

THE CAPE IGVAK COMMERCIAL SALMON FISHERY

Report to the Alaska Board of Fisheries, 2002

By

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ABSTRACT

Beginning in 1964 a purse seine fishery developed along the capes of the southwestern portion of the Kodiak Management Area (KMA) on the Alaska Peninsula, in what is now defined as the Cape Igvak Section of the Mainland District. Five species of salmon are regularly harvested in this section during commercial salmon fisheries; chinook salmon *Oncorhynchus tshawytscha*, sockeye salmon *O. nerka*, pink salmon *O. gorbuscha*, chum salmon *O. keta*, and coho salmon *O. kisutch*. Within the Cape Igvak Section there are 10 documented salmon streams and in the adjacent Wide Bay Section there are 18 documented salmon streams. Sockeye salmon are known to occur in only one small stream system, but local salmon streams in this area should produce average annual harvests of approximately 220,000 to 725,000 pink and 50,000 to 150,000 chum salmon. Salmon bound to adjacent areas also migrate through this management unit.

Tagging and stock identification studies using average weight and age composition conducted in 1968 and 1969 concluded that approximately 80% of the sockeye salmon harvested in the Cape Igvak Section were of Chignik origin. The issue of interception of Chignik-bound sockeye salmon in the Cape Igvak Section came before the BOF several times, and management of this section was modified many times. In 1978 the Alaska Board of Fisheries adopted a specific management plan for the Cape Igvak Section. The Cape Igvak Salmon Management Plan (5 AAC 18.360) covers the time period from June 5 through July 25. It stipulates that 80% of the sockeye salmon harvest from the Cape Igvak Section during the June 5 to July 25 period will be considered Chignik bound, and allocates up to 15% of the total Chignik sockeye salmon harvest to the KMA seine fleet. The management plan stipulates strict biological and allocative requirements that must be met in the Chignik Management Area (CMA) prior to any fisheries occurring in the Cape Igvak Section. Commercial fisheries may be allowed in the Cape Igvak Section only if escapement goals are being achieved in the Chignik river system and a minimum sockeye harvest requirement (600,000) are expected to be achieved in the CMA.

Since 1978 during the June 5 to July 25 period, an average of 109 Kodiak purse seine vessels have participated in the Cape Igvak fishery; in 2001 only 80 KMA seine vessels fished Cape Igvak. The harvest has averaged 862 chinook, 242,318 sockeye (194,518 sockeye salmon considered to be Chignik bound), 2,975 coho, 65,948 pink, and 33,015 chum salmon. In 2001 a total of 2,603 chinook, 269,017 sockeye (215,214 Chignik-bound sockeye), 1,938 coho, 139,342 pink, and 76,865 chum salmon were taken in the Cape Igvak fishery.

Since 1978 the Cape Igvak Section catch of Chignik-bound sockeye has ranged from 0.00% to 15.93% of the total Chignik sockeye harvest. The 15% allocation to KMA seiners has been met or exceeded only four times, and the sockeye harvest has been below 10% of the total harvest of sockeye considered to be Chignik bound in 7 of the last 24 years. In 2001 the sockeye harvest from the Cape Igvak fishery was 14.96% of the total estimated commercial catch of sockeye salmon considered to be Chignik bound.

INTRODUCTION

Beginning in 1964 a purse seine fishery developed along the capes of the southwestern portion of the Kodiak Management Area (KMA) on the Alaska Peninsula, in what is now defined as the Cape Igvak Section of the Mainland District (Figure 1). Five species of salmon are regularly harvested in this section during commercial salmon fisheries; chinook salmon *Oncorhynchus tshawytscha*, sockeye salmon *O. nerka*, pink salmon *O. gorbuscha*, chum salmon *O. keta*, and coho salmon *O. kisutch*. This area is managed under the guidelines of an Alaska Board of Fisheries (BOF) approved regulatory management plan, the Cape Igvak Salmon Management Plan (5 AAC 18.360). There are twelve proposed regulatory changes concerning the Cape Igvak fishery that will come before the BOF in January 2002 (Proposals 70-81). This report is intended to provide background information to the BOF and public concerning the Cape Igvak area salmon resources and fisheries management.

Location

The Cape Igvak Section is located in the southwestern portion of the Kodiak Management Area (KMA), on the Alaska Peninsula (Figure 1). The Cape Igvak Section spans approximately 40 nautical miles between Kilokak Rocks and Cape Aklek. The northern boundary of the Cape Igvak Section is the latitude of Cape Aklek at the southern entrance to Puale Bay; to the north is the Alinchak Bay Section. The Cape Igvak Section excludes waters of Wide Bay west of a line from Cape Igvak to Terrace Island to Cape Kayakliut (the Wide Bay Section; ADF&G 1999).

This section's southern boundary is also the boundary line between the Chignik and Kodiak Management Areas. From statehood through 1998 the boundary between these two salmon registration areas was clarified several times by the BOF but remained essentially unchanged. Through 1978 it was defined as the southern entrance to Imuya Bay near Kilokak Rocks. In 1979 the boundary description included latitude and longitude coordinates of the southern entrance to Imuya Bay (57° 11' 22" N lat., 156° 20' 13" W long.). In 1980 the southern boundary definition was further clarified as a line extending south (180°) from the southern entrance to Imuya Bay near Kilokak Rocks (156° 20' 13" W long.). In 1996 all latitude and longitude coordinates in Kodiak regulations were converted to decimal minutes based on more recent (1983) North American datum. The southern entrance to Imuya Bay near Kilokak Rocks was redefined as 156° 20.22' W long.

At a 1999 meeting of the BOF, this boundary line was modified to run southeast (135°), from a point near Kilokak Rocks at 57° 10.34' N lat., 156° 20.22' W long. (the longitude of the southern entrance to Imuya Bay), to the three-mile limit then due south.

Salmon Resources

Within the Cape Igvak Section there are 10 documented salmon streams and in the Wide Bay Section there are 18 documented salmon streams (ADF&G 1993). Escapement into salmon streams is monitored by aerial survey. Because of the distance from the city of Kodiak and adverse weather conditions common in this area, aerial surveys are made opportunistically and infrequently, averaging two to three times per season. The escapement levels documented are considered minimum estimates, not total escapements.

Sockeye salmon are known to occur in one small stream system within the Cape Igvak Section, Kanatak Creek, which is a minor producer. Documented sockeye salmon escapements into this system have ranged from 1,000 to 3,000 adults.

Kodiak escapement goals for pink, chum, and coho salmon are managed on a District-wide basis. The long-term production potential for major pink and chum salmon spawning systems in the Cape Igvak and Wide Bay Sections has been estimated based on achievement of a range of desired escapements (Prokopowich and Brennan 1992). Local salmon streams in the Wide Bay and Cape Igvak Sections should produce average annual harvests of approximately 220,000 to 725,000 pink and 50,000 to 150,000 chum salmon. Coho salmon spawning populations are present in the Wide Bay and Cape Igvak Sections; however, escapements are seldom monitored because of budget restrictions and adverse weather conditions limit late season aerial survey opportunities. The escapement database is very limited, and the production potential has not been calculated.

In addition, salmon bound to adjacent areas migrate through this management unit. Sockeye salmon caught and tagged in the Cape Igvak area in 1968 and 1969 were recovered in the commercial fisheries of Kodiak, Chignik, Cook Inlet, South Alaska Peninsula, and Bristol Bay (Simon et al. 1969).

CAPE IGVAK SALMON FISHERY MANAGEMENT

Fishing time from 1964 to 1972 was regulated by set weekly fishing periods, determined pre-season and published in the regulation book, usually five days per week. Tagging and stock identification studies using average weight and age composition conducted in 1968 and 1969 concluded that approximately 80% of the sockeye salmon harvested in the Cape Igvak Section were of Chignik origin (ADF&G 1970). The issue of interception of Chignik-bound sockeye salmon in the Cape Igvak Section came before the BOF several times, and management of this section was modified many times. From 1974 through 1977 this area was managed for 'day-for-day' equal fishing time with the Chignik Management Area (Figure 2).

The Cape Igvak Salmon Management Plan

In 1978 a specific management plan for the Cape Igvak Section was adopted by the BOF (Table 1). The Cape Igvak Salmon Management Plan (5 AAC 18.360) covers the time period from June 5 through July 25 for fishing activity in the Cape Igvak Section of the Mainland District (ADF&G 1999). This management plan stipulates that 80% of the sockeye salmon harvest from the Cape Igvak Section during the June 5 to July 25 period will be considered Chignik bound, and allows the KMA fleet to harvest up to 15% of the total Chignik sockeye salmon harvest.

In 1978 the BOF also determined that Chignik-bound sockeye salmon were harvested in the eastern portion of the Alaska Peninsula Management Area. A management plan governing the harvest of Chignik-bound sockeye in the Alaska Peninsula Management Area was adopted into regulation (Southeastern District Mainland Salmon Management Plan, 5 AAC 09.360).

There was little change made to the Cape Igvak Salmon Management Plan for the next 15 years. In 1995 the BOF eliminated the portion of the plan that allowed the Cape Igvak Section to be opened to target Chignik-bound sockeye salmon after July 25, if the second-run sockeye escapement goal (200,000) had been exceeded. The department had generally managed the Cape Igvak Section after July 25 based on local pink and chum salmon runs.

In 1999 the department submitted, and the BOF adopted, a district-wide salmon management plan for the entire Mainland District (5 AAC 18.369). The goal of this plan was to achieve escapement and harvest objectives for sockeye, pink, chum, and coho salmon returning to spawning systems located in the Mainland District. This plan detailed the key species and targeted stocks that are managed for in each of these sections throughout the fishing season. It recognized that the Cape Igvak Salmon Management Plan is in effect from June 5 through July 25. It also required that the Wide Bay Section remain closed to commercial salmon fishing through July 25, to provide maximum protection of local pink and chum salmon and Chignik-bound sockeye salmon.

Biological and Allocative Criteria

The Cape Igvak Salmon Management Plan stipulates strict biological and allocative requirements that must be met prior to any fisheries occurring in the Cape Igvak Section (Table 1):

- 1) If the forecasted harvestable surplus of first and second run Chignik sockeye salmon is less than 600,000, then the Cape Igvak fishery may not occur until at least 300,000 sockeye salmon have been harvested in the CMA. After July 8, if escapement goals are being met and at least 300,000 sockeye salmon have been harvested in the CMA, then the fisheries will be managed so that at least 600,000 sockeye are harvested in Chignik and the Cape Igvak sockeye harvest will approach as near as possible 15% of the total Chignik sockeye salmon catch.
- 2) If the forecasted harvestable surplus of Chignik sockeye salmon is more than 600,000, but the first run fails to develop as predicted and a harvest of 600,000 sockeye in CMA may not be achieved, then the Cape Igvak fishery will be curtailed so that a minimum of 300,000

sockeye are harvested in Chignik by July 9. After July 8, after at least 300,000 sockeye salmon have been harvested in Chignik and escapement goals are being met, then the fisheries will be managed so that at least 600,000 sockeye are harvested in Chignik and the Cape Igvak sockeye harvest will approach as near as possible 15% of the total Chignik sockeye salmon catch.

- 3) If the forecasted harvestable surplus of Chignik sockeye salmon is more than 600,000, and the department determines that the runs are as strong as expected then the fisheries will be managed so that the Cape Igvak sockeye harvest will approach as near as possible 15% of the total Chignik sockeye salmon catch.

The total Chignik sockeye salmon catch constitutes those sockeye caught within the Chignik Management Area, plus 80% of the sockeye caught in the East Stepovak, Stepovak Flats, Southwest Stepovak, Balboa Bay, and Beaver Bay Sections from June 5 through July 25, and before July 1 in the Northwest Stepovak Section (the Southeastern District Mainland fishery, SEDM), plus 80% of the sockeye caught in the Cape Igvak Section from June 5 through July 25.

There are two distinct runs of sockeye salmon to the Chignik river system. First-run sockeye salmon bound for Black Lake predominate in June, and the second run, bound for Chignik Lake, predominates in July and early August. Because of difficulty in evaluating the strength of the second run during the transition period between runs, the Cape Igvak Salmon Management Plan states that commercial fishing in the Cape Igvak Section will be restricted or disallowed from June 26 to July 9.

Inseason Fisheries Management

From June 5 through July 25 commercial fisheries may be allowed in the Cape Igvak Section only if escapement goals are being achieved in the Chignik river system and minimum sockeye harvest requirements are expected to be achieved in the CMA. Salmon escapements are estimated in the Chignik River by the use of underwater video camera counts of salmon passing through the Chignik weir. Estimation of the daily sockeye harvests in the CMA is based on verbal reports from processors and fish ticket information.

To achieve the 15% sockeye harvest allocation, Cape Igvak Section commercial fisheries are opened for short time periods. Determining the timing and length of fishing periods in the Cape Igvak salmon fisheries requires communication between the ADF&G fishery managers of the Kodiak, Chignik, and Southeastern District Mainland areas, as well as Kodiak salmon processors. A minimum of 24 hour advance notice is given to the Kodiak purse seine fleet before any Cape Igvak fishing period. This provides adequate time for fishing vessels and tenders to travel across the Shelikof Strait to the fishing grounds and aids in a fair start to the fishery. Longer advance notice is given whenever possible. Fishing periods generally begin at MIDNIGHT and are announced in 24 hour increments. It is a common practice to announce 48 hour initial fishing periods, which aids processors in rotating tenders in and out of the area, reducing their operation costs.

ADF&G fishery managers communicate with Kodiak processors several times daily to determine the number of vessels fishing at Cape Igvak, the general fishing conditions, the average number of

fish per seine haul, the proportion of sockeye in the catch, and sockeye average weight data. From this information an estimate of the daily harvest is made. As deliveries are made, the actual catch-per-unit-effort estimates are refined, and daily catch estimates may be adjusted. Kodiak salmon processors have radio schedules with their tenders, usually several times daily, after which more complete daily estimates are possible. Up to 15 processors annually purchase salmon from KMA, but for the Cape Igvak fishery there are generally only five to six processors. Cooperation and communication between ADF&G fishery managers and Kodiak salmon processors have been excellent.

The number of sockeye harvested by Cape Igvak fishers is multiplied by 80% to determine the number of sockeye salmon considered to be Chignik bound. This catch figure, together with total sockeye harvest estimates from CMA and SEDM fisheries, are combined to establish the cumulative harvest of Chignik-bound sockeye salmon. The relative catch percentage is determined and, based on the Cape Igvak harvest percentage, additional fishing time may be announced. Extensions of fishing time, if possible, are seldom allowed for more than 48 hours at a time. Close attention is paid to the catch estimate by department staff from each management area, and daily estimates are refined as fish ticket data becomes available. The use of a continually updated computer spreadsheet greatly aids management precision.

The Cape Igvak fishery is not managed on the absolute number of Chignik first-run or second-run fish actually harvested, but rather on dates associated with average Chignik sockeye run timing. Early season fisheries may be allowed from June 5 to 26 and likely harvest more first-run than second-run Chignik sockeye salmon. Subsection (f) of the Cape Igvak Salmon Management Plan requires that, because of uncertainty in the strength of the second-run in late June, the Cape Igvak fishery is closed or severely restricted from June 26 through July 8. Late season Cape Igvak fisheries may be allowed from July 9 through 25 and likely harvest more second-run than first-run Chignik sockeye salmon.

At any time before July 25, the harvest of sockeye salmon considered to be Chignik bound in the Cape Igvak Section is permitted to fluctuate above or below 15% of the cumulative Chignik sockeye salmon catch (5 AAC 18.360, subsection d). If biological and allocative requirements are met in the CMA, then the Cape Igvak fishery is managed to harvest as near as possible 15% of the total harvest of Chignik-bound sockeye salmon from June 5 through July 25.

During the early part of the season, the department allows the Cape Igvak sockeye catch percentage to climb above 15%. As stated previously, the Cape Igvak fishery is closed or severely restricted during the period from approximately June 26 to July 9, because of uncertainty in the strength of the second run to Chignik. There is no such restriction on the Chignik Lagoon fishery, and the CMA can be open to fishing during this “overlap” period to harvest first-run sockeye that are surplus to escapement requirements. These CMA harvests will drive the Cape Igvak percentage down during the overlap period. By the end of the overlap period, and by the time the department determines if there is a harvestable surplus for the second run, the Cape Igvak percentage often decreases several percentage points to below the 15% allocation. Also, as the season progresses toward the end of July and the end of the management plan period, the abundance of sockeye salmon in the Cape Igvak Section decreases. It becomes more difficult for the KMA Cape Igvak seiners to catch sockeye and therefore more difficult for them to maintain the allocated sockeye salmon harvest percent.

COMMERCIAL SALMON FISHERY HARVESTS

June 5 through July 25

Since 1978 participation by Kodiak purse seine permit holders in the June 5 through July 25 Cape Igvak fishery has ranged from 0 to 172 vessels, with an average of 104 vessels (Table 2). During the 10-year period from 1991 through 2000, the seiner participation averaged 107 vessels. In 2001 only 80 seine vessels fished Cape Igvak.

Since 1978 the harvest of sockeye salmon considered to be Chignik bound from the Cape Igvak fishery has ranged from 0 (in years when the Cape Igvak fishery was closed) to 456,147 sockeye, and averaged 194,518 sockeye (Table 2). During the 10-year period from 1991 through 2000, the harvest of Chignik-bound sockeye averaged 224,260, and in 2001 a total of 215,214 Chignik-bound sockeye were taken in the Cape Igvak fishery.

Prior to 1978 the harvest of sockeye salmon considered to be Chignik bound from the Cape Igvak Section had been as high as 23.76% of the total harvest of Chignik sockeye (1970; Table 3). In the 24 years since this management plan was adopted, the Cape Igvak Section catch of Chignik-bound sockeye has ranged from 0.00% to 15.93% of the total Chignik sockeye harvest (Table 3, Figure 3). In 2001 the sockeye harvest from the Cape Igvak fishery was 14.96% of the total estimated commercial catch of sockeye salmon considered to be Chignik bound.

Since the inception of this regulatory management plan (1978), the 15% allocation to KMA seiners has been met or exceeded only four times (Table 3, Figure 3). The Cape Igvak June 5 to July 25 sockeye harvest has been below 10% of the total harvest of sockeye considered to be Chignik bound in 7 of the last 24 years.

Though sockeye salmon are being targeted, prior to July 26 seiners in the Cape Igvak fishery also harvest other salmon species (Table 4). From 1978 through 2001 the annual harvest has averaged 862 chinook, 2,975 coho, 65,948 pink, and 33,015 chum salmon. More recently, from 1991 to 2000 the June 5 to July 25 harvest from Cape Igvak averaged 1,281 chinook, 5,082 coho, 88,129 pink, and 51,604 chum salmon. In 2001 the Cape Igvak fishery catch included 2,603 chinook, 1,938 coho, 139,342 pink, and 76,865 chum salmon.

Post July 25

Fishing time is allowed in the Cape Igvak Section after July 25 to target pink, chum, and coho salmon bound to spawning streams in the Cape Igvak and Wide Bay Sections (Table 1).

Kodiak purse seine permit holder participation in the post July 25 Cape Igvak and Wide Bay Sections has ranged from 0 to 67 vessels, with an average of 20 vessels during the past 24 years (1978-2001; Table 5). During the 10-year period 1991 through 2000, the seiner participation averaged 19 vessels. Only nine vessels fished Cape Igvak post July 25 in 2001.

Since 1978 the harvest of pink salmon from the Cape Igvak and Wide Bay Sections has ranged from 0 (1989) to 1,245,291 pink salmon (1988), and averaged 170,761 pink salmon (Table 5). During the 10-year period 1991 through 2000, the harvest averaged 171,380 pink salmon, and in 2001 a total of 98,334 pink salmon were harvested post July 25.

The harvest of chum salmon since 1978 from the Cape Igvak and Wide Bay Sections has ranged from 0 (1989) to 74,844 chum salmon (1991), and averaged 21,920 chum salmon (Table 5). During the 10-year period 1991 through 2000, the post July 25 Cape Igvak harvest averaged 23,140 chum salmon. In 2001 a total of 31,928 chum salmon were harvested post July 25.

From 1978 through 2001 the average post July 25 Cape Igvak and Wide Bay harvest has included 206 chinook, 11,380 sockeye, and 6,286 coho salmon. More recently, from 1991 through 2000, the post July 25 harvest from Cape Igvak averaged 311 chinook, 16,503 sockeye, and 7,032 coho salmon. In 2001 the post July 25 Cape Igvak harvest was 41 chinook, 6,238 sockeye, and 1,918 coho salmon (Table 5).

2001 CAPE IGVAK SALMON FISHERY

In 2001 commercial fishing time was allowed in the Cape Igvak Section during the June 5 to July 25 timing of the management plan. The Cape Igvak fishery first opened June 24, and eight days of fishing were allowed prior to the end of the management plan period. Eighty (80) purse seiners participated, harvesting 2,603 chinook, 269,017 sockeye, 1,938 coho, 139,342 pink, and 76,865 chum salmon (Table 4). Of the total sockeye salmon harvest during the management plan period, 80%, or 215,214 of the sockeye salmon, were considered Chignik bound.

Combined with the sockeye salmon harvest in the Chignik Management Area (CMA) and with the harvest of Chignik-bound sockeye salmon from Southeastern District Mainland (SEDM) fisheries, the Cape Igvak harvest was calculated to account for approximately 14.96% of the total Chignik sockeye salmon return (Table 3).

First Run

In 2001 the preseason forecast for the Chignik system called for a return of approximately 1.0 million first-run (Black Lake) sockeye salmon (Geiger and McNair 2001). The first-run escapement goal is 400,000 sockeye salmon by June 30. This left a forecasted harvestable surplus of 600,000 first-run sockeye salmon.

Initial sockeye salmon escapements into the Chignik river system were early. Escapements surpassed interim goals by June 4, and continued to exceed desired levels. Through June 12 the escapement was over 103,700 sockeye salmon, well above the desired interim goal of 40,000 and approximately four days ahead of escapement goals (Figure 4). ADF&G regional and Chignik area biologists were uncertain if the first run was as strong as expected or if it was just 5 to 7 days early. Due to the strong early escapement, commercial fishing time was announced for the CMA beginning on June 14. However, a price dispute between CMA fishers and processors postponed

fishing activity. The CMA remained open to commercial salmon fishing but only limited harvests occurred, as selected representatives of the seiner's association prosecuted cooperative, "community harvests", tendering the fish to processors in Kodiak. Despite the fact that escapement levels were exceeding the desired interim range, with such limited fishing ADF&G continued to feel that the first run was weak.

By June 22 it appeared that the first run to Chignik was actually late and was as strong or stronger than expected. Fishing in the CMA was extended until further notice, though the Chignik fleet remained on strike. Escapement through the Chignik weir was in excess of desired levels; through June 21 the escapement was estimated to be approximately 427,000 sockeye, exceeding the first-run escapement goal of 400,000 sockeye by June 30. Daily escapements were high, with over 120,000 passing through the weir on June 20 and 21. The forecasted surplus (beyond escapement goals) was now expected to be more than 600,000 sockeye salmon. With the biological (escapement) and allocative (minimum harvest) requirements of the Cape Igvak Salmon Management Plan now fulfilled, in accordance with subsection (c) a 48 hour commercial salmon fishing period in the Cape Igvak Section was announced, to begin at one minute past MIDNIGHT on June 24.

General Provision 5 AAC 39.200, Application of Fishery Management Plans, subsection (b), recognizes that some fishery management plans (such as the Cape Igvak Salmon Management Plan) require the distribution of harvestable fish among various users. It further states that, in such a case, if one group of fishers does not harvest fish due to circumstances beyond the department's control, such as price disputes, the department shall manage the fishery as if the available harvest was being taken. Because the Chignik seine fleet was not fishing at full force and taking all the fish that were available to them for harvest, the department managed the Cape Igvak fishery as if the fish available for harvest in the CMA (those in excess of escapement requirements) were actually taken. The department calculated the amount of "foregone harvest" that, when added to the actual harvests, would be used to determine the allocative percentages required by the Cape Igvak Salmon Management Plan.

For the initial fishery opening, the number of vessels crossing the Shelikof Strait to fish the Cape Igvak Section was low due to poor weather. Only 35 to 40 vessels were in the section for the opening, with additional vessels crossing over throughout the day. Catch estimates were gathered from processors and from individual fishers (those with satellite telephones could be contacted directly). Fishing appeared good, with 1,000 to 1,500 sockeye landed daily per vessel. The Cape Igvak catch was estimated to be only about 9% of the total estimated catch to date of sockeye salmon considered to be Chignik bound.

Part (f) of the Cape Igvak Salmon Management Plan states that fishing in the Cape Igvak Section will be severely restricted or disallowed from approximately June 26 to July 9, to allow assessment of the strength of the second run of Chignik river system sockeye salmon. Preliminary estimates from scale samples indicated the sockeye in the CMA catch and escapements were still predominately first-run sockeye. Chignik sockeye escapement remained in excess of desired levels; through June 24 the escapement into the Chignik River was estimated to be approximately 544,000 sockeye, exceeding the first-run escapement goal of 400,000 sockeye by June 30. Daily escapements continued to be high, with approximately 30,000 sockeye per day passing through the weir. Because of the late nature of the first run to Chignik, the high escapement counts, and high

potential total CMA sockeye harvest to date, a 24 hour extension of the Cape Igvak fishery was allowed. This extension gave the Kodiak fishers an opportunity to increase the catch percentage to near or above 15% prior to the mandatory restriction of the Cape Igvak fishery during the overlap period.

Fishing success improved on the second day, June 25. However, weather conditions deteriorated at Cape Igvak and by the third day of the fishing period, June 26, many smaller vessels were forced to fish in protected waters or to anchor up. The Cape Igvak Section closed to fishing as scheduled at one minute past MIDNIGHT on June 27.

During this three day fishery there were 157,648 sockeye salmon harvested from the Cape Igvak Section. Of these, 80%, or 126,118 sockeye salmon, were considered Chignik-bound salmon. Combined with the harvest in the CMA and SEDM, the Cape Igvak percentage was calculated at 22.27% (Table 6).

Second Run

In 2001 the preseason forecast for second-run (Chignik Lake) sockeye salmon was approximately 911,000 fish. The second-run escapement goal is 250,000. This left a forecasted harvestable surplus of 661,000 sockeye salmon.

Scale pattern analysis made during the overlap period continued to indicate that the sockeye salmon coming into the Chignik system were predominantly first run fish. But, even though the percentage of second-run fish present was small, limited fishing in June led to large escapements and the number of second-run sockeye were exceeding the escapement goals (Figure 4). Commercial fishing remained open in the Chignik area. On July 2 Chignik fishers had settled their dispute with local processors and the entire fleet began fishing. By July 3 the percentage of sockeye salmon harvest by Cape Igvak fishers was 14.37% (Table 6).

On July 6 the commercial harvest in the Chignik Management Area included 865,692 sockeye salmon (this included estimated foregone harvest due to the strike). The escapement through the Chignik weir was still composed of primarily first-run sockeye. The catch from the Cape Igvak Section totaled 12.35% of the total run of Chignik-bound sockeye salmon. With the biological (escapement) and allocative (minimum harvest) requirements of the Cape Igvak Salmon Management Plan fulfilled, a commercial salmon fishing period was warranted in the Cape Igvak Section. Only a 48 hour fishing period was announced, beginning at 12:01 AM on July 8, pending further evaluation of run strength.

Initial reports indicated that fishing was fair, approximately 700 to 800 sockeye per vessel per day, but effort was low, approximately 40 vessels. By the second day of the fishery, sockeye catch per unit effort dropped off to approximately 500 sockeye per vessel per day. A 24 hour extension was allowed for the Cape Igvak fishery.

It was estimated that through July 10 the commercial harvest in the Chignik Area included over 1,055,241 sockeye salmon (Table 6; this includes estimated foregone harvest due to the strike). The escapement through the Chignik weir was estimated to still be composed of primarily first-run

sockeye salmon, but the second-run escapement was estimated to exceed interim escapement goals through at least July 16. The Cape Igvak Section catch estimate included 185,144 sockeye salmon considered to be Chignik bound or about 14.28% of the total harvest of Chignik-bound sockeye salmon. Commercial fishing remained open until further notice in the Chignik Management Area. In order to keep the KMA harvest percentage near the 15% allocation mandated by the Cape Igvak Salmon Management Plan, continued commercial fishing in the Cape Igvak Section was necessary, and a 48 hour extension was announced.

Sockeye salmon escapement at Chignik diminished, and catches in the CMA were falling. The Cape Igvak Section was allowed to close as scheduled. The CMA remained open for an additional two days, then also closed. No further fishing was allowed in the Cape Igvak Section or the CMA through the end of the management plan period, July 25.

Fish ticket data show that from July 8 through July 25, KMA purse seine permit holders harvested an additional 111,369 sockeye salmon (Table 6). Of these, 80% or 89,095 sockeye salmon, were considered Chignik-bound salmon. Combined with the sockeye salmon harvest in the CMA and with sockeye salmon considered to be Chignik bound harvested in the SEDM, the Cape Igvak percentage was calculated at approximately 14.96%.

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Table 2. Harvest of sockeye salmon, average weights, and number of vessels participating in the Chignik and pre-July 26 Cape Igvak commercial salmon fisheries, 1978-2001.

Year	Chignik			Cape Igvak ^a		
	Catch ^b	Vessels	Avg. Wt. ^c	Catch ^b	Vessels	Avg. Wt.
1978	1,454,389	94	8.0	227,014	131	7.0
1979	794,504	102	7.7	13,950	93	6.9
1980	670,001	104	7.0	*	*	4.6
1981	1,606,300	104	7.4	282,727	108	6.7
1982	1,250,768	103	7.6	167,401	154	7.0
1983	1,450,832	102	6.6	318,048	147	6.1
1984	2,474,405	100	7.0	449,372	170	6.3
1985	696,169	107	6.0	123,627	129	5.2
1986	1,456,729	102	6.8	188,017	91	6.1
1987	1,659,615	104	7.5	321,506	172	6.7
1988	675,487	100	7.5	11,218	41	6.1
1989 ^d	496,044	100	7.4	0	0	-
1990	1,205,575	101	6.4	107,706	116	6.2
1991	1,958,954	101	7.0	324,329	145	5.8
1992	1,054,309	101	6.7	152,358	155	6.0
1993	1,495,098	102	6.1	300,055	133	5.5
1994	1,632,435	99	6.3	250,230	117	5.7
1995	1,024,785	100	6.7	169,530	137	5.6
1996	1,710,249	100	8.0	308,327	126	6.3
1997	443,892	98	6.7	0	0	-
1998	786,466	84	6.2	8,813	9	4.4
1999	2,326,811	90	6.8	456,147	122	5.4
2000	1,509,652	98	7.8	272,808	126	6.3
2001	1,145,840	92	7.5	215,214	80	6.0
<u>Averages</u>						
1992-2001	1,312,954	96	6.9	213,348	101	5.7
1991-2000	1,394,265	97	6.8	224,260	107	5.7
1978-2001	1,290,805	100	7.0	194,518	104	6.0

^a The Cape Igvak sockeye catch figures represent 80% of the total sockeye salmon catch, based on the premise that only 80% of the sockeye caught in those areas are destined for Chignik.

^b Catch numbers are from the ADF&G fish ticket data base.

^c Chignik average weights are from terminal Chignik Lagoon catches.

^d Fisheries were not allowed at Cape Igvak in 1989 due to the Exxon Valdez oil spill.

Table 3. Harvest of sockeye salmon considered to be Chignik bound in the Chignik, Cape Igvak, and Southeastern District Mainland commercial salmon fisheries, 1964-2001.

Year	Chignik		Southeastern District				Total
	Catch ^b	Percent	Cape Igvak ^a		Mainland ^a		
	Catch ^b	Percent	Catch ^b	Percent	Catch ^b	Percent	
1964 ^c	556,890	90.57	14,980	2.44	43,021	7.00	614,891
1965	599,553	89.94	11,021	1.65	56,020	8.40	666,594
1966	219,794	87.99	18,003	7.21	12,011	4.81	249,808
1967	462,000	91.48	23,014	4.56	20,021	3.96	505,035
1968	977,382	82.53	135,951	11.48	70,959	5.99	1,184,292
1969	394,135	78.96	97,982	19.63	7,013	1.41	499,130
1970	1,325,734	72.51	434,394	23.76	68,181	3.73	1,828,309
1971	1,016,136	80.33	197,614	15.62	51,272	4.05	1,265,022
1972	378,218	87.99	33,865	7.88	17,752	4.13	429,835
1964 to 1972 catch and percentage figures are totals for the entire season. Catch figures and percentages after 1972 are only through July 25.							
1973 ^d	769,258	88.97	57,348	6.63	37,983	4.39	864,589
1974	530,278	73.61	122,071	16.95	68,029	9.44	720,378
1975	115,984	81.78	23,635	16.67	2,205	1.55	141,824
1976	792,024	82.96	117,926	12.35	44,730	4.69	954,680
1977	1,547,285	90.40	128,852	7.53	35,502	2.07	1,711,639
1978 ^{e,f}	1,454,389	85.38	227,014	13.33	22,064	1.30	1,703,467
1979 ^g	794,504	91.81	13,950	1.61	56,878	6.57	865,332
1980	670,001	91.31	32	0.00	63,724	8.68	733,757
1981	1,606,300	79.85	282,727	14.06	122,533	6.09	2,011,560
1982	1,250,768	84.46	167,401	11.30	62,767	4.24	1,480,936
1983	1,450,832	72.68	318,048	15.93	227,392	11.39	1,996,272
1984	2,474,405	73.93	449,372	13.43	423,068	12.64	3,346,845
1985 ^h	696,169	79.91	123,627	14.19	51,421	5.90	871,217
1986	1,456,729	82.64	188,017	10.67	118,006	6.69	1,762,752
1987	1,659,615	77.99	321,506	15.11	146,886	6.90	2,128,007
1988	675,487	95.67	11,218	1.59	19,320	2.74	706,025
1989	496,044	99.10	0	0.00	4,485	0.90	500,529
1990	1,205,575	83.61	107,706	7.47	128,599	8.92	1,441,880
1991 ⁱ	1,958,954	80.42	324,329	13.31	152,714	6.27	2,435,997
1992 ^j	1,054,309	81.07	152,358	11.72	93,845	7.22	1,300,512
1993	1,495,098	77.72	300,055	15.60	128,536	6.68	1,923,689
1994 ^k	1,632,435	80.61	250,230	12.36	142,350	7.03	2,025,015
1995	1,024,785	79.90	169,530	13.22	88,302	6.88	1,282,617
1996 ^l	1,710,249	79.70	308,327	14.37	127,201	5.93	2,145,777
1997	443,892	100.00	0	0.00	0	0.00	443,892
1998 ^m	786,466	91.22	8,813	1.02	66,893	7.76	862,172
1999	2,326,811	78.70	456,147	15.43	173,621	5.87	2,956,579
2000	1,509,652	80.05	272,808	14.47	103,419	5.48	1,885,879
2001 ⁿ	1,143,990	79.54	215,214	14.96	79,037	5.50	1,438,241

-Continued-

Table 3. (page 2 of 2)

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- ^a The Cape Igvak and Southeastern District Mainland figures represent 80% of the total sockeye salmon catch for those areas, based on the premise that only 80% of the sockeye caught in those areas are destined for Chignik (excluding sockeye caught in the Northwest Stepovak Section from 1964 to 1991 and during July 1996, and in Orzinski Bay from 1992 to 1995).
- ^b Catch numbers were last modified from the ADF&G computerized historical fish ticket data base in 2001.
- ^c The data from 1964 to 1972 are based on total yearly catches. Prior to 1971 the Cape Igvak and Southeastern District Mainland fisheries were weekly fishing periods set by regulation, usually 5 days per week. From 1971 through 1973 time modifications were implemented when poor escapements occurred at Chignik.
- ^d From 1974 through 1977 all three fisheries were managed on a day by day basis.
- ^e Beginning in 1978 the Cape Igvak Salmon Management Plan allocated up to 15% of the total catch of Chignik bound sockeye salmon to Kodiak Management Area fishers.
- ^f In 1978 seining prior to July 11 was disallowed in the Southeastern District Mainland. Set gillnet fisheries were allowed for 3 days per week through July 10, after which the fishery was based on local stock abundance.
- ^g From 1979 through 1984 fishing in the Southeastern District Mainland was allowed for 5 days per week prior to July 11, with an estimated ceiling of 60,000 Chignik bound sockeye. If the Chignik Management Area catch was 1,000,000 or more before July 11 then the ceiling was removed.
- ^h Beginning in 1985 the Southeastern District Mainland (excluding the Northwest Stepovak Section and Orzinski Bay) was allowed an allocation of 6.2% of the total harvest of Chignik bound sockeye salmon through July 25. After July 25 the Southeast District Mainland was managed based on local stock abundance. The allocation level changed to 6.0% beginning in 1988, with seining still not allowed prior to July 11.
- ⁱ Includes over escapement of 208,305 sockeye salmon, counted through the Chignik weir during a Chignik Area strike (June 23 to July 4).
- ^j Beginning in 1992, after Board of Fisheries review of historical records, the allocation of Chignik bound sockeye to the Southeastern District Mainland fishery (excluding Orzinski Bay) was increased to 7.0%, through July 25.
- ^k Includes over escapement of 208,921 sockeye salmon, counted through the Chignik weir during a Chignik Area strike (June 2 to June 25).
- ^l In January 1996 the BOF increased the area managed for local Orzinski Lake sockeye salmon from only Orzinski Bay to the entire Northwest Stepovak Section. Prior to July 1 the entire Northwest Stepovak Section will be managed by allocation based on Chignik sockeye salmon run strength. Beginning July 1 the Northwest Stepovak Section is managed entirely on local stocks. The BOF also decreased the percentage of Chignik bound sockeye salmon allocated to the Southeastern District Mainland fishery from 7.0 percent to 6.0 percent.
- ^m Includes 7,714 sockeye salmon caught on June 18 by the Chignik Seiners Association (CSA), and an overescapement of 52,131 sockeye salmon counted past the weir during a CSA strike (June 16 to June 29).
- ⁿ Includes 176,005 sockeye salmon caught June 16-29 by the Chignik Seiners Association, and foregone harvest due to overescapement of 398,887 in the CMA and 27,896 in the SEDM, during a fishermens strike (June 14 to July 2).
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Table 4. Commercial salmon harvest by species from the Cape Igvak and Wide Bay Sections, June 5 to July 25, 1978-2001.

Year	Permits	Landings	Chinook		Sockeye		Coho		Pink		Chum		Total Salmon		
			Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	
1978	131	667	448	3,792	281,348	1,979,761	1,134	7,881	28,523	98,107	10,656	85,051	322,109	2,174,592	
1979	93	111	2	16	17,437	120,634	365	2,655	9,212	31,678	1,303	9,538	28,319	164,521	
1980	*	*	*	*		*	*	*	*	*	*	*	*	*	*
1981	108	864	176	2,913	352,927	2,345,308	562	3,850	183,940	587,885	77,088	605,225	614,693	3,545,181	
1982	154	712	83	1,086	207,774	1,452,566	79	234	44,529	104,935	16,849	137,465	269,314	1,696,286	
1983	147	984	476	6,215	397,560	2,408,462	4,146	30,934	28,867	94,926	29,280	244,034	460,329	2,784,571	
1984	170	1,883	402	8,707	561,700	3,525,807	1,133	8,065	120,699	346,205	22,375	186,359	706,309	4,075,143	
1985	129	704	258	4,312	154,534	796,509	875	6,624	13,532	40,868	4,740	39,169	173,939	887,482	
1986	91	816	212	3,629	235,021	1,441,365	3,645	23,214	91,564	303,955	79,014	550,755	409,456	2,322,918	
1987	172	1,636	457	6,657	401,654	2,683,551	1,012	6,560	18,930	60,158	28,859	210,419	450,912	2,967,345	
1988	41	60	215	2,744	13,150	79,551	3,287	23,117	101,997	389,739	12,455	107,010	131,104	602,161	
1989	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1990	116	455	2,556	19,622	134,452	831,636	6,789	46,203	56,813	171,048	54,547	439,723	255,157	1,508,232	
1991	145	683	1,377	18,803	405,244	2,358,118	7,884	54,390	169,339	452,003	34,120	253,264	617,964	3,136,578	
1992	155	433	974	11,518	188,043	1,120,135	1,659	11,802	39,980	150,843	21,993	171,168	252,649	1,465,466	
1993	133	520	5,649	64,722	375,069	2,048,853	5,672	35,296	68,362	209,084	42,209	242,784	496,961	2,600,739	
1994	117	448	695	11,035	312,787	1,778,938	1,475	10,497	90,946	300,128	47,627	330,779	453,530	2,431,377	
1995	137	347	1,014	13,841	202,214	1,124,465	2,769	18,175	52,142	163,447	28,104	208,123	286,243	1,528,051	
1996	126	377	612	9,456	385,409	2,443,038	3,500	25,294	15,918	46,286	23,094	190,386	428,533	2,714,460	
1997	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1998	9	22	76	846	11,016	48,916	625	4,648	38,954	131,315	2,863	18,705	53,534	204,430	
1999	122	589	1,990	27,947	570,049	3,086,516	8,825	67,435	203,692	542,727	119,354	979,289	903,910	4,703,914	
2000	126	503	419	6,976	339,180	2,129,844	14,022	103,770	58,659	164,459	58,940	480,155	471,220	2,885,204	
2001	80	327	2,603	37,257	269,017	1,608,942	1,938	13,239	139,342	425,322	76,865	626,483	489,765	2,711,243	
<u>Averages</u>															
1992-2001	101	357	1,403		297,316		6,353		110,162		64,506		479,607		
1991-2000	107	392	1,281		237,852		5,082		88,129		51,604		383,686		
1978-2001	104	548	862		242,318		2,975		65,948		33,015		345,117		

* Confidential data.

Table 5. Commercial salmon harvest by species from the Cape Igvak and Wide Bay Sections, post July 25, 1978-2001.

Year	Permits	Landings	Chinook		Sockeye		Coho		Pink		Chum		Total Salmon	
			Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
1978	9	28	0	0	48	323	0	0	52,206	179,552	13,539	116,168	65,793	296,043
1979	16	60	1	40	8,108	51,535	2,167	14,338	145,326	574,189	5,663	43,360	161,265	683,462
1980	5	11	0	0	749	4,283	697	6,023	60,084	190,507	11,344	76,409	72,874	277,222
1981	12	12	1	20	1,855	11,742	0	0	14,731	53,431	1,124	8,121	17,711	73,314
1982	8	8	11	115	1,117	6,631	183	1,414	17,816	64,248	10,843	91,082	29,970	163,490
1983	25	51	11	176	6,195	34,998	3,839	34,148	74,131	276,666	15,410	126,663	99,586	472,651
1984	9	14	0	0	867	5,128	153	1,697	36,563	140,522	4,218	33,569	41,801	180,916
1985	16	16	15	175	1,883	10,301	2,433	22,301	7,773	29,903	1,578	11,607	13,682	74,287
1986	14	48	0	0	137	716	1,397	11,742	177,381	633,955	41,335	327,443	220,250	973,856
1987	56	113	234	3,123	28,262	191,248	9,598	68,544	95,759	363,360	30,165	237,302	164,018	863,577
1988	55	360	841	10,255	21,451	129,997	39,053	301,522	1,245,291	4,681,546	69,024	597,135	1,375,660	5,720,455
1989	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	67	263	671	5,998	31,189	180,330	19,097	144,534	359,075	1,159,024	58,507	437,064	468,539	1,926,950
1991	32	127	361	4,402	21,819	114,328	16,697	122,686	409,877	1,214,079	74,844	531,127	523,598	1,986,622
1992	22	46	319	3,598	4,949	28,663	4,957	36,932	47,499	186,135	18,284	139,540	76,008	394,868
1993	26	164	1,817	25,308	37,117	213,285	14,830	118,855	690,626	2,252,047	24,994	173,739	769,384	2,783,234
1994	11	23	16	205	9,497	51,137	7,226	61,726	10,583	44,180	16,760	137,099	44,082	294,347
1995	14	74	185	2,722	33,834	159,516	11,311	78,880	319,132	1,036,557	24,150	168,945	388,612	1,446,620
1996	7	11	6	117	1,518	9,101	3,963	32,567	632	2,343	1,434	10,276	7,553	54,404
1997	12	26	2	41	280	1490	583	5310	83630	251379	6186	41763	90681	299983
1998														
1999	48	139	384	4,767	53,907	273,043	9,536	70,936	141,906	406,534	59,065	459,330	264,798	1,214,610
2000	16	16	16	236	2,066	12,849	1,200	8,414	9,805	30,497	5,676	41,254	18,763	93,250
2001	9	22	41	651	6,238	37,785	1,918	15,324	98,334	274,928	31,928	265,069	138,459	593,757
<u>Averages</u>														
1992-2001	17	52	279		14,945		5,554		140,226		18,848		179,852	
1991-2000	19	63	311		16,503		7,032		171,380		23,140		218,365	
1978-2001	20	68	206		11,380		6,286		170,761		21,920		210,553	

* Confidential data.

Table 6. Commercial sockeye salmon harvest by day for the Cape Igvak, Chignik and Southeastern District Mainland fisheries, June 9 - July 25, 2001.

DATE	TOTAL CHIGNIK	CHIGNIK CUM.	IGVAK DAILY	IGVAK 80%	IGVAK CUM.	IGVAK (%)	SEDM DAILY	SEDM 80%	SEDM CUM.	SEDM (%)	TOTAL DAILY	TOTAL CUM.
09-Jun		0		0	0	0.00		0	0	0.00	0	0
10-Jun		0		0	0	0.00		0	0	0.00	0	0
11-Jun		0		0	0	0.00		0	0	0.00	0	0
12-Jun		0		0	0	0.00		0	0	0.00	0	0
13-Jun		0		0	0	0.00		0	0	0.00	0	0
14-Jun		0		0	0	0.00		0	0	0.00	0	0
15-Jun	94,249	94,249		0	0	0.00		0	0	0.00	94,249	94,249
16-Jun	27,290	121,539		0	0	0.00		0	0	0.00	27,290	121,539
17-Jun	12,688	134,227		0	0	0.00		0	0	0.00	12,688	134,227
18-Jun	0	134,227		0	0	0.00		0	0	0.00	0	134,227
19-Jun	2,206	136,433		0	0	0.00		0	0	0.00	2,206	136,433
20-Jun	72,130	208,563		0	0	0.00		0	0	0.00	72,130	208,563
21-Jun	35,523	244,086		0	0	0.00		0	0	0.00	35,523	244,086
22-Jun	50,636	294,722		0	0	0.00		0	0	0.00	50,636	294,722
23-Jun	56,402	351,124		0	0	0.00		0	0	0.00	56,402	351,124
24-Jun	32,533	383,657	47,645	38,116	38,116	8.73	18,591	14,873	14,873	3.41	85,522	436,646
25-Jun	6,771	390,428	46,819	37,455	75,571	15.24	18,591	14,873	29,746	6.00	59,099	495,745
26-Jun	19,945	410,373	63,184	50,547	126,118	22.27		0	29,746	5.25	70,492	566,237
27-Jun	27,782	438,155		0	126,118	21.23		0	29,746	5.01	27,782	594,019
28-Jun	24,525	462,680		0	126,118	20.39		0	29,746	4.81	24,525	618,544
29-Jun	32,920	495,600		0	126,118	19.36		0	29,746	4.57	32,920	651,464
30-Jun	0	495,600		0	126,118	19.36		0	29,746	4.57	0	651,464
01-Jul	16,527	512,127		0	126,118	18.88		0	29,746	4.45	16,527	667,991
02-Jul	127,406	639,533		0	126,118	15.86		0	29,746	3.74	127,406	795,397
03-Jul	82,461	721,994		0	126,118	14.37		0	29,746	3.39	82,461	877,858
04-Jul	54,221	776,215		0	126,118	13.53		0	29,746	3.19	54,221	932,079
05-Jul	35,353	811,568		0	126,118	13.04		0	29,746	3.07	35,353	967,432
06-Jul	54,124	865,692		0	126,118	12.35		0	29,746	2.91	54,124	1,021,556
07-Jul	54,592	920,284		0	126,118	11.72		0	29,746	2.76	54,592	1,076,148
08-Jul	48,699	968,983	36,650	29,320	155,438	13.45	1,986	1,589	31,334	2.71	79,608	1,155,756
09-Jul	46,843	1,015,826	15,309	12,247	167,686	13.67	15,269	12,215	43,550	3.55	71,305	1,227,061
10-Jul	39,415	1,055,241	21,823	17,458	185,144	14.28	15,691	12,553	56,102	4.33	69,426	1,296,487
11-Jul	31,430	1,086,671	14,858	11,886	197,030	14.71		0	56,102	4.19	43,316	1,339,804
12-Jul	22,631	1,109,302	22,729	18,183	215,214	15.55	3,965	3,172	59,274	4.28	43,986	1,383,790
13-Jul	23,161	1,132,463		0	215,214	15.18	13,854	11,083	70,358	4.96	34,244	1,418,034
14-Jul	11,526	1,143,989		0	215,214	14.96	10,849	8,679	79,037	5.50	20,205	1,438,239
15-Jul		1,143,989		0	215,214	14.96		0	79,037	5.50	0	1,438,239
16-Jul		1,143,989		0	215,214	14.96		0	79,037	5.50	0	1,438,239
17-Jul		1,143,989		0	215,214	14.96		0	79,037	5.50	0	1,438,239
18-Jul		1,143,989		0	215,214	14.96		0	79,037	5.50	0	1,438,239

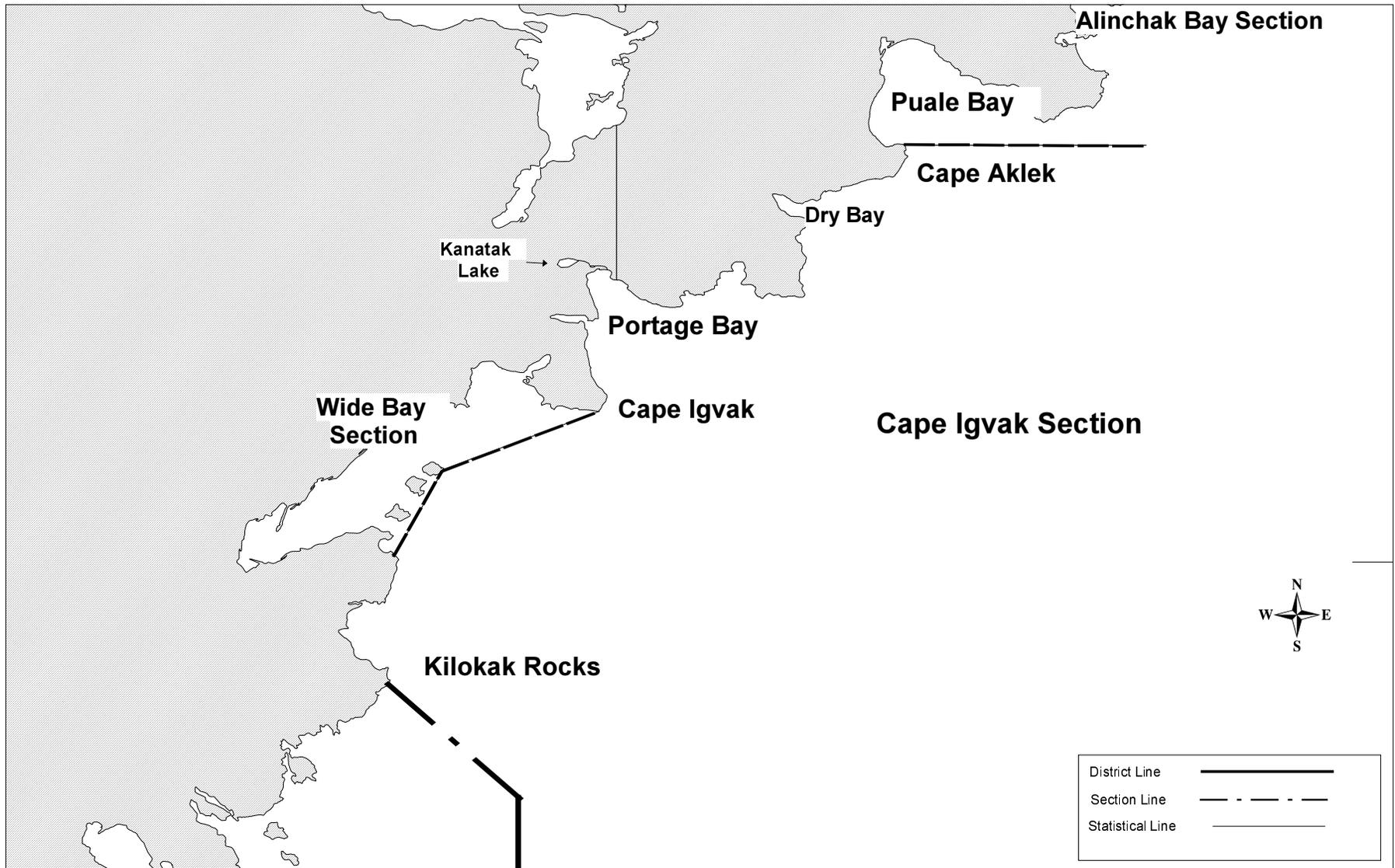


Figure 1. Map of the Cape Igvak Section of the Kodiak Management Area.

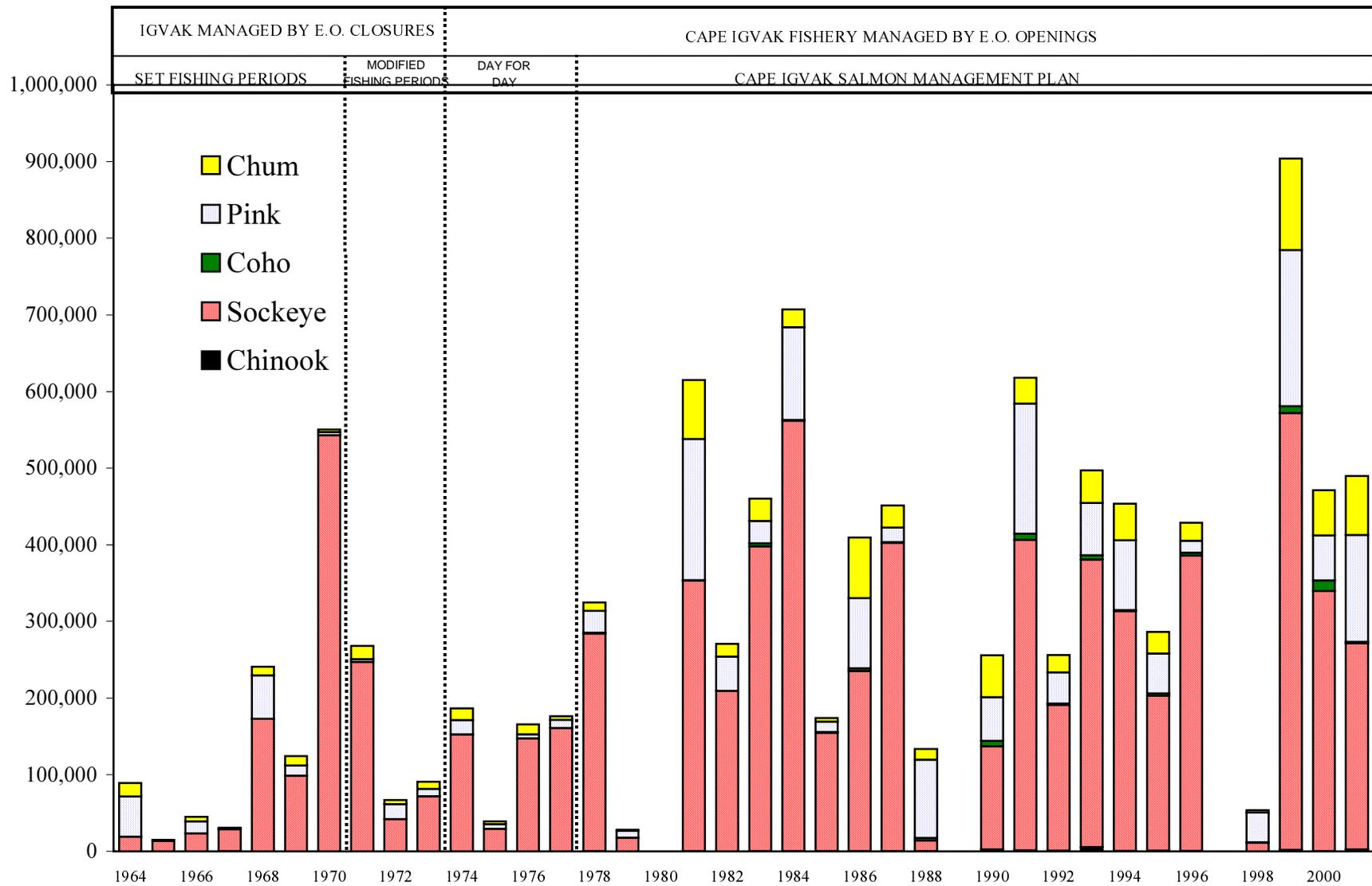


Figure 2. Commercial salmon harvest by species from the Cape Igvak and Wide Bay Sections for June 1 through July 25, 1964-2001.

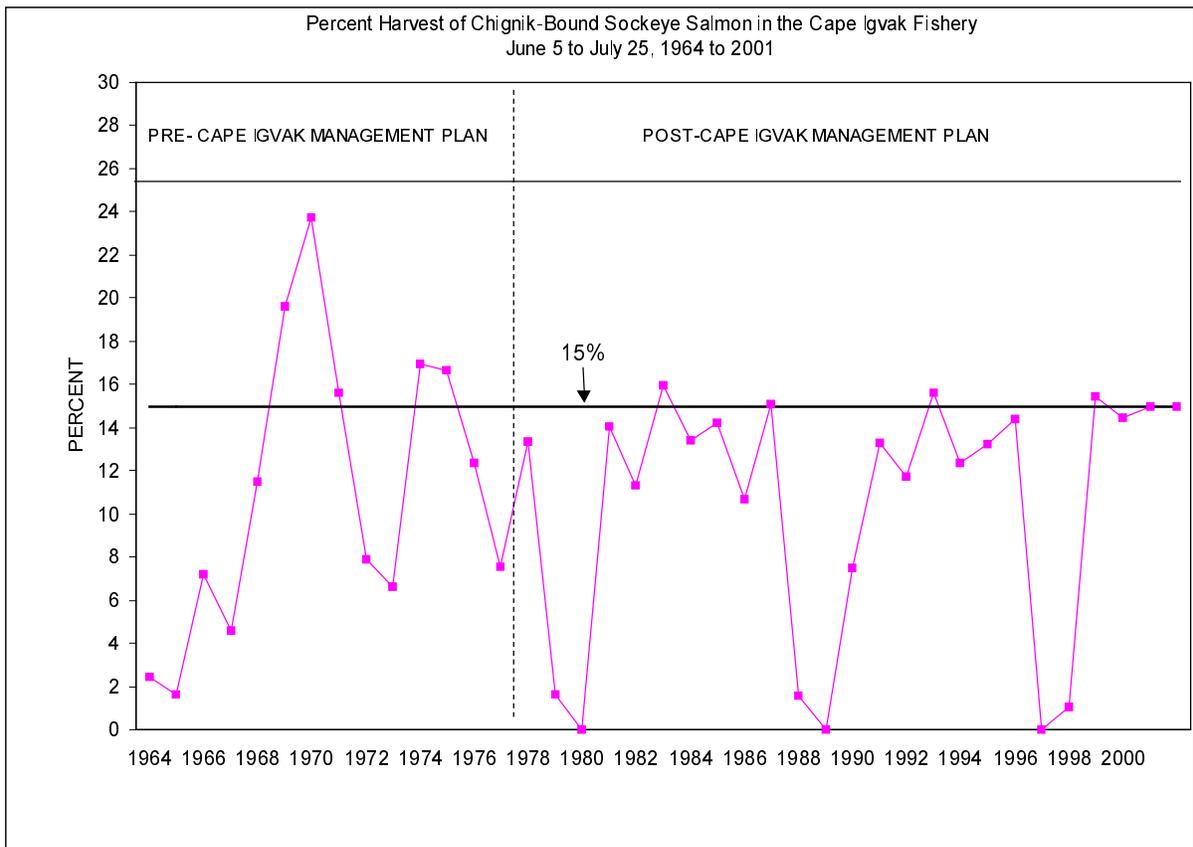
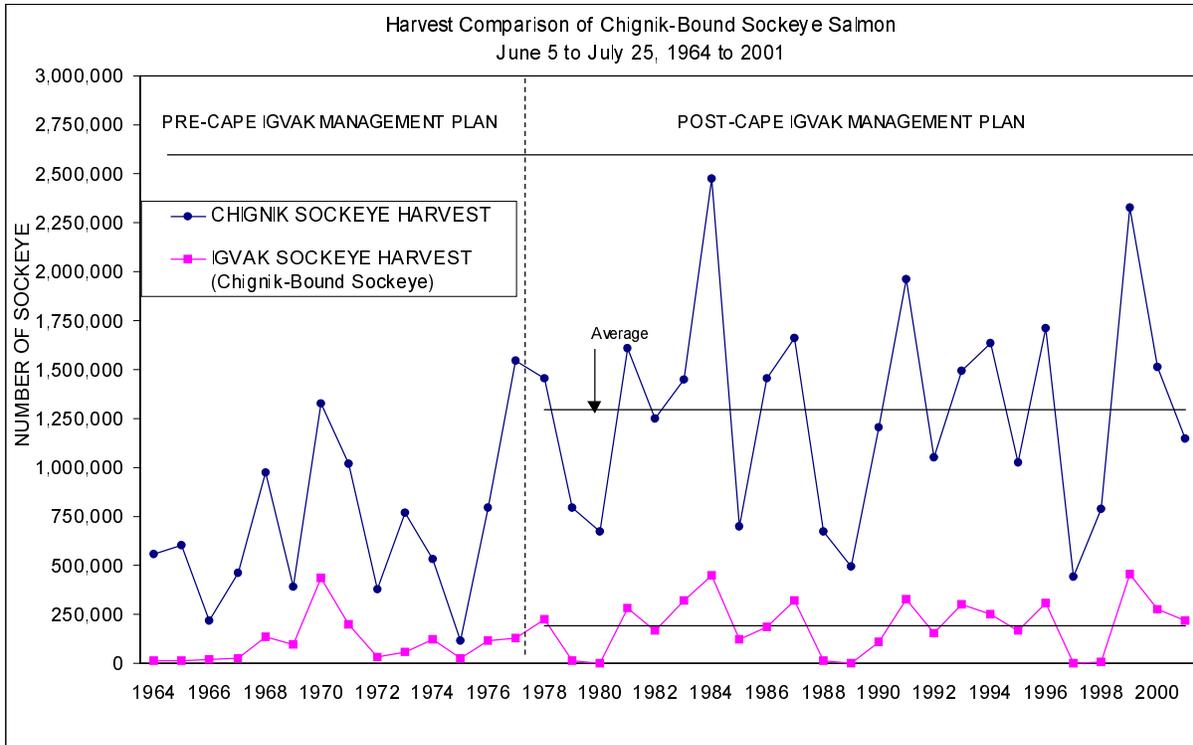


Figure 3. Impact of the Cape Igvak Salmon Management Plan, 1964 - 2001.

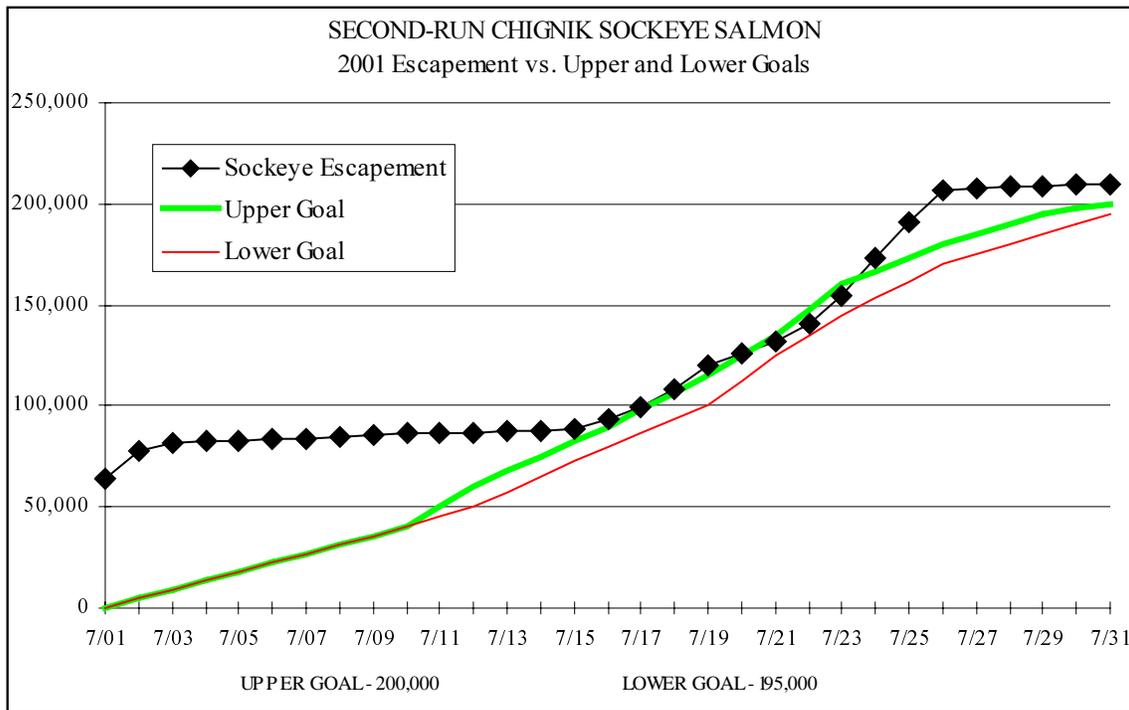
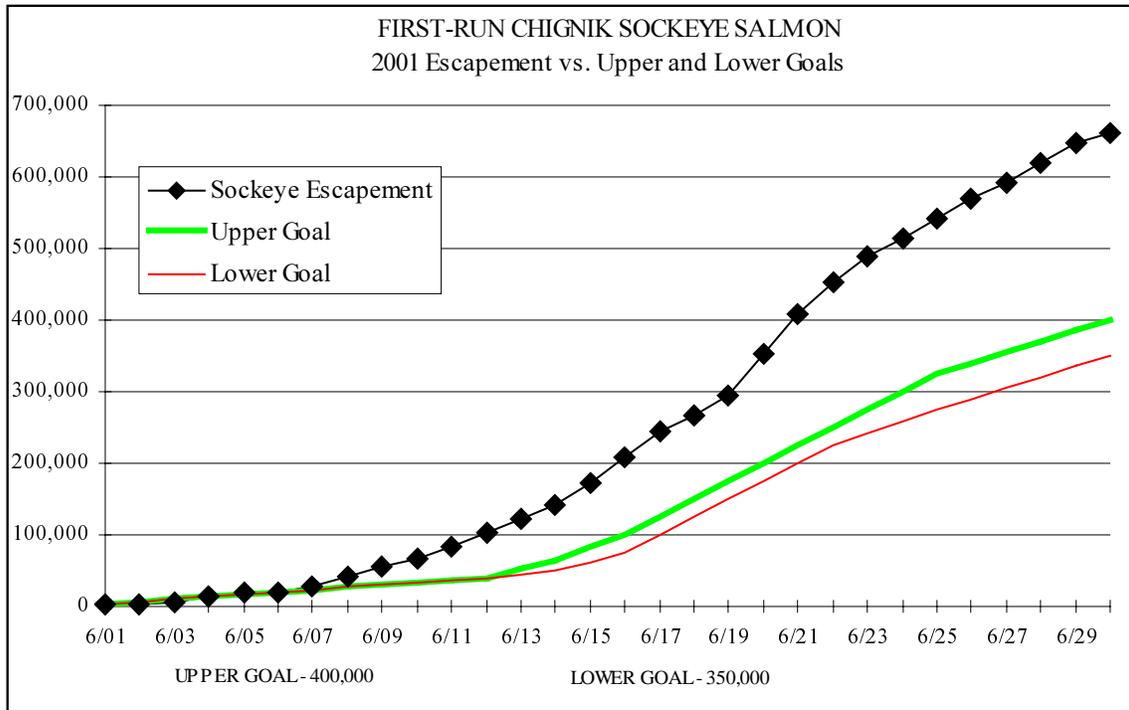


Figure 4. Chignik River sockeye salmon escapement and interim goals, for the first and second runs, 2001.

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