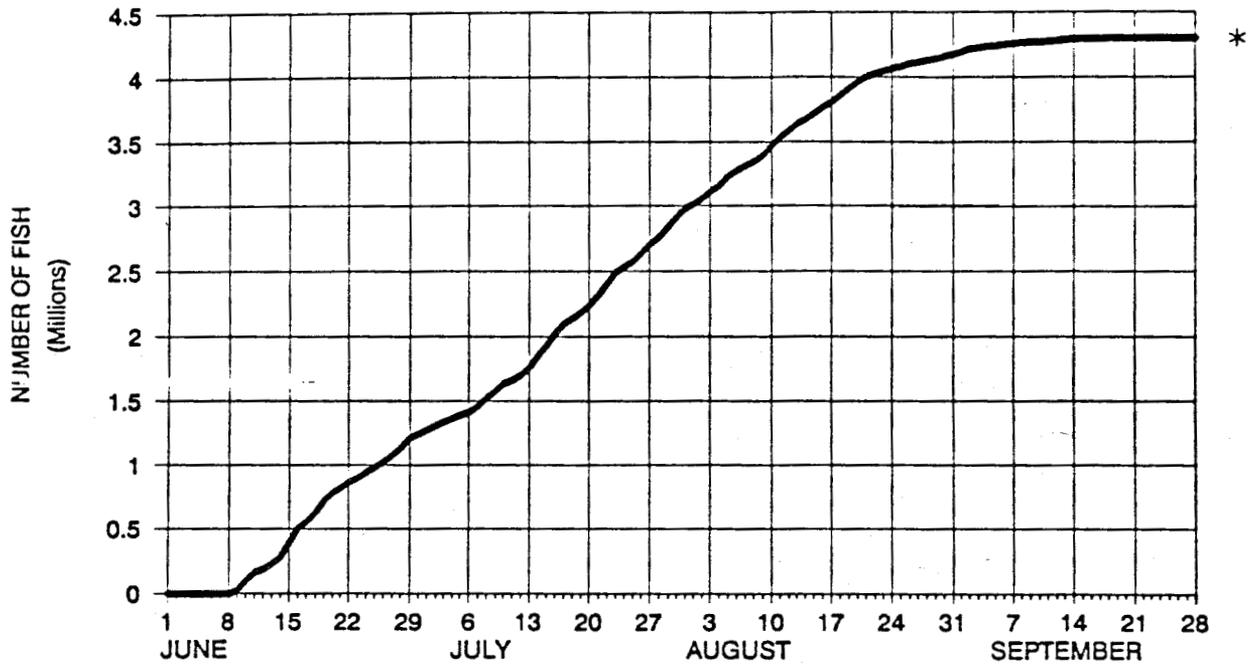


* 1991 ALL SALMON SPECIES PROJECTED HARVEST TOTAL = 25,844,000

Figure 8.

KODIAK RED SALMON

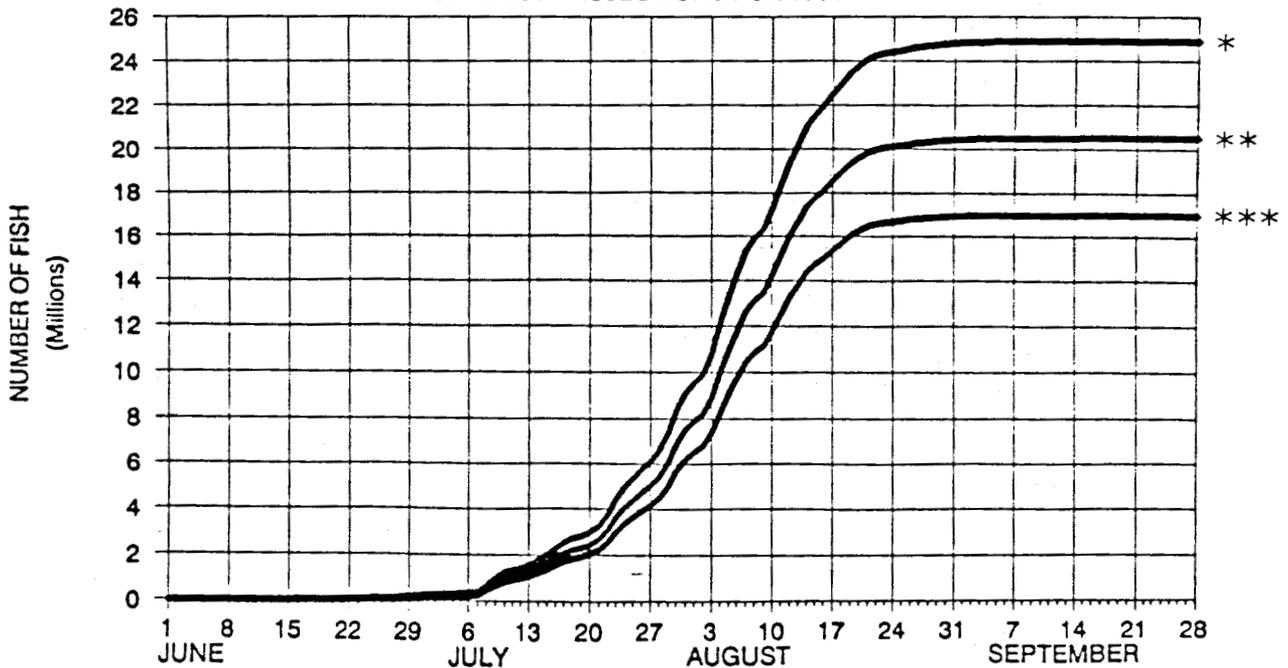
HARVEST PROJECTION FOR 1991



* 1991 RED SALMON PROJECTED HARVEST TOTAL = 4,304,000

KODIAK PINK SALMON

HARVEST PROJECTIONS FOR 1991



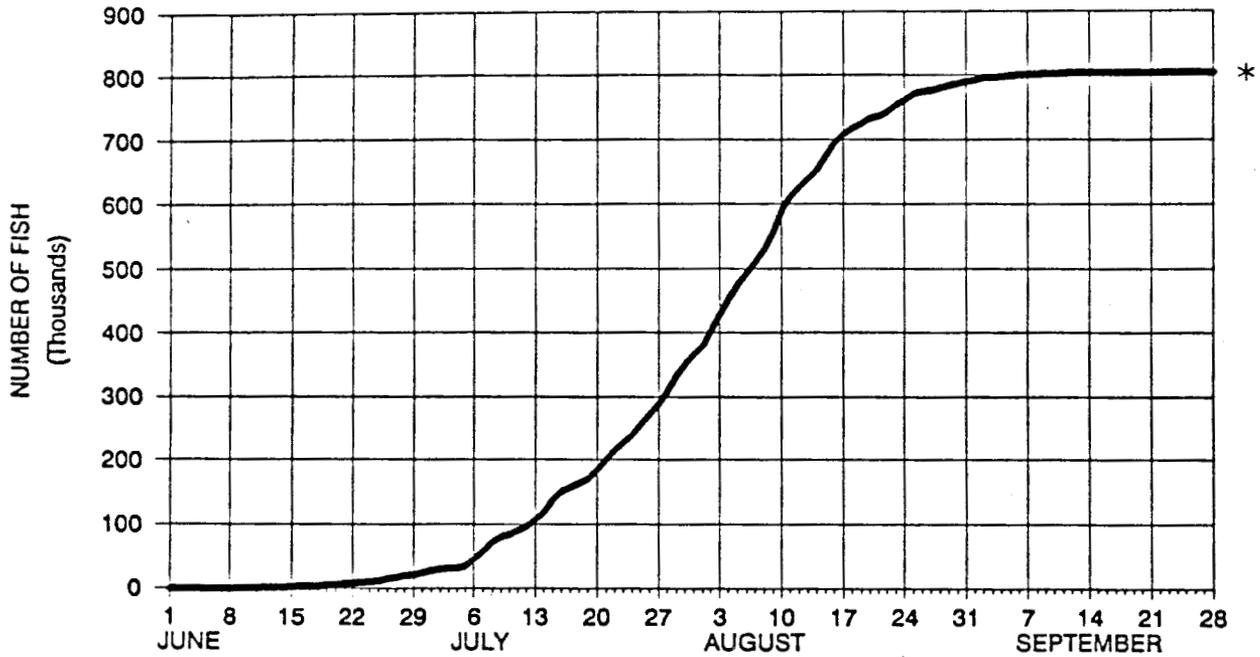
* 1991 PINK SALMON HARVEST PROJECTED HIGH = 24,910,000

** 1991 PINK SALMON HARVEST MID POINT PROJECTION = 20,530,000

*** 1991 PINK SALMON HARVEST PROJECTED LOW = 17,010,000

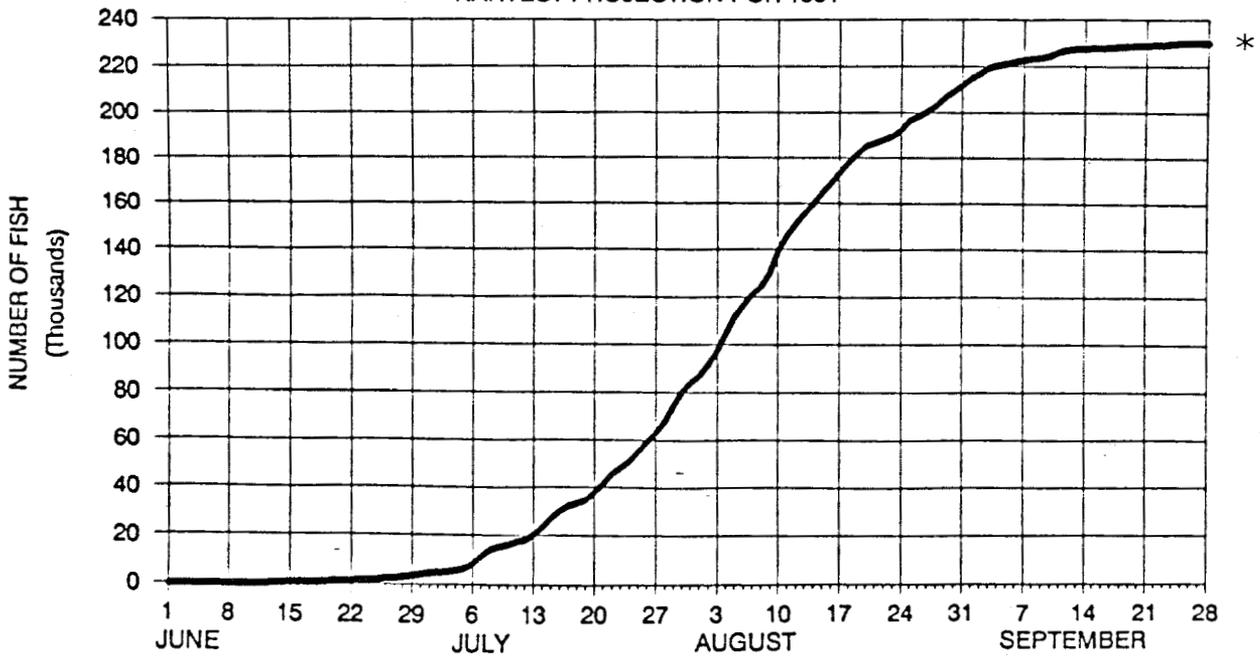
Figure 9.

KODIAK CHUM SALMON HARVEST PROJECTIONS FOR 1991



* 1991 CHUM SALMON PROJECTED HARVEST TOTAL = 805,000

KODIAK COHO SALMON HARVEST PROJECTION FOR 1991



* 1991 COHO SALMON PROJECTED HARVEST TOTAL = 230,000

**SOCKEYE SALMON ESCAPEMENTS GOALS FOR AREA K
MAJOR SOCKEYE SALMON SYSTEMS**

Targeted sockeye fisheries on systems having fish weirs, where a total enumeration of upstream migrants can be used to determine the amount of fishing time required to harvest identified surpluses, commonly occurs for those systems listed in the table below. For sockeye systems which remain un-weired, fishing time is generally conservative and occurs at the discretion of ADF&G's perception of system-specific return strength.

The table below identifies minimum and desired escapement requirements for each system's sockeye stocks. A basic management function is to achieve minimum escapements for stocks exploited by targeted fisheries, even if it requires that directed fishing time on those stocks does not occur. Likewise, when the possibilities exist that desired escapements will be exceeded and significant deviations from optimum production could occur because of that excess, maximum directed fishing time on pertinent stocks is allowed, even if it requires providing for continuous stream terminus fishing opportunities to contain the escapement at or near desired levels. These are the extreme management scenarios occasionally needed for Kodiak's sockeye management. More commonly only a moderate amount of directed fishing time is required to harvest sockeye surpluses and to provide escapement which approaches desired levels.

Table 3. **SOCKEYE SALMON ESCAPEMENT GOALS
FOR SEVERAL MAJOR AND MINOR SOCKEYE SYSTEMS¹**
(Millions of Fish)

	<u>Early (Before 7/15)</u>		<u>Late (After 7/15)</u>		<u>Total</u>	
	Min.	Des.	Min.	Des.	Min.	Des.
<u>Major Systems</u>						
Karluk ²	.250	.350	.310	.550	.560	.900
Ayakulik	.160	.220	.040	.080	.200	.300
Upper Station ²	.050	.075	.150	.200	.200	.275
Fraser ³	.140	.200	-	-	.140	.200
Subtotal	.600	.845	.500	.830	1.100	1.075
<u>Minor Systems</u>						
Akalura ²	.010	.015	.015	.035	.025	.050
Saltery ³	.020	.040	-	-	.020	.030
Buskin ³	.010	.015	-	-	.010	.015
Litnik ³	.040	.060	-	-	.040	.060
Pauls ³	.020	.040	-	-	.020	.040
Thorsheim ³	.005	.010	-	-	.005	.010
Subtotal	.015	.180	.015	.035	.120	.205
GRAND TOTAL	.705	1.025	.515	.865	1.220	1.880

¹This listing of systems identifies only those systems whose escapement is monitored by fish weir total escapement counts. The escapement into these systems represents approximately 85% of the Kodiak Area's total sockeye escapement.

²Sockeye escapement into these systems characterized by two (2) more or less distinct stocks as identified by bimodal escapement pattern, i.e. an early-stock where the cumulative escapement occurs through July 15 and a late stock where the cumulative escapement occurs primarily from July 16 through season's end.

³Sockeye escapement into these systems characterized by one (1) distinct escapement pattern and where escapement is essentially completed by approximately July 25.

Figure 10.

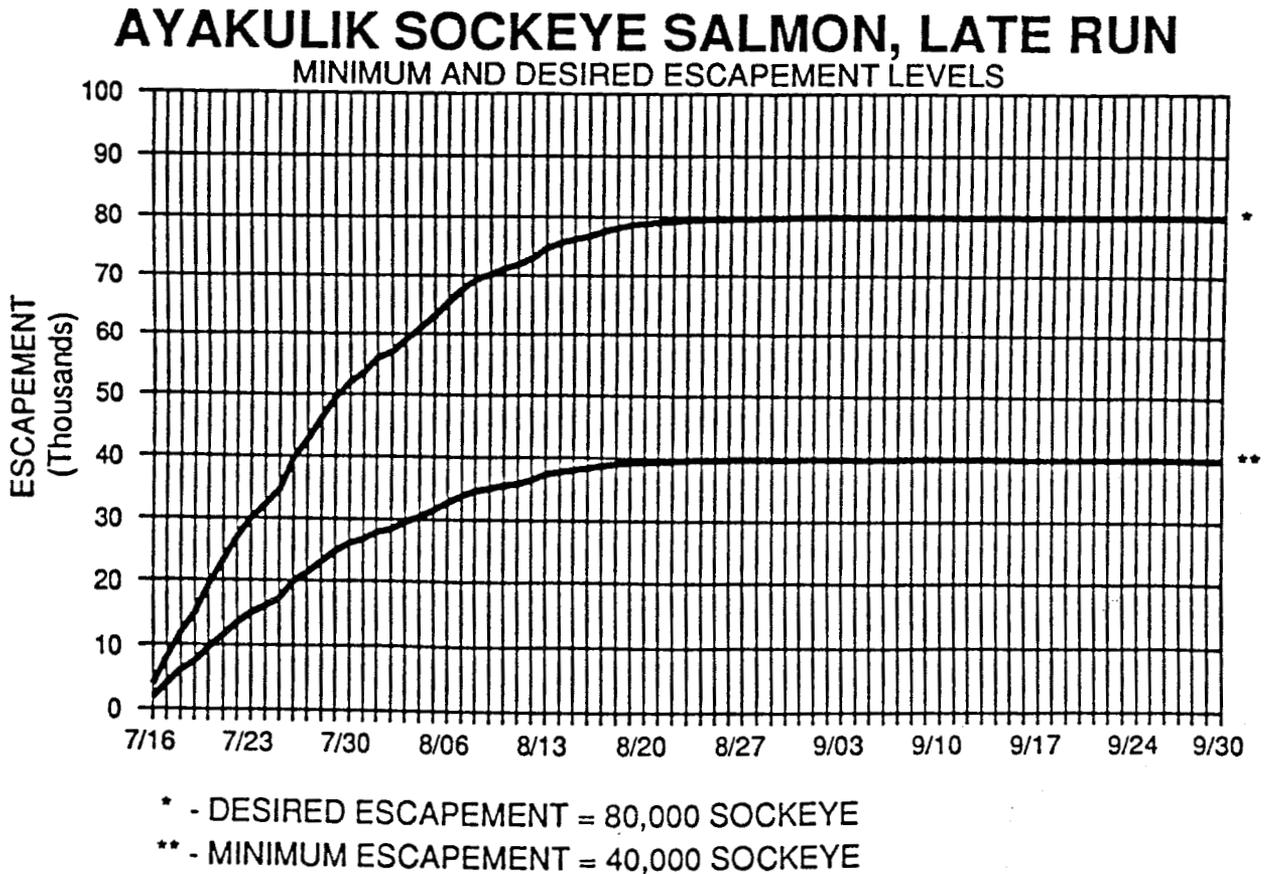
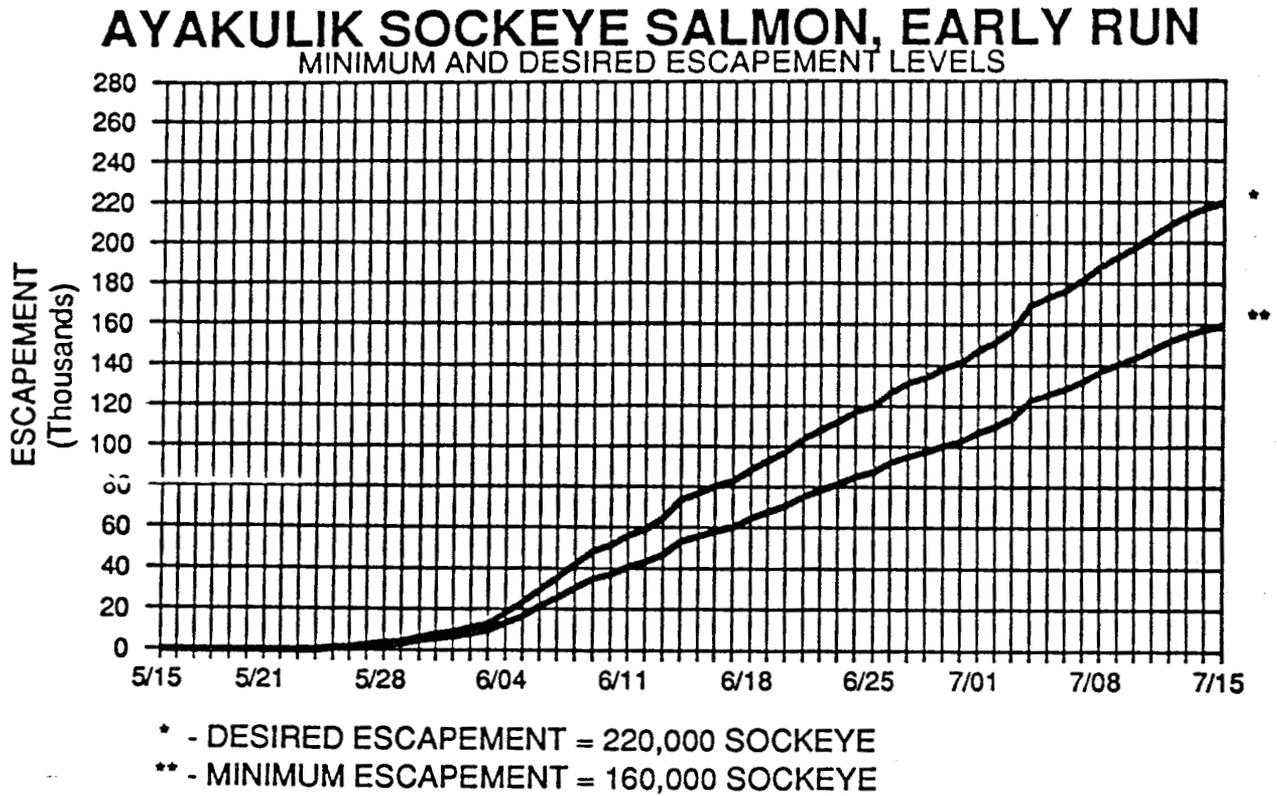
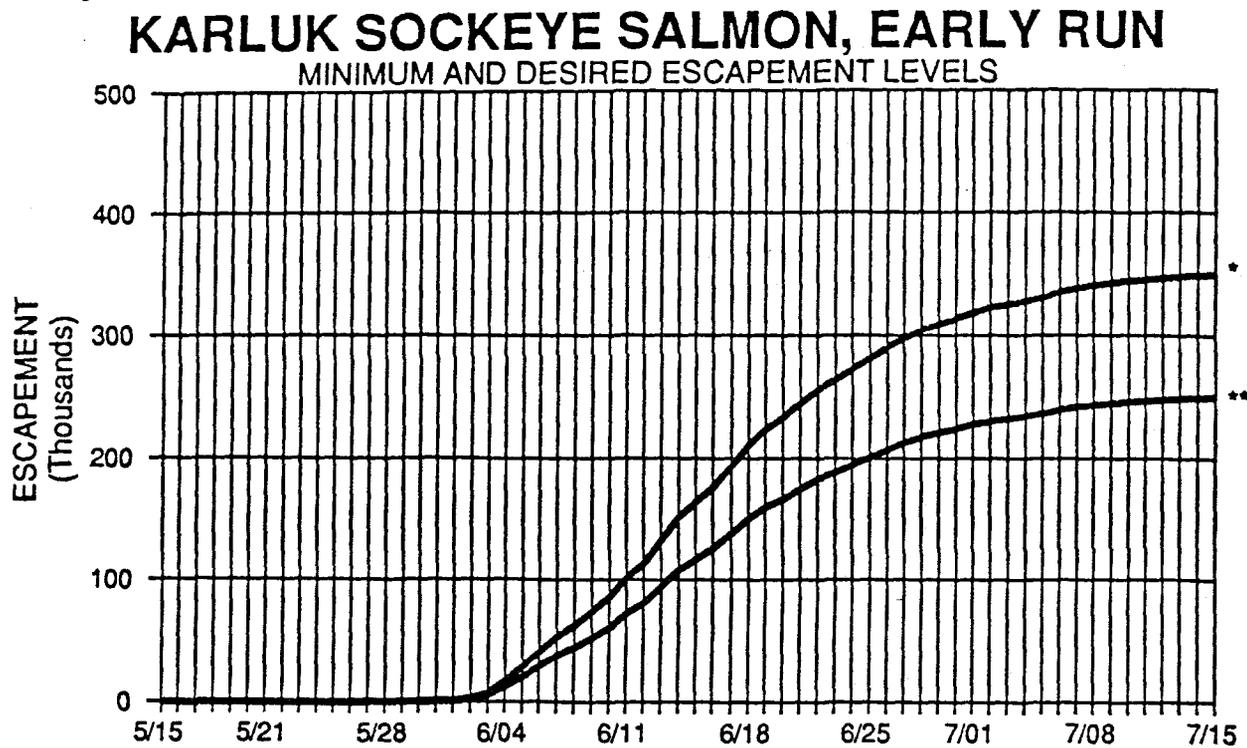
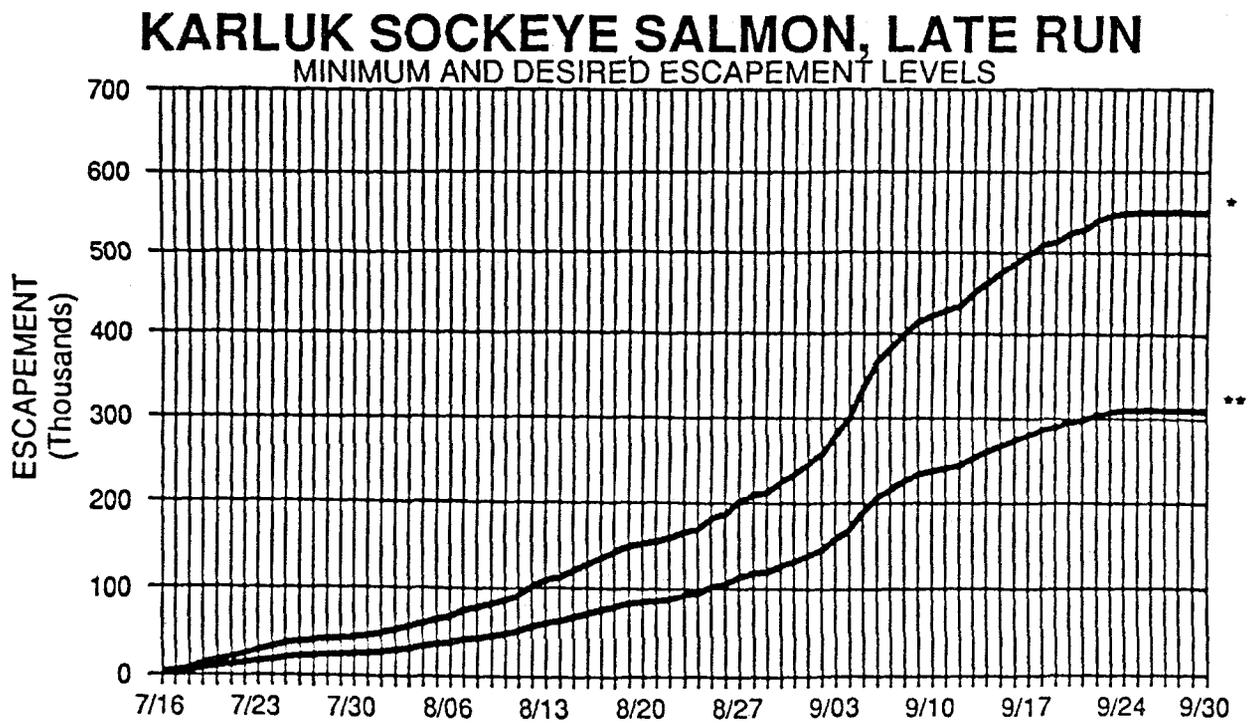


Figure 11.



* - DESIRED ESCAPEMENT = 350,000 SOCKEYE

** - MINIMUM ESCAPEMENT = 250,000 SOCKEYE

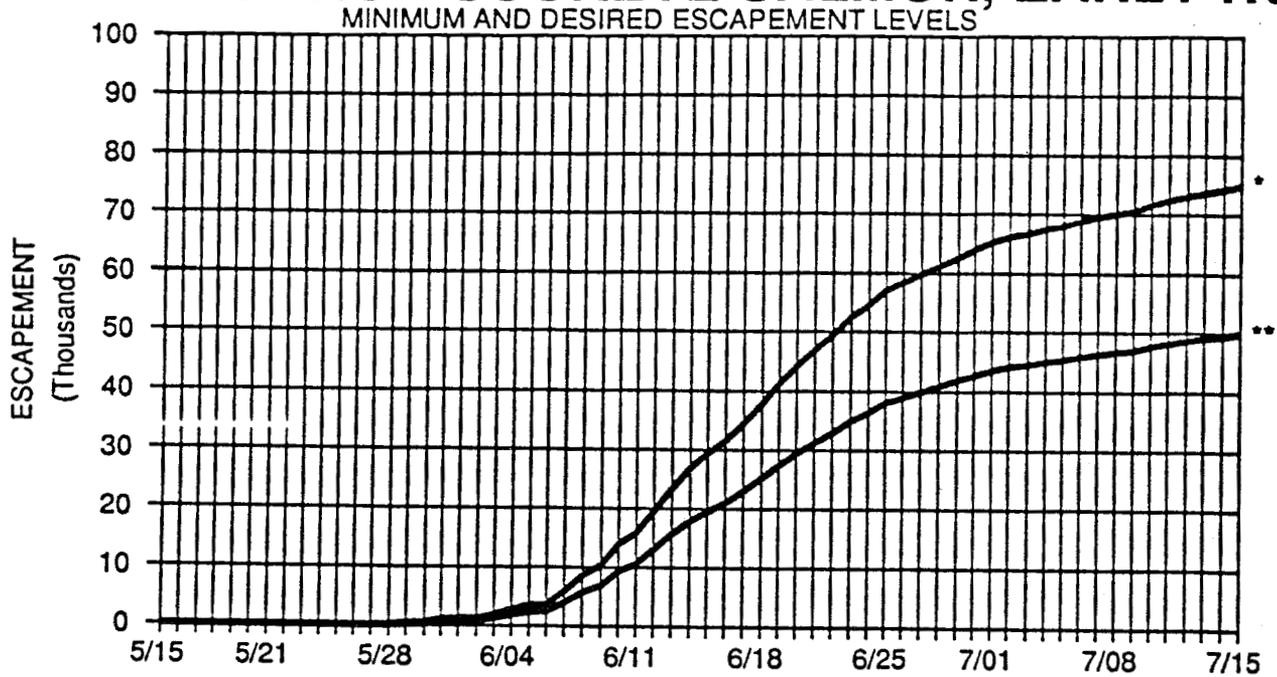


* - DESIRED ESCAPEMENT = 550,000 SOCKEYE

** - MINIMUM ESCAPEMENT = 310,000 SOCKEYE

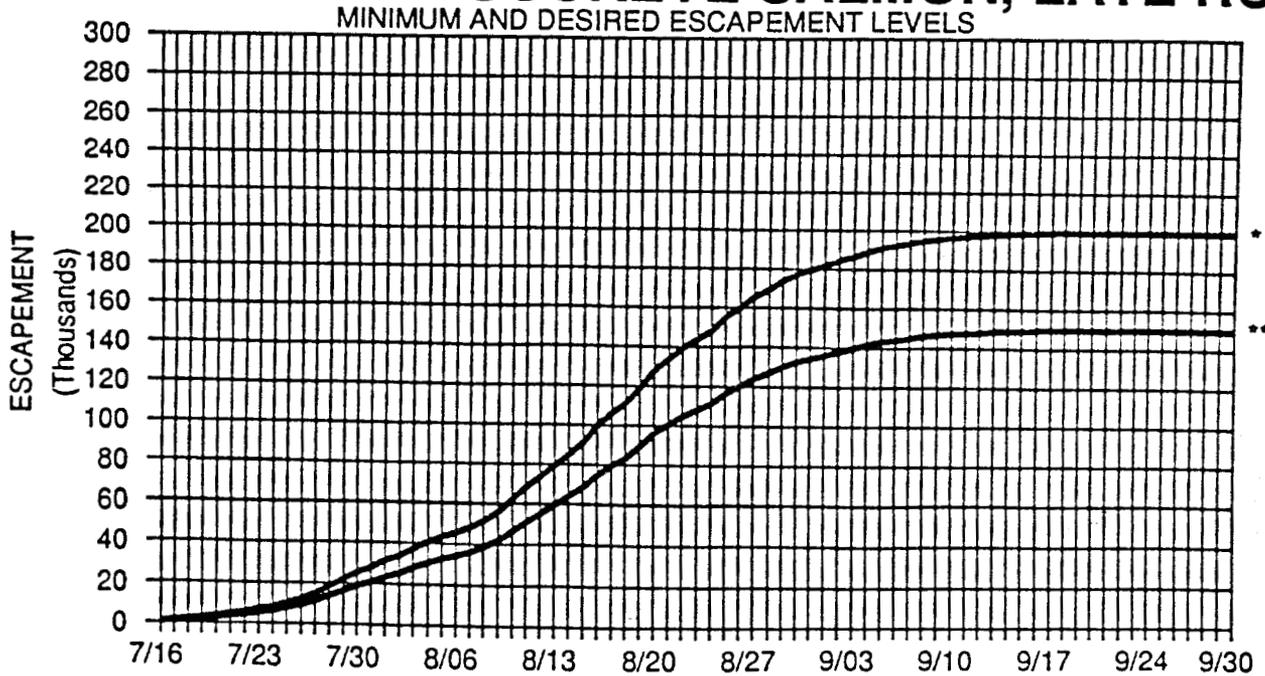
Figure 12.

UPPER STATION SOCKEYE SALMON, EARLY RUN



* - DESIRED ESCAPEMENT = 75,000 SOCKEYE
 ** - MINIMUM ESCAPEMENT = 50,000 SOCKEYE

UPPER STATION SOCKEYE SALMON, LATE RUN



* - DESIRED ESCAPEMENT = 200,000 SOCKEYE
 ** - MINIMUM ESCAPEMENT = 150,000 SOCKEYE

Figure 13.

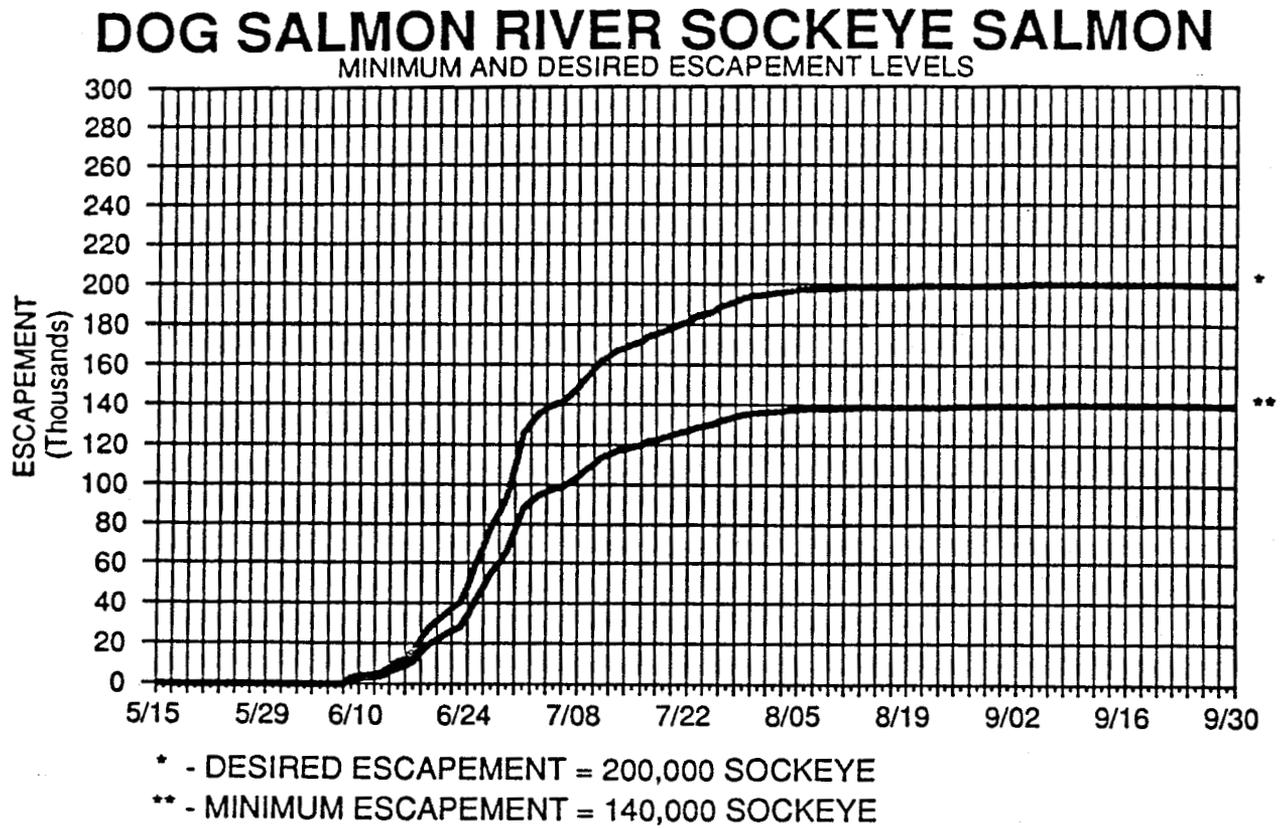


Figure 14.

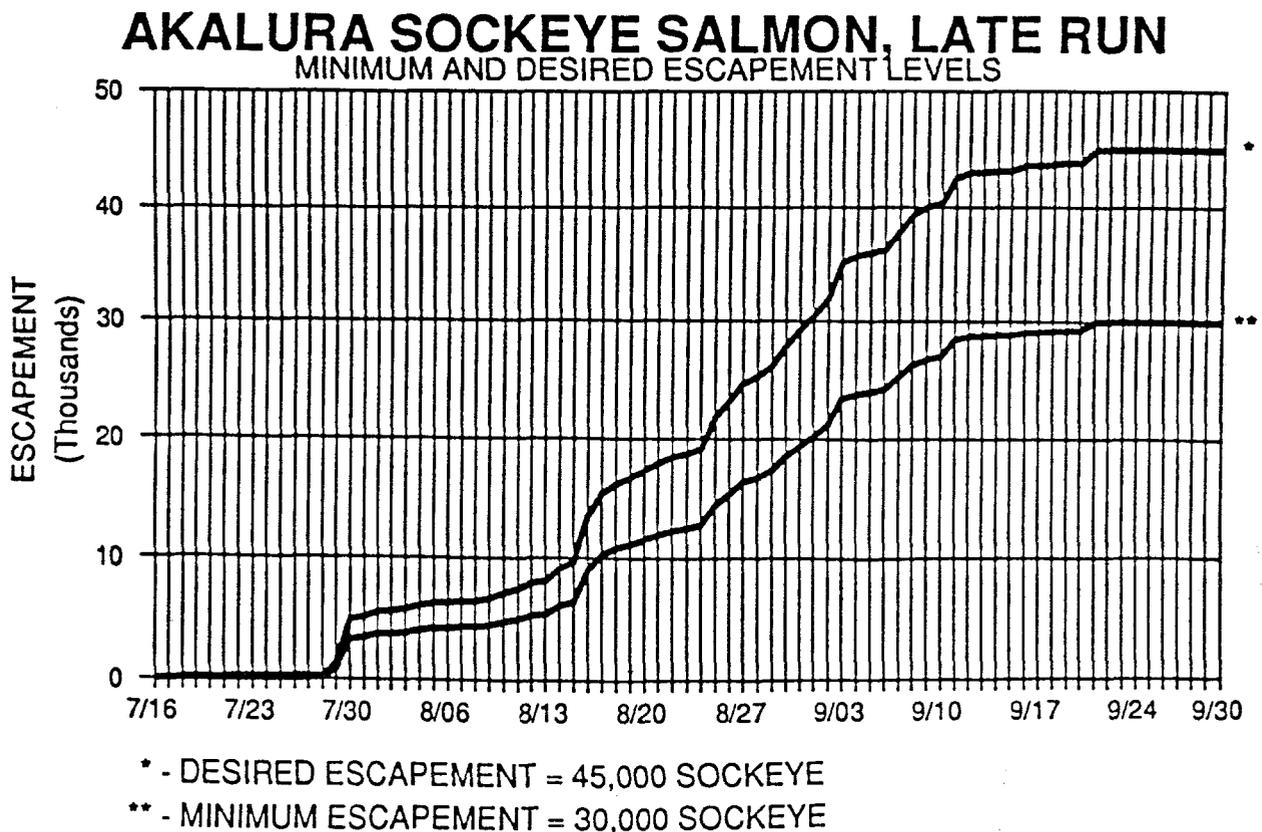
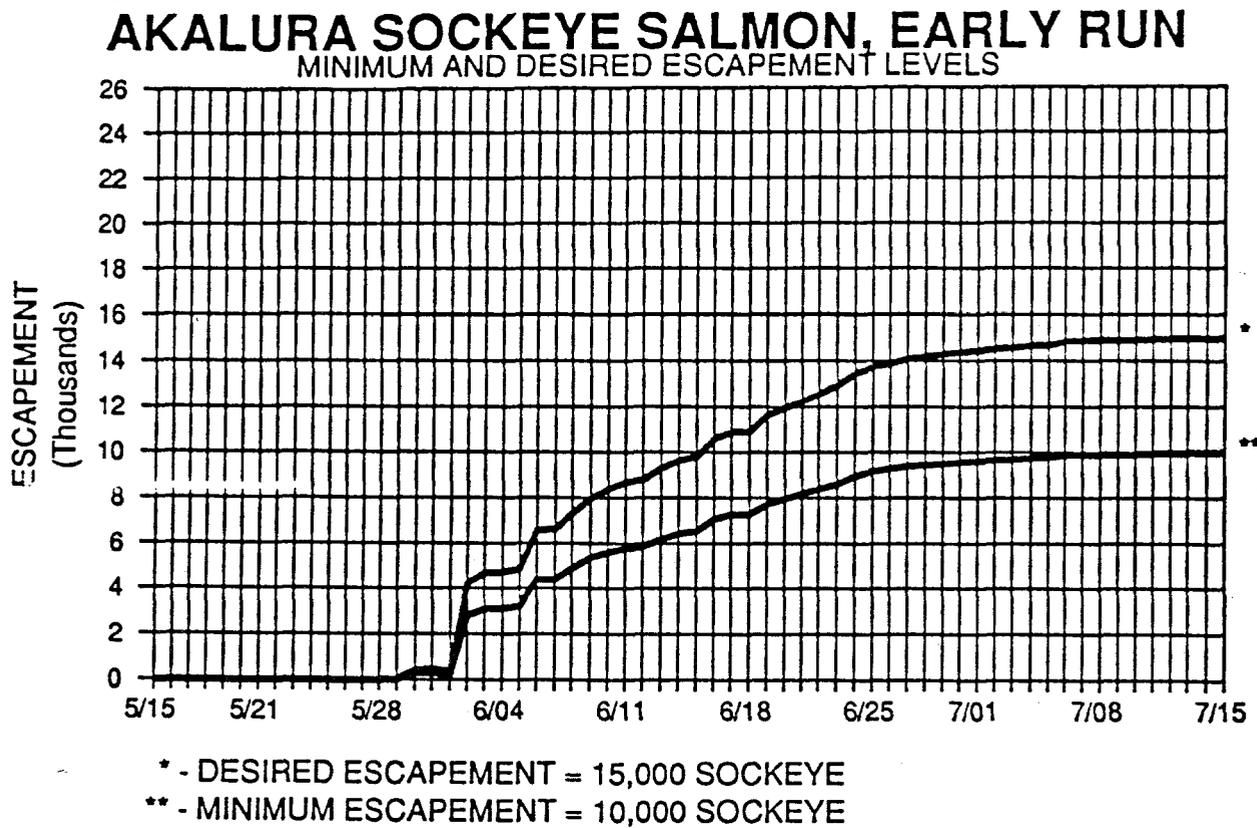


Figure 15.

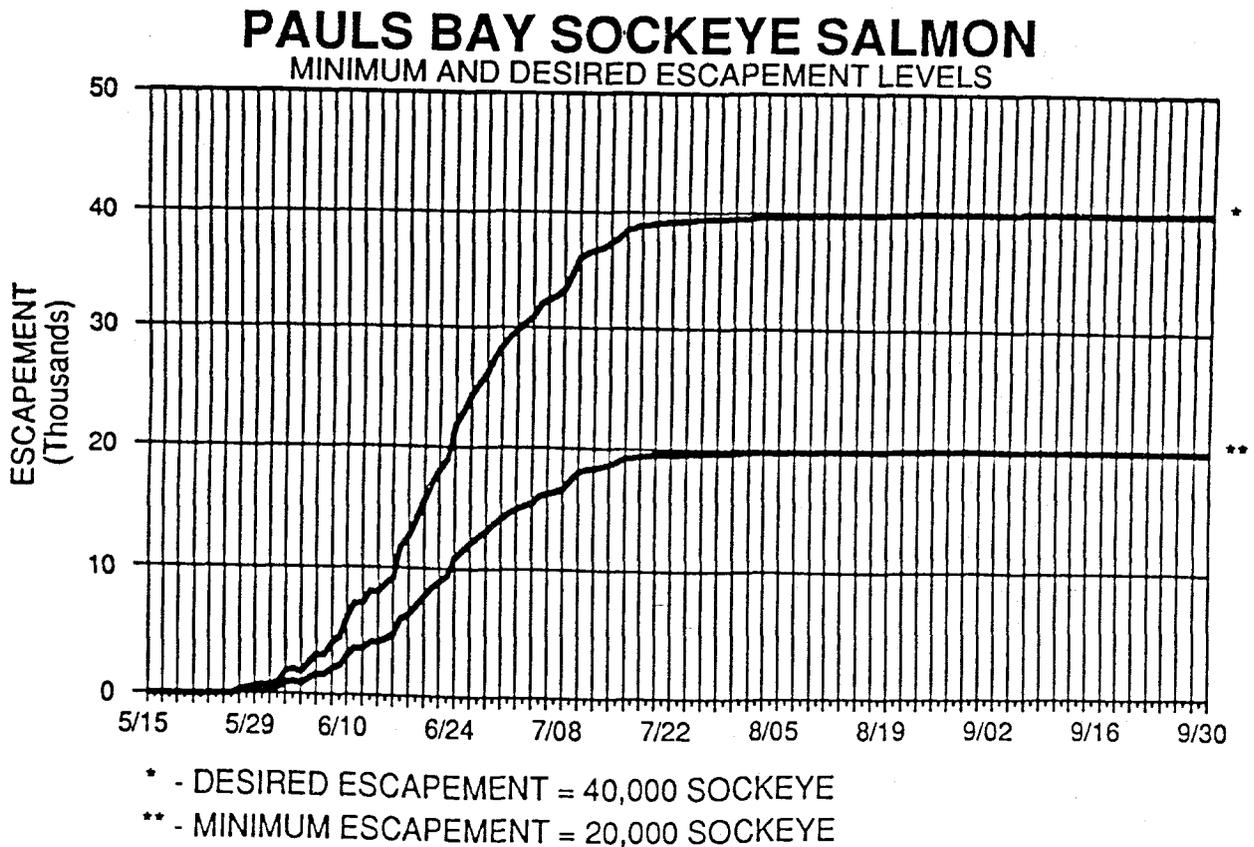
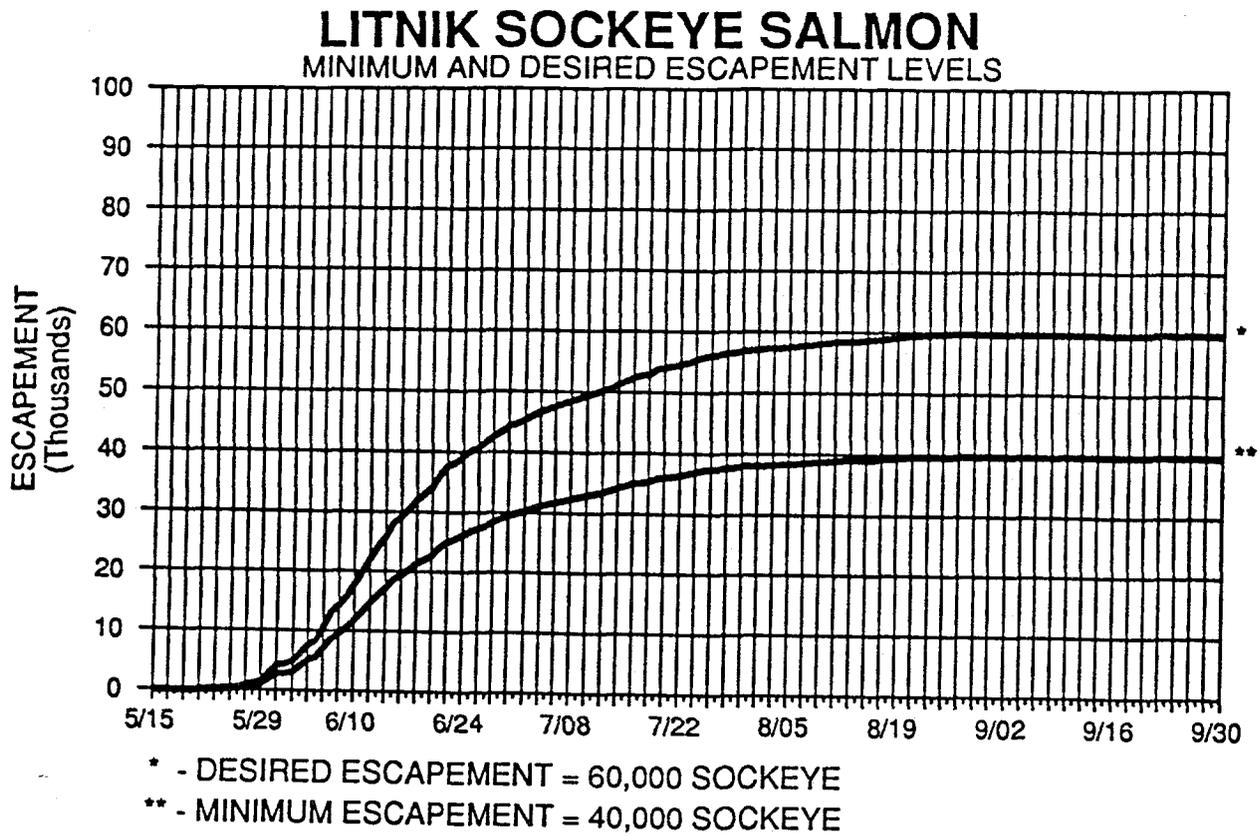
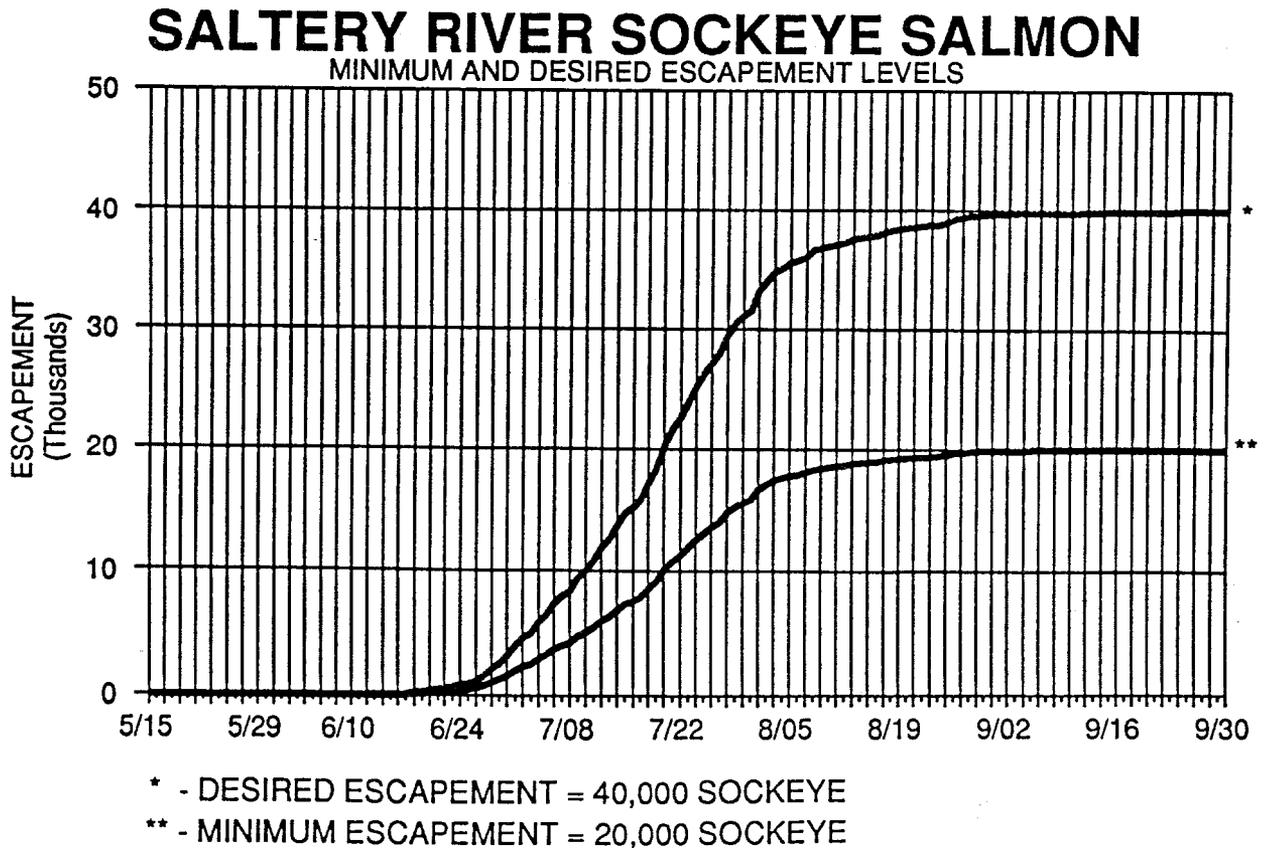
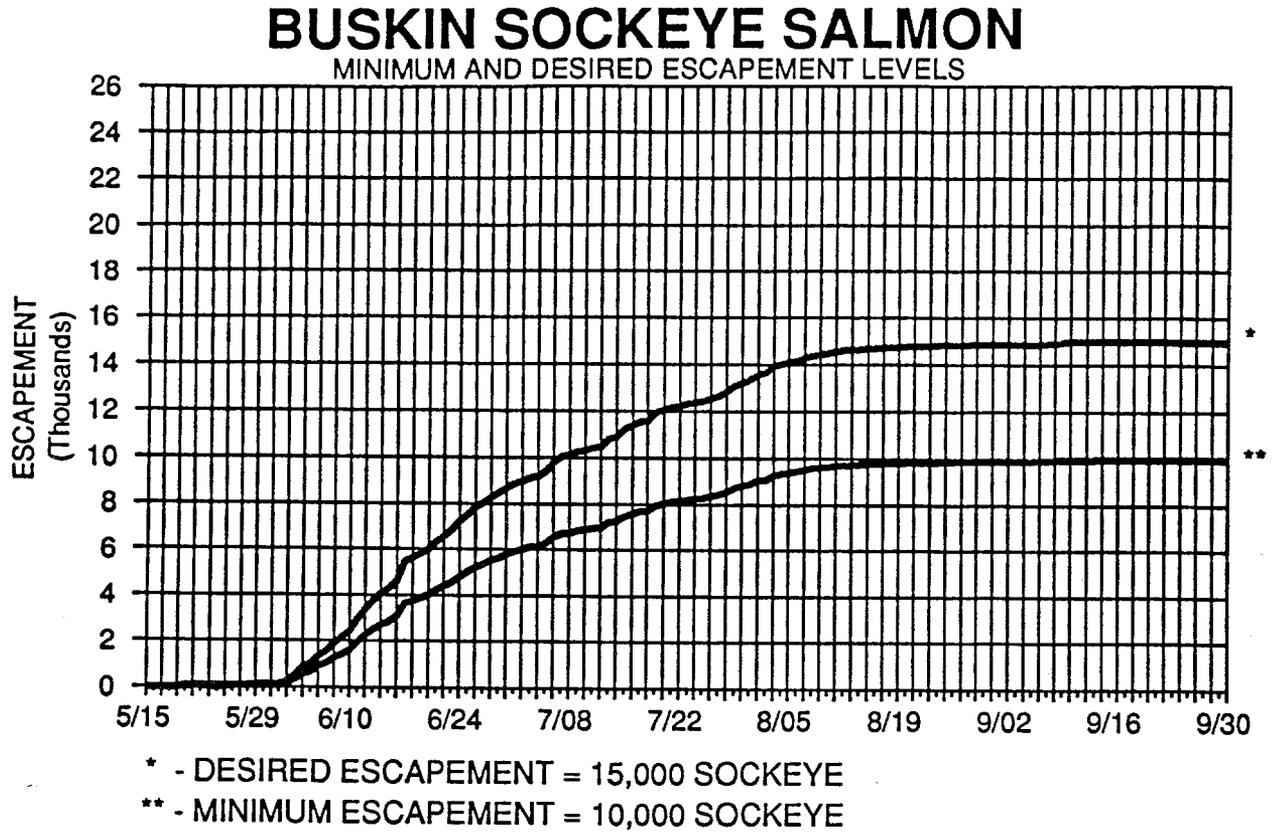


Figure 16.



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