

**ALASKA DEPARTMENT OF FISH & GAME**



**CHIGNIK RIVER KING SALMON  
ACTION PLAN**

February 7, 2023

# CHIGNIK RIVER KING SALMON STOCK STATUS AND ACTION PLAN, 2023

## INTRODUCTION

### SYNOPSIS

In October of 2022, the department recommended that the Alaska Board of Fisheries (board) designate Chignik River (Figures 1, 2, and 3) king salmon as a stock of management concern at the regulatory board meeting for the Chignik, Alaska Peninsula, and Aleutian Islands meeting in February 2023<sup>1</sup>. This recommendation was based on guidelines established in the *Policy for Management of Sustainable Salmon Fisheries* (SSFP; 5 AAC 39.222). The SSFP states that “management concern means a concern arising from a chronic inability, despite use of specific management measures, to maintain escapements for a salmon stock within the bounds of the SEG, BEG, OEG, or other specific management objectives for the fishery...” Chronic inability is further defined in the SSFP as “...the continuing or anticipated inability to meet escapement thresholds over a 4 to 5-year period...” based on the generation time of most salmon species. Despite specific management measures taken by the department to reduce harvest in the commercial, sport, and subsistence fisheries since 2006, the Chignik River king salmon stock has continued to decline and failed to make the escapement goal for 5 of the last 6 years (Table 1, Figure 4).

This action plan summarizes historical assessment of annual run size and describes the existing regulations and emergency order (EO) authority that the Alaska Department of Fish and Game (department) follows to manage Chignik River king salmon. Options are then presented for potential management actions for the commercial, sport, and subsistence fisheries, as well as research projects for the Chignik River king salmon stock.

### STOCK ASSESSMENT AND ESCAPEMENT GOAL HISTORY

The Chignik River weir has been operated to assess salmon escapement to the Chignik River since 1922. Since 1978, the Chignik River king salmon escapement has ranged from 669 in 1980 to 7,633 fish in 2004 (Table 1; Figure 4). After 2006, there was a decline in productivity, as measured both by total harvest and escapement, similar to other king salmon runs around the state (ADF&G Chinook Salmon Research Team 2013). During the recent 10-year period (2013–2022), escapements have averaged 1,401 fish compared to the 10-year average prior to 2006 (1996–2005) of 4,293 fish. The most recent escapement in 2022 of 724 king salmon was the lowest in recent history. The decline in escapement was not due to increased harvests (sport, subsistence, and commercial combined), which also declined from an average of 1,997 (1996–2005) to 557 (2013–2022).

For each of the last three years (2020–2022) and five of the last six years (2017–2018 and 2020–2022) Chignik River king salmon escapements have been below the biological escapement goal (BEG) of 1,300–2,700 fish (Schaberg et al. *In prep*; Figure 4). During this period, escapements ranged from 1,417 fish in 2019 to 724 fish in 2022 (Table 1). The BEG has been in place since 2002.

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<sup>1</sup> Unpublished memorandum from ADF&G directors Sam Rabung and Dave Rutz to Alaska Board of Fisheries, October 4, 2019.

## **HABITAT**

The Chignik River drainage is located within land managed by both the U.S. Fish and Wildlife Service's Alaska Peninsula National Wildlife Refuge and by private Alaska Native corporations. The habitat is considered pristine with no habitat-related concerns identified for Chignik River king salmon.

## **HARVEST MANAGEMENT**

Chignik River king salmon are harvested in the Chignik Management Area (CMA) by a commercial fishery in Chignik Lagoon and nearby salt water and by intermittent subsistence and sport fisheries in the Chignik River drainage and Chignik Lagoon (Figures 1, 2, 3).

Sport fishing regulations for Chignik River king salmon allow a bag and possession limit of two king salmon with a five-fish annual limit and an open season of January 1 through August 9. The sport fishery has become increasingly more restricted since 2017, and participation in the Chignik sport fisheries has declined concurrently, resulting in low sport fish harvests. The Chignik River king salmon sport fishery is characterized by low participation rates in both the guided and unguided fisheries to the extent that in most years, participation is too low for the Statewide Harvest Survey<sup>2</sup> to provide estimates of sport harvest or effort, and previously available freshwater guide logbook information is confidential, with fewer than 4 guide businesses reporting annually. To estimate escapement postseason, a proxy of 100 king salmon is used for sport harvest above the weir when harvest is allowed. When harvest restrictions are in place, the sport harvest is estimated by applying the percent of days the sport fishery is open from the first escapement through the end of the regulatory season to the 100 fish proxy used for sport harvests in other years (Table 1). The department began taking inseason management actions in the sport fishery to conserve Chignik River king salmon in 2012 and 2013, and in most years since 2017, the department has used the commissioner's emergency order (EO) authority to implement inseason bag limit restrictions, nonretention regulations, and (or) total king salmon fishery closures for each of the last 6 years except for 2019 (Table 2, Figure 4).

The Chignik area commercial salmon purse seine fishery typically targets sockeye, pink, and coho salmon. During these fisheries, king salmon are harvested incidentally. Since 2013, the department has restricted the Chignik Bay District, and sometimes the Central District, to nonretention of king salmon 28 inches or greater when king salmon escapement appears weak and commercial fishing is occurring (Table 3). The mortality of king salmon released from commercial seine vessels in the CMA is unknown, and there are no annual estimates of the number of king salmon caught and released in the CMA commercial salmon fishery.

Overlapping state and federal subsistence fisheries also take place within the Chignik River drainage and a state subsistence fishery takes place in Chignik Lagoon and elsewhere within the CMA. A permit is required to participate in both the state and federal subsistence fishery; unlike most other subsistence fisheries that require a permit, the Chignik permit is an individual permit, not a household permit. The state subsistence fishery is closed from July 1 to August 31 by regulation [5 AAC 01.475(1)] in the Chignik River between the Chignik weir and Chignik Lake. Legal gear in the state subsistence fishery is seines and gillnets, or as specified on the permit, except that in Chignik Lake, salmon may not be taken with purse seines.

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<sup>2</sup> Alaska Department of Fish and Game's Alaska Sport Fishing Survey. <http://www.adfg.alaska.gov/sf/sportfishingsurvey/>.

Federal subsistence fisheries are allowed in the CMA for residents of the Chignik Area and legal gear includes rod and reel in addition to seines and gillnets. The federal subsistence fishery in the Chignik River between the weir and Chignik Lake is open to rod and reel fishing January 1 through August 9.

The average subsistence king salmon harvest reported on state subsistence permits during 2013–2022 is 11 fish (Table 1). Prior to 2002, reported subsistence harvest was much higher and averaged 120 fish from 1993 to 2002 (Table 1). From 2003 through 2012, subsistence harvests on state permits were reported as zero fish. In response to poor king salmon returns, beginning in 2018, the department began restricting the king salmon subsistence fishery in the CMA state subsistence fishery, and has each year since except for 2019 (Table 4).

## **ACTION PLAN FOR ADDRESSING STOCK OF CONCERN**

### **COMMERCIAL FISHERIES MANAGEMENT ACTIONS**

#### **Past Management Actions**

Although there is not a commercial fishery management plan for king salmon in the CMA, fishery managers have responded to the recent declines with inseason management actions designed to reduce harvests when king salmon runs were low. The department has opted to restrict the Chignik Bay District, and often the Central District, to nonretention of king salmon greater than 28 inches when king salmon runs were weak. The department has not taken action to restrict time and area of commercial fishing opportunity based on king salmon run strength.

5 AAC 15.357(b)(3)(C) *Chignik Salmon Management Plan* allows the commissioner may take additional EO actions to protect or harvest local pink, chum, king, and coho salmon runs within the Chignik Bay and Central Districts, as well as the Inner Castle Cape Subsection of the Western District.

#### **Recommended Management Actions**

##### **Action #1**

Status quo. Maintain regulations as currently specified in 5 AAC 15.357. *Chignik Salmon Management Plan*. The plan regulates commercial seine fisheries in the CMA. The commissioner may take additional actions by EO to protect king salmon within the Chignik Bay and Central Districts, as well as the Inner Castle Cape Subsection of the Western District.

##### **Specific Actions:**

The department manages fisheries to achieve the Chignik River king salmon BEG of 1,300–2,700 fish. Most commercial salmon regulatory openings in the Chignik Bay and Central Districts, as well as the Inner Castle Cape Subsection of the Western District are based on Chignik River system sockeye salmon escapement. When inseason indicators suggest the Chignik River king salmon run will not achieve the BEG, the department takes EO action in the Chignik Bay and Central Districts to restrict retention of king salmon 28 inches or greater. The department considers this a precautionary approach to limit the number of local king salmon caught incidentally when fishermen are targeting sockeye salmon.

##### **Background:**

King salmon harvests in the CMA commercial fisheries are incidental to other species that are targeted. Currently, there are no management plans for the CMA that provide specific direction

about king salmon management. However, the department does have EO authority to limit the harvest of king salmon by requiring the release of king salmon over 28 inches in length within the CMA. Since 2013, the department has restricted the Chignik Bay District, and sometimes Central District, to nonretention of king salmon 28 inches or greater when inseason indicators suggest the Chignik River king salmon escapement will not achieve the BEG and commercial fishing is occurring. This restriction has been put in place as early as July 13 and has occurred in 3 of the past 6 seasons (Table 3). This restriction was not issued in 2018 or 2020 due to the lack of commercial fishing opportunities. On average, approximately 50% of the run occurs by July 16, and 90% of the Chignik River king salmon escapement takes place by August 5 (Figure 5).

#### Benefits:

The current plan allows the department to effectively manage the sockeye salmon runs to the Chignik River system while releasing king salmon in years of weak king salmon runs.

#### Detriments:

Mortality on king salmon released from commercial purse seines in the CMA is unknown, and there is no estimate of the number of king salmon caught and released annually in the CMA fishery. Due to the smaller run size, it is also difficult to know if the king salmon run is weak until a significant portion of the run has passed, leading to EO restriction after much of the run has occurred.

#### Action #2

Adopt a regulation that restricts the Chignik Bay and Central Districts, as well as the Castle Cape Section of the Western District (Figure 2) to nonretention of king salmon greater than 28 inches until the department determines that the king salmon BEG will be achieved.

#### Specific Actions:

The department manages fisheries to achieve the Chignik River king salmon BEG of 1,300–2,700 fish. The majority of the commercial salmon regulatory openings in the Chignik Bay and Central Districts, as well as the Inner Castle Cape Subsection of the Western District are based on Chignik River system sockeye salmon escapement. Under this regulation, retention of king salmon 28 inches or greater would preemptively be restricted in the Chignik Bay and Central Districts, as well as the Castle Cape Section of the Western District until it is clear the king salmon BEG will be achieved. Depending on the strength of the king salmon run, it is likely the department would not be able to lift this restriction until mid-July.

#### Background:

King salmon harvests in the CMA commercial fisheries are incidental to other species. Currently, there are no management plans for the CMA that provide specific direction about king salmon management. However, the department does have EO authority to limit the harvest of king salmon by requiring the release of king salmon over 28 inches in length within the CMA. Since 2013, the department has restricted the Chignik Bay District, and sometimes Central District, to nonretention of king salmon 28 inches or greater when inseason indicators suggest the Chignik River king salmon escapement will not achieve the BEG and commercial fishing is occurring. This restriction has been put in place as early as July 13 and has occurred in 3 of the past 6 seasons (Table 3). This restriction was not issued in 2018 or 2020 due to the lack of commercial fishing opportunities. On average, approximately 50% of the run occurs by July 16, and 90% of the Chignik River king salmon escapement takes place by August 5 (Figure 5).

#### Benefits:

Restricting the commercial seine fishery in the Chignik Bay and Central Districts, as well as the Castle Cape section of the Western District, until the department determines the king salmon BEG will be reached would preemptively ensure the survival of more king salmon earlier in the run.

Detriments:

The majority of the Chignik River king salmon run occurs within the month of July. Restricting the Chignik Bay and Central Districts, as well as the Castle Cape section of the Western District, to nonretention of king salmon 28 inches or greater may cause unnecessary difficulty for fishermen targeting sockeye salmon, particularly earlier in the season and further from the Chignik River drainage where it is unknown what proportion of king salmon caught would be Chignik River system bound. Mortality on king salmon released from commercial purse seines in the CMA is unknown, and there is no estimate of the number of king salmon caught and released annually in the CMA fishery.

**Action #3**

Adopt a regulation that restricts the CMA to nonretention of king salmon greater than 28 inches until August 6, when more than 90% of the run has occurred, on average.

Specific Actions:

The department manages fisheries to achieve the Chignik River king salmon BEG of 1,300–2,700 fish. The majority of the commercial salmon regulatory openings in the CMA are based on Chignik River system sockeye salmon escapement. Pink and chum salmon escapements are also used within the Eastern, Central, Western, and Perryville Districts. Under this regulation, retention of king salmon 28 inches or greater would preemptively be restricted in the CMA until August 6.

Background:

King salmon harvests in the CMA commercial fisheries are incidental to other species. Currently, there are no management plans for the CMA that provide specific direction about king salmon management. However, the department does have EO authority to limit the harvest of king salmon by requiring the release of king salmon over 28 inches in length within the CMA. Since 2013, the department has restricted the Chignik Bay District, and sometimes Central District, to nonretention of king salmon 28 inches or greater when the Chignik River king salmon escapement appears weak and commercial fishing is occurring. This restriction has been put in place as early as July 13 and has occurred in 3 of the past 6 seasons (Table 3). This restriction was not issued in 2018 or 2020 due to the lack of commercial fishing opportunities. On average, approximately 50% of the run occurs by July 16, and 90% of the Chignik River king salmon escapement takes place by August 5 (Figure 6).

Benefits:

Restricting the commercial seine fishery in the CMA would preemptively ensure the survival of more king salmon earlier in the run.

Detriments:

The majority of the Chignik River king salmon run occurs within the month of July. Restricting the entire CMA to nonretention of king salmon 28 inches or greater may cause unnecessary difficulty for fishermen targeting sockeye salmon, particularly earlier in the season and further from the Chignik River drainage where it is unknown what proportion of king salmon caught would be Chignik River system bound. Mortality on king salmon released from commercial purse seines in the CMA is unknown, and there is no estimate of the number of king salmon caught and released annually in the CMA fishery.

#### **Action #4**

Adopt a regulation that restricts fishing time in the Chignik Bay, Central, and Western Districts in July.

#### **Specific Actions:**

The department manages fisheries to achieve the Chignik River king salmon BEG of 1,300–2,700 fish. The majority of the commercial salmon regulatory openings in the Chignik Bay and Central and Western Districts are based on Chignik River system sockeye salmon escapement. Pink and chum escapement are also used in the Central and Western Districts. Under this regulation, fishing time would be restricted in the Chignik Bay, Central, and Western Districts for the month of July.

#### **Background:**

King salmon harvests in the CMA commercial fisheries are incidental to other species. Currently, there are no management plans for the CMA that provide specific direction about king salmon management. However, the department does have EO authority to limit the harvest of king salmon by requiring the release of king salmon over 28 inches in length within the CMA. Since 2013, the department has restricted the Chignik Bay District, and sometimes Central District, to nonretention of king salmon 28 inches or greater when inseason indicators suggest the Chignik River king salmon escapement will not achieve the BEG and commercial fishing is occurring. This restriction has been put in place as early as July 13 and has occurred in 3 of the past 6 seasons (Table 3). This restriction was not issued in 2018 or 2020 due to the lack of commercial fishing opportunities. On average, approximately 50% king salmon passage at the weir occurs by July 16, and 90% of the Chignik River king salmon escapement passes the weir by August 5 (Figure 5).

#### **Benefits:**

The majority of the Chignik River king salmon run occurs within the month of July. Restricting the commercial seine fishery in the Chignik Bay, Central and Western Districts would prevent harvest of king salmon as well as incidental mortality that occurs from nonretention during most of the run.

#### **Detriments:**

Restricting fishing time in the Chignik Bay, Central and Western Districts, would result in significant loss of harvest opportunity for fishermen and may result in escapement of other salmon species over the bounds of their respective goals. It is unknown what proportion of king salmon are Chignik River system bound at any given time or place within the CMA, but it is generally assumed to be low outside of the Chignik Bay District.

### **SPORT FISHERY MANAGEMENT ACTIONS**

#### **Past Management Actions**

Regulations for the Chignik River king salmon sport fishery have primarily been covered by sport fishing regulations designated for the Alaska Peninsula, which stipulate a two-fish bag and possession limit and a five-fish annual limit. For the Chignik River, there is a king salmon season from January 1 through August 9. More recently, EOs have been used to manage the Chignik River king salmon sport fishery.

The commissioner may change bag and possession limits and annual limits and alter methods and means in sport fisheries by EO (5 AAC 75.003). These changes may not reduce the allocation of harvest among other user groups, and a commissioner's EO may not supersede provisions for

increasing or decreasing bag and possession limits or change methods and means specified in regulatory management plans established by the board.

The department first took inseason management actions to conserve Chignik River king salmon in 2012 and has used EO authority to implement inseason nonretention regulations and total fishery closures annually since 2017, except for 2019 (Table 2). In 2012, harvest of king salmon was prohibited midseason in the sport fishery; in 2013, harvest of king salmon was prohibited midseason in the sport fishery and then sport fishing for king salmon was closed shortly after; in 2017, sport fishing for king salmon was restricted midseason to nonretention and then subsequently closed; in 2018, sport fishing for king salmon was closed for the entire season; and from 2020 to 2022, sport fishing for king salmon was closed early in the season when it became apparent the king salmon run would not meet the BEG. In each year management actions have been taken in the sport fishery, the use of bait and treble hooks as also been restricted as a conservation measure (Table 2).

## **Potential Management Actions**

### **Action #1**

Status quo. Allow the department to continue using EO authority to manage the Chignik River king salmon stock to achieve the escapement goal and rebuild from the recent period of low productivity. Preseason or inseason sport fishery EO closures, as in many recent years, are the most restrictive management actions that can be implemented by the department.

#### **Specific Action:**

Use EO authority to allow the department the ability to restrict bag limits or methods and means or close the Chignik River king salmon sport fishery inseason as needed.

#### **Background:**

Chignik River is open to fishing for king salmon January 1–August 9. The king salmon bag and possession limit is 2 fish, 20 inches or greater in length, 10 fish less than 20 inches in length, and there is a five fish annual limit for fish 20 inches or greater in length. The department first took inseason management actions to conserve Chignik River king salmon in 2012 and has used EO authority to implement inseason nonretention regulations and total fishery closures annually since 2017, except for 2019 (Table 2). The use of bait and treble hooks has also been restricted to reduce the incidence of hooking related injury and mortality on king salmon.

#### **Benefits:**

The benefits of maintaining the department’s ability to manage Chignik River king salmon stocks inseason with EO authority are that timely and meaningful management actions can be based on inseason indicators of current run strength. The department has, and has used, EO authority to manage the sport fishery to achieve established escapement goals. As the Chignik River king salmon run rebuilds, the department would have the ability to return to more liberal bag limits and provide more angler opportunity prior to the next board meeting.

#### **Detriments:**

Because inseason actions are based on current data and are implemented in response to inseason indicators of the strength or weakness of a run, anglers will find less predictability in the timing and types of management actions that may be taken. Most anglers traveling to the Chignik River are with a guide service and plan their trips 6–18 months in advance.

### **Action #2**



Adopt a regulation that would create a limited Chignik River king salmon sport fishery with a reduced bag and annual limit and restrict the use of bait and treble hooks to prevent hooking related injury and mortality for fish caught and released.

Specific Action:

Take board action to restrict the sport harvest of Chignik River king salmon. The board would need to establish a reduced sport fishery bag, possession, and annual limit. In addition, bait would need to be prohibited, and gear would need to be restricted to single hooks for the duration of the king salmon season. The board would also need to define under what condition(s) the sport fishery could be liberalized, and to what extent, as well as whether to allow the use of bait in the sport fishery.

Background:

Chignik River is open to fishing for king salmon January 1–August 9. The king salmon bag and possession limit is two fish, 20 inches or greater in length, 10 fish less than 20 inches in length, and there is a five fish annual limit for fish 20 inches or greater in length. The department first took inseason management actions to conserve Chignik River king salmon in 2012 and has used EO authority to implement inseason nonretention regulations and total fishery closures annually since 2017, except for 2019 (Table 2). The use of bait and treble hooks has also been restricted to reduce the incidence of hooking related injury and mortality on king salmon.

Benefits:

Sport fishery restrictions in regulation would provide the most stable situation for anglers, most of whom are traveling to the Chignik River with a guide service, and nearly all of whom plan their trips 6–18 months in advance. A limited sport fishery would provide opportunity for some harvest as well as catch-and-release fishing after bag limits are filled. Similar regulations are in place on the Sandy River, on the north side of the Alaska Peninsula, which has a similar sport fishery. The intent of these regulations is to reduce the number of king salmon being harvested while still providing some opportunity to anglers fishing the drainage.

Detriments:

Restricting the fishery by regulation could limit the department’s ability to react to run strength inseason and liberalize the fishery if inseason run strength was better than anticipated. If a reduced bag limit was adopted and it was the intention of the board to have the fishery remain conservative, even if escapements were meeting or exceeding escapement goals, liberalizing the fishery could not be addressed until the next scheduled board meeting or if an agenda change request were accepted by the board.

**Action #3**

Adopt a regulation that would create a Chignik River king salmon nonretention fishery and that would restrict the use of bait and treble hooks as well.

Specific Action:

Take board action to restrict the sport harvest of Chignik River king salmon. The sport fishery would be limited to nonretention. In addition, bait would need to be prohibited, and gear would need to be restricted to single hooks for the duration of the king salmon season.

Background:

Chignik River is open to fishing for king salmon January 1–August 9. The king salmon bag and possession limit is two fish, 20 inches or greater in length, 10 fish less than 20 inches in length,

and there is a five fish annual limit for fish 20 inches or greater in length. The department first took inseason management actions to conserve Chignik River king salmon in 2012 and has used EO authority to implement inseason nonretention regulations and total fishery closures annually since 2017, except for 2019 (Table 2). The use of bait and treble hooks has also been restricted to reduce the incidence of hooking related injury and mortality on king salmon.

Benefits:

Sport fishery restrictions in regulation would provide the most stable situation for anglers, most of whom are traveling to the Chignik River with a guide service, and nearly all of whom plan their trips 6–18 months in advance. A nonretention fishery would provide opportunity for catch-and-release fishing with minimal impact to the run as well as provide predictability for anglers planning trips well in advance of potential fishery management actions. Similar regulations are in place on the Nelson River, on the north side of the Alaska Peninsula, which has a slightly larger king salmon run and a similar sport fishery. The intent of these regulations is to provide predictability in the sport fishery while limiting impact on the king salmon run.

Detriments:

Restricting the fishery by regulation could limit the department's ability to react to run strength inseason and liberalize the fishery if inseason run strength was better than anticipated. If a nonretention regulation was adopted and it was the intention of the board to have the fishery remain conservative, even if escapements were meeting or exceeding escapement goals, liberalizing the fishery could not be addressed until the next scheduled board meeting or if an agenda change request were accepted by the board.

**Action #4**

Adopt a regulation that would close the king salmon sport fishery in the Chignik River, as well as prohibit the use of bait and treble hooks in the drainage.

Specific Action:

Take board action to close the Chignik River king salmon sport fishery. In addition, prohibit the use of bait and restrict gear to single hooks for the duration of the king salmon season.

Background:

Chignik River is open to sport fishing for king salmon January 1–August 9. The king salmon bag and possession limit is two fish, 20 inches or greater in length, 10 fish less than 20 inches in length, and there is a five fish annual limit for fish 20 inches or greater in length. The department first took inseason management actions to conserve Chignik River king salmon in 2012 and has used EO authority to implement inseason nonretention regulations and total fishery closures annually since 2017, except for 2019 (Table 2). These actions were intended to reduce the harvest of king salmon in Chignik River sport fisheries. Additionally, the use of bait and treble hooks has been restricted to reduce the incidence of hooking related injury and mortality on king salmon.

Benefits:

A fishery closure in regulation would eliminate sport anglers targeting king salmon in the Chignik River and reduce catch and mortality of king salmon. There are few other sport fisheries in the drainage during the king salmon run, and incidental catches of king salmon would likely be very low.

Detriments:

Restricting the fishery by regulation would limit the department's ability to provide king salmon sport fishing opportunity if king salmon escapement goals were achieved and there was a harvestable surplus. Restrictions could not be addressed until the next scheduled board meeting, or if an agenda change request were accepted by the board. There is little effort for other species in the drainage, and a fishery closure would eliminate most of the sport fishing effort in the area during the summer.

## **SUBSISTENCE FISHERIES MANAGEMENT ACTIONS**

### **Past Management Actions**

In 1993, the board found that salmon in the CMA support customary and traditional (subsistence) uses (5 AAC 01.466). The board specified the amounts of salmon that are reasonably necessary for subsistence (ANS) for Chignik Bay, Central, and Eastern Districts combined as follows: 2,900–5,400 early-run sockeye salmon, 3,200–6,000 late-run sockeye salmon, 100–150 king salmon, and 400–700 salmon other than sockeye or king salmon. In the Perryville and Western Districts combined, the ANS findings are 1,400–2,600 coho salmon and 1,400–2,600 salmon other than coho salmon [5 AAC 01.466(b)].

The subsistence fishery was closed to king salmon retention by EO within the Chignik Bay District and the Chignik River drainage in 2018, and in 2020 through 2022 (Table 4).

The Federal Subsistence Board (FSB) has authorized a federal subsistence fishery for salmon for residents of the Chignik Area. Federally qualified users must obtain a state subsistence fishing permit (individual, not household), and the harvest limit is no more than 250 salmon, unless specified otherwise on the permit. Within the Chignik watershed, depending on the area, a federal subsistence fishing permit may also be required.

In 2020, 2021, and 2022, the Federal Office of Subsistence Manager closed all federal public waters in the Chignik River drainage to subsistence fishing for king salmon upstream of the Chignik River weir due to conservation concerns. King salmon could not be retained or possessed, and king salmon incidentally harvested had to be released immediately, without removing from the water.

### **Potential Management Actions**

#### **Action #1**

Status quo. The department is tasked with the management of salmon for priority subsistence uses and uses EO authority to manage subsistence fisheries.

#### **Specific Actions:**

When king salmon runs to the Chignik system are weak, the department can require nonretention of king salmon in the subsistence fishery in the Chignik Bay District and Chignik River system drainage.

#### **Background:**

Currently, there are no management plans directing the department on king salmon subsistence management. However, the department does have EO authority to limit the harvest of king salmon. In conjunction with federal subsistence fishery managers, the department has enforced nonretention of king salmon in the subsistence fishery when it was apparent the king salmon runs were weak.

Benefits:

Currently, the department has the ability to apply conservation measures in the state subsistence fisheries to protect Chignik River king salmon in years when runs are weak. Maintaining status quo ensures the regulations continue to provide a reasonable opportunity for priority subsistence uses of Chignik River king salmon.

Detriments:

During small runs, it is difficult to know if the king salmon run is weak or just arriving later than normal until a significant portion of the run has passed. This can lead to EO restriction in the subsistence fishery until after much of the run has occurred.

**SUMMARY OF POTENTIAL MANAGEMENT ACTIONS:**

<b>Fishery/Action number</b>	<b>Summary</b>	<b>Specific Action</b>
<b>CF/#1</b>	<b>Status quo. Maintain current EO management to apply nonretention of commercially-caught king salmon 28 inches or greater when the Chignik River king run is determined to be weak.</b>	<b>Continue using EO authority when necessary.</b>
<b>CF/#2</b>	<b>Restrict the Chignik Bay and Central Districts, as well as the Castle Cape section of the Western District, to nonretention of king salmon 28 inches or greater until the department determines the BEG of the Chignik River king run will be achieved.</b>	<b>Board action needed to create regulations.</b>
<b>CF#3</b>	<b>Restrict the CMA to nonretention of king salmon 28 inches or greater until August 6.</b>	<b>Board action needed to create regulations.</b>
<b>CF#4</b>	<b>Limit fishing time in the Chignik Bay, Central, and Western Districts in July.</b>	<b>Board action needed to create regulations.</b>
<b>SF/#1</b>	<b>Status quo. Continue to use EO authority to manage the Chignik River king salmon stock to achieve the escapement goal and rebuild from the recent period of low productivity.</b>	<b>Use EO authority to restrict the Chignik River king salmon sport fishery with additional restrictions or closures inseason as needed.</b>
<b>SF/#2</b>	<b>Limit the harvest of Chignik River king salmon by reducing bag, possession, and annual limit.</b>	<b>Board action needed to create regulations.</b>
<b>SF/#3</b>	<b>Restrict the Chignik River sport fishery by creating a nonretention fishery for king salmon and restrict the use of bait and treble hooks.</b>	<b>Board action needed to create regulations.</b>
<b>SF/#4</b>	<b>Close the Chignik River king salmon sport fishery by regulation and restrict the use of bait and treble hooks.</b>	<b>Board action needed to create regulations.</b>
<b>Sub/#1</b>	<b>Status quo. Maintain current EO management for a reasonable opportunity for success in subsistence harvests.</b>	<b>Continue using EO authority when necessary.</b>

## **RESEARCH PLAN**

The department currently assesses Chignik River king salmon escapement and harvests annually. The following research projects include current and past projects used to gather detailed information about king salmon in the Chignik River.

### **CURRENT MONITORING PROJECTS**

Salmon returning to the Chignik River are counted at a weir upstream from Chignik Lagoon, operated primarily for sockeye and king salmon. King salmon return from mid-June through late August, with the peak of the run usually in mid-July. The weir is operated generally from late May to late August or early September. All salmon are counted for 10 minutes at the start of every hour as they pass upstream of the weir. Counts are extrapolated to estimate escapement. It is currently anticipated that weir operation will continue in future years. An additional project counting all king salmon through full 24-hour video recordings during the central 90% of the run is also currently underway.

### **PAST RESEARCH PROJECTS**

In the past, king salmon age, sex, and length (ASL) data were collected opportunistically via both the weir trap and sport harvest then used to monitor quality, track productivity, and generate data needed to review and update escapement goals. However, due to budget constraints, king salmon ASL data have not been collected at all since 2017. It is doubtful ASL data will be collected in the future.

Published Division of Subsistence reports for the CMA include Alaska statewide subsistence and personal use salmon fisheries annual reports (see Brown et al. 2022 for the most recent example), periodic household surveys, subsistence salmon ethnographic studies, and a report outlining findings about the subsistence salmon fisheries in the CMA to the board. A summary of these research reports is below.

*Subsistence harvest assessment of salmon and local traditional knowledge of king salmon in the Chignik Management Area, 2014–2016* by Lisa Hutchinson-Scarborough and David Koster (2021, Technical Paper No. 462). The Chignik River supports the largest run of king salmon on the south side of the Alaska Peninsula. This study investigated the subsistence uses and harvests of salmon in the CMA communities of Chignik Lake, Chignik Lagoon, Chignik Bay, and Perryville from 2014 to 2016. Results from the research effort depict an overall decline in the amount and size of all salmon returning to the CMA area. The run timing of each species was also identified as having changed in recent years. Analysis of data collected from key respondent interviews included reasons stated by community members for the decline of king salmon in the CMA area.

*Subsistence salmon networks in select Bristol Bay and Alaska Peninsula communities, 2016* by Lisa Hutchinson-Scarborough, Drew Gerkey, Gabriela Halas, Cody Larson, Lauren A. Sill, James M. Van Lanen, and Margaret Cunningham (2020, Technical Paper No. 459). This report describes the results of a project that documented salmon harvest and use patterns in six Bristol Bay and Alaska Peninsula communities (Chignik Bay, Chignik Lagoon, Chignik Lake, Perryville, Port Heiden, and Egegik) for 2016 in order to illustrate the household and community networks that facilitate the harvesting, processing, sharing, bartering, and trading of subsistence salmon resources within the communities, across the broader region, and throughout Alaska. The study found that subsistence use of salmon was almost universal in the study communities in 2016 and that most households were engaged in the exchange of salmon.

*Chignik Bay, Chignik Lagoon, Chignik Lake, and Perryville: an Ethnographic Study of Traditional Subsistence Salmon Harvests and Uses* by Lisa Hutchinson-Scarborough, Meredith A. Marchioni, and Terri Lemons (2016, Technical Paper No. 390). Healthy salmon stocks are a vital component to the continued subsistence practices, food security, economic stability, and therefore the cultural continuity of the Alaska communities of Chignik Lake, Chignik Lagoon, Chignik Bay, and Perryville. This report describes contemporary subsistence salmon fishing practices, illustrates how subsistence fishing is important to the study communities, and explains what factors influence how fishing practices change over time. This report will ideally serve as a guide for fisheries managers to understand contemporary fishing practices, traditional ecological knowledge, and the importance of subsistence salmon fishing to the residents of Chignik Bay, Chignik Lagoon, Chignik Lake, and Perryville.

*Chignik Area subsistence salmon fisheries research report to the Alaska Board of Fisheries, January 2011* by Lisa Hutchinson-Scarborough, Terri Lemons, James A. Fall, Davin Holen, and Lisa Olson (2010, Special Publication No. BOF-2010-06, RC 3 Tab 9). This publication provided a summary of research findings about the CMA subsistence salmon fisheries to assist the board in deliberations during 2011.

*Fish and wildlife harvest and use in five Alaska Peninsula communities, 1989: subsistence uses in Chignik Bay, Chignik Lagoon, Chignik Lake, Ivanof Bay and Perryville* by James A. Fall, Lisa B. Hutchinson-Scarborough, and Philippa A. Coiley (1995, Technical Paper No. 202). The report describes fish and wildlife harvests and uses in 1989 in the Alaska Peninsula communities of Chignik Bay, Chignik Lagoon, Chignik Lake, Ivanof Bay, and Perryville. Demographic and other socioeconomic data are also presented.

*Subsistence uses of fish and wildlife in 15 Alutiiq villages after the Exxon Valdez Oil Spill* by James A. Fall (1991, Special Publication No. SP 1991-03). This publication discusses some of the results of research on subsistence uses of fish and wildlife in 15 Alutiiq villages, including Chignik Bay, Chignik Lagoon, Chignik Lake, Ivanof Bay, and Perryville affected by the *Exxon Valdez* oil spill of March 1989.

## **CONDITIONS FOR REDUCING MANAGEMENT RESTRICTIONS OR DELISTING A STOCK OF CONCERN**

1. If the lower bound of the BEG range is met or exceeded in three consecutive years or four out of six consecutive years and the department is expecting to meet the goal in future years, the department will recommend removing Chignik River king salmon as a stock of management concern at the first Chignik board meeting after this condition is met.
2. Management measures could be relaxed in specific areas if updated data indicates areas where restrictions are no longer needed to ensure the escapement goal is met.
3. In the event that 2 consecutive years of escapements are near the upper bound or above the BEG range, management restrictions may be relaxed or set aside using EO authority.

Stock status, action plan performance (including information on harvest rate, distribution, and timing in commercial fisheries), and escapement goal review will be updated in a report to the board at the 2026 Chignik, Alaska Peninsula, and Aleutian Islands meeting.

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## **TABLES.**



Table 1.—Chignik River king salmon harvest and escapement, 1978–2022.

Year	Commercial harvest <sup>a</sup>	Subsistence harvest <sup>b</sup>	Sport harvest above weir <sup>c</sup>	Weir count	Escapement <sup>d</sup>	BEG	
						Lower bound	Upper bound
1978	1,386	50	207	1,197	990	–	–
1979	856	14	207	1,050	843	–	–
1980	929	6	207	876	669	–	–
1981	2,006	0	207	1,603	1,396	–	–
1982	3,269	3	207	2,412	2,205	–	–
1983	3,560	0	207	1,943	1,736	–	–
1984	3,696	23	207	5,548	5,341	–	–
1985	1,810	1	207	3,144	2,937	–	–
1986	2,592	4	207	3,612	3,405	–	–
1987	1,931	10	207	2,624	2,417	–	–
1988	4,331	9	233	4,868	4,635	–	–
1989	3,532	24	181	3,316	3,135	–	–
1990	3,719	103	207	4,364	4,157	–	–
1991	1,993	42	207	4,545	4,338	–	–
1992	3,179	55	207	3,806	3,599	–	–
1993	5,240	122	207	1,946	1,739	–	–
1994	1,804	165	207	3,016	2,809	1,450	2,700
1995	3,008	98	207	4,288	4,081	1,450	2,700
1996	1,579	48	207	3,485	3,278	1,450	2,700
1997	1,289	28	207	3,824	3,617	1,450	2,700
1998	1,700	91	207	3,075	2,868	1,450	2,700
1999	2,101	243	207	3,728	3,521	1,450	2,700
2000	581	163	207	4,285	4,078	1,450	2,700
2001	1,142	171	207	2,992	2,785	1,450	2,700
2002	920	74	207	3,028	2,821	1,300	2,700
2003	2,834	0	207	6,412	6,205	1,300	2,700
2004	2,337	0	207	7,840	7,633	1,300	2,700
2005	2,442	0	361	6,486	6,125	1,300	2,700
2006	1,941	0	245	3,535	3,290	1,300	2,700
2007	641	0	198	2,000	1,802	1,300	2,700
2008	208	0	65	1,730	1,665	1,300	2,700
2009	496	0	103	1,680	1,577	1,300	2,700
2010	1,480	0	215	3,679	3,464	1,300	2,700
2011	1,382	0	265	2,728	2,463	1,300	2,700
2012	303	37	61	1,449	1,388	1,300	2,700
2013	545	10	83	1,253	1,170	1,300	2,700
2014	353	34	88	2,895	2,807	1,300	2,700
2015	1,572	37	112	2,054	1,942	1,300	2,700
2016	664	1	100	1,843	1,743	1,300	2,700
2017	410	4	58	1,137	1,079	1,300	2,700
2018	0	1	56	825	769	1,300	2,700
2019	1,137	1	100	1,517	1,417	1,300	2,700

-continued-

Table 1.–Page 2 of 2.

Year	Commercial harvest <sup>a</sup>	Subsistence harvest <sup>b</sup>	Sport harvest above weir <sup>c</sup>	Weir count	Escapement <sup>d</sup>	BEG	
						Lower bound	Upper bound
2020	0	13	55	1,278	1,223	1,300	2,700
2021	38	0	37	1,172	1,135	1,300	2,700
2022	27	<sup>e</sup>	37	761	724	1,300	2,700
Average							
2013–2022	475	11	73	1,474	1,401	–	–
2018–2022	240	4	57	1,111	1,054	–	–

Source: ADF&G, Division of Commercial Fisheries Kodiak.

<sup>a</sup> Commercial harvest of king salmon from the Chignik Lagoon statistical area (271-10). This does not include personal use (home-pack) or test fishery harvest.

<sup>b</sup> Subsistence harvest is from Chignik Lagoon as reported on state subsistence permit reports.

<sup>c</sup> Sport harvest in 1988 and 1989 was estimated from an onsite creel survey (Schwarz 1990). Sport harvest from 1977 through 1987 and 1990 through 2004 is the average of the 1988 and 1989 sport harvests. Sport harvest from 2005 to 2015 was estimated using guided logbook harvest. From 2016 to present, harvest information was unavailable and estimated to be 100 fish harvested above the weir (based on historical harvests) unless the fishery was closed to harvest, and then the estimated harvest was the percent of days the fishery was open from the first fish passage to the regulatory close of the season multiplied by 100.

<sup>d</sup> Escapement is weir count minus sport harvest above the weir.

<sup>e</sup> Subsistence harvest is currently not available for 2022.

Table 2.–Chignik River king salmon sport fishery management actions, 2012–2022.

Year	Action	Effective date
2012	Nonretention, bait and treble hooks prohibited	15 July
2013	Nonretention, bait and treble hooks prohibited	20 July
	Closed, bait and treble hooks prohibited	26 July
2017	Nonretention, bait and treble hooks prohibited	14 July
	Closed, bait and treble hooks prohibited	23 July
2018	Closed, bait and treble hooks prohibited	13 July
2020	Closed, bait and treble hooks prohibited	18 July
2021	Closed, bait and treble hooks prohibited	14 July
2022	Closed, bait and treble hooks prohibited	13 July

*Note:* Years with no action are not included.

Table 3.–Chignik king salmon commercial fisheries management actions, 2012–2022<sup>a</sup>.

Year	Action	Effective date
2013	Nonretention of king salmon (over 28") in Chignik Bay District commercial fishery	20 July
	Nonretention of king salmon (over 28") in the Central District commercial fishery	21 July
2017	Nonretention of king salmon (over 28") in Chignik Bay District commercial fishery	15 July
	Nonretention of king salmon (over 28") in Central District commercial fishery	2 August
2021	Nonretention of king salmon (over 28") in Chignik Bay District commercial fishery	5 August
2022	Nonretention of king salmon (over 28") in Chignik Bay District commercial fishery.	12 Jul

*Note:* Years with no action are not included.

Table 4.–Chignik king salmon subsistence fishery management actions, 2012–2022.

Year	Action	Effective date
2018	Nonretention in the subsistence fishery	12 July
2020	Nonretention in the subsistence fishery	16 July
2021	Nonretention in the subsistence fishery	14 July
2022	Nonretention in the subsistence fishery	11 July

*Note:* Years with no action are not included.

Table 3.—Chignik Management Area king salmon harvest (including home pack and the department’s test fishery catches), by district and year, 1990 through 2022.

Year	District				
	Chignik Bay	Central	Eastern	Western	Perryville
1990	3,719	2,175	175	3,190	642
1991	1,996	775	165	197	24
1992	3,181	2,010	181	4,300	1,160
1993	5,240	6,865	2,568	3,113	1,729
1994	1,808	1,303	43	452	313
1995	3,219	845	108	897	424
1996	1,590	1,022	263	162	108
1997	1,384	1,609	60	60	7
1998	1,805	1,798	79	567	254
1999	2,270	852	147	216	22
2000	598	530	53	1,421	10
2001	1,235	770	302	627	5
2002	920	17	0	584	0
2003	2,834	189	0	45	0
2004	2,520	0	0	0	0
2005	2,714	391	0	297	6
2006	2,009	165	3	79	0
2007	667	421	152	532	1
2008	219	195	16	503	37
2009	552	552	199	1,987	29
2010	1,564	2,420	834	5,476	86
2011	1,462	2,154	639	2,118	213
2012	330	1,878	185	1,284	10
2013 <sup>a</sup>	592 <sup>a</sup>	1,249 <sup>a</sup>	398	668	52
2014	363	4,302	75	4,054	52
2015	1,648	3,172	115	4,249	20
2016	693	15,865	413	2,446	1,302
2017 <sup>a</sup>	447 <sup>a</sup>	1,125 <sup>a</sup>	534	1,594	246
2018	0	0	0	0	0
2019	1,140	349	862	1,281	680
2020	0	0	0	0	0
2021 <sup>a</sup>	40 <sup>a</sup>	623	44	679	36
2022 <sup>a</sup>	27 <sup>a</sup>	1,843	2	1,559	199
Averages <sup>b</sup>					
5-year	302	704	227	880	229
10-year	550	3,170	271	1,837	287
20-year	1,043	1,942	235	1,518	156

<sup>a</sup> Nonretention over 28-inches enforced mid-season.

<sup>b</sup> Averages do not include 2020 due to no commercial fishing opportunity.

## **FIGURES**

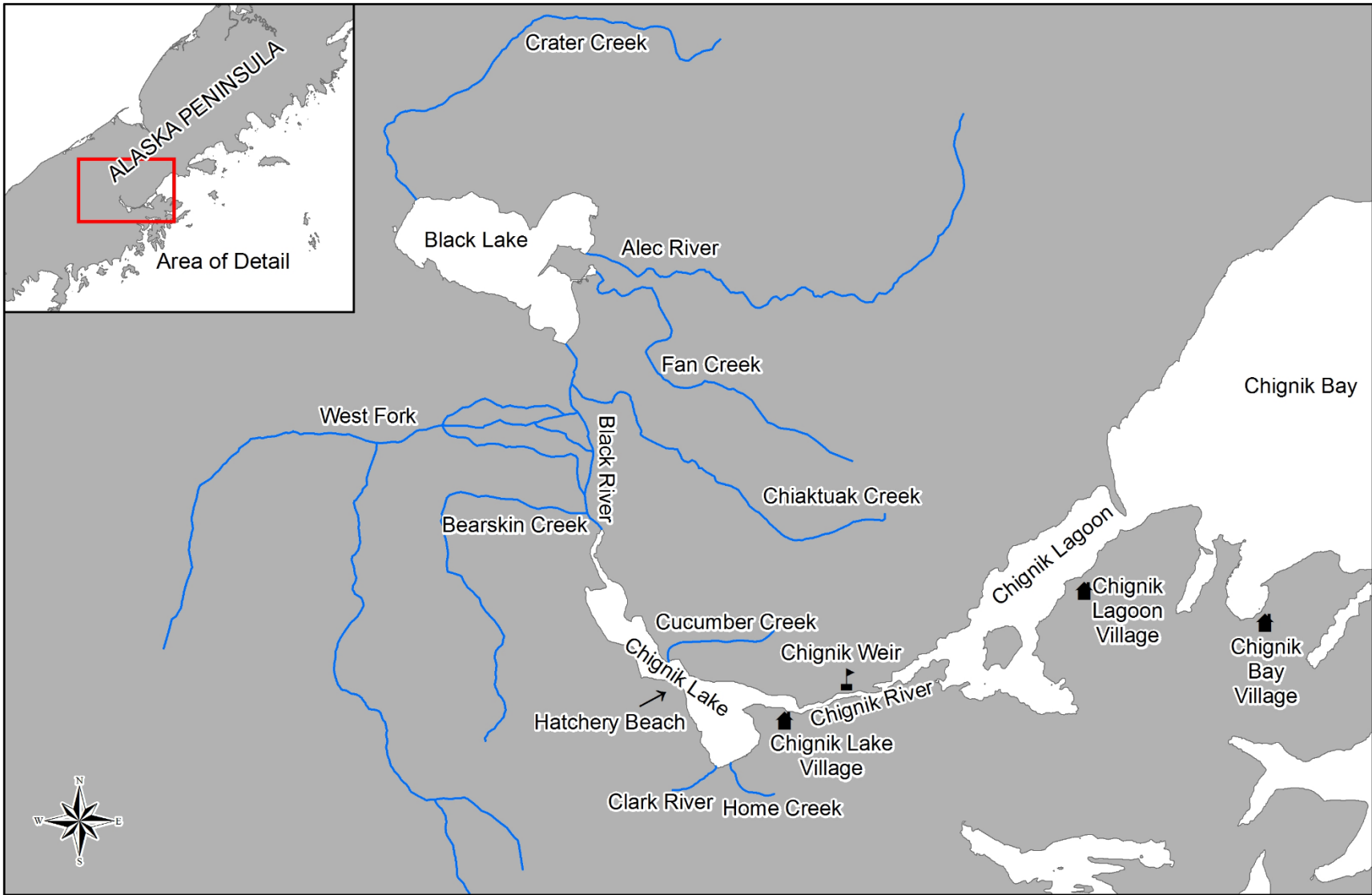


Figure 1.-Chignik River Drainage, Chignik Bay and Chignik Lagoon.

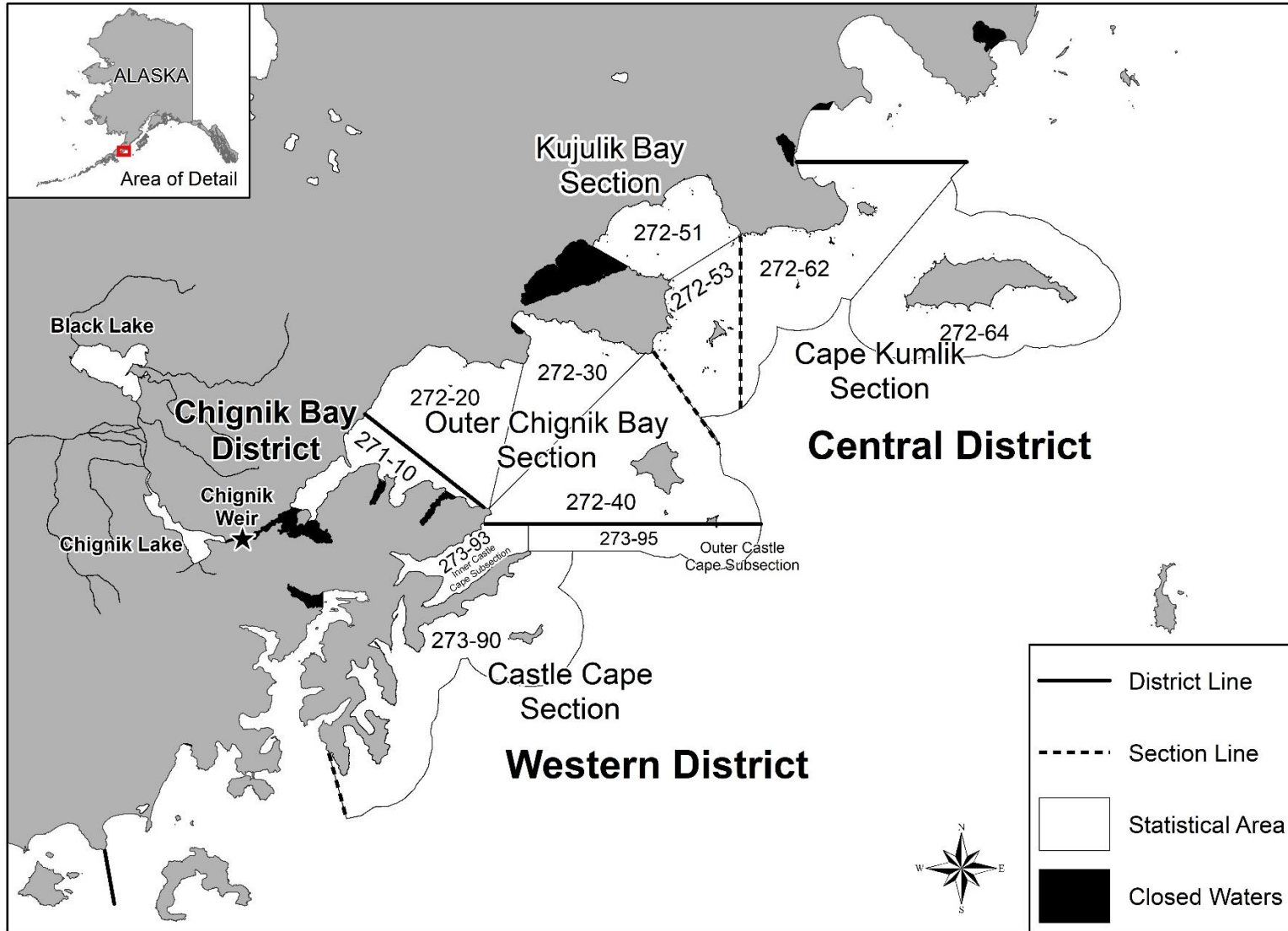


Figure 2.—Commercial fisheries management districts and sections located near Chignik Bay.

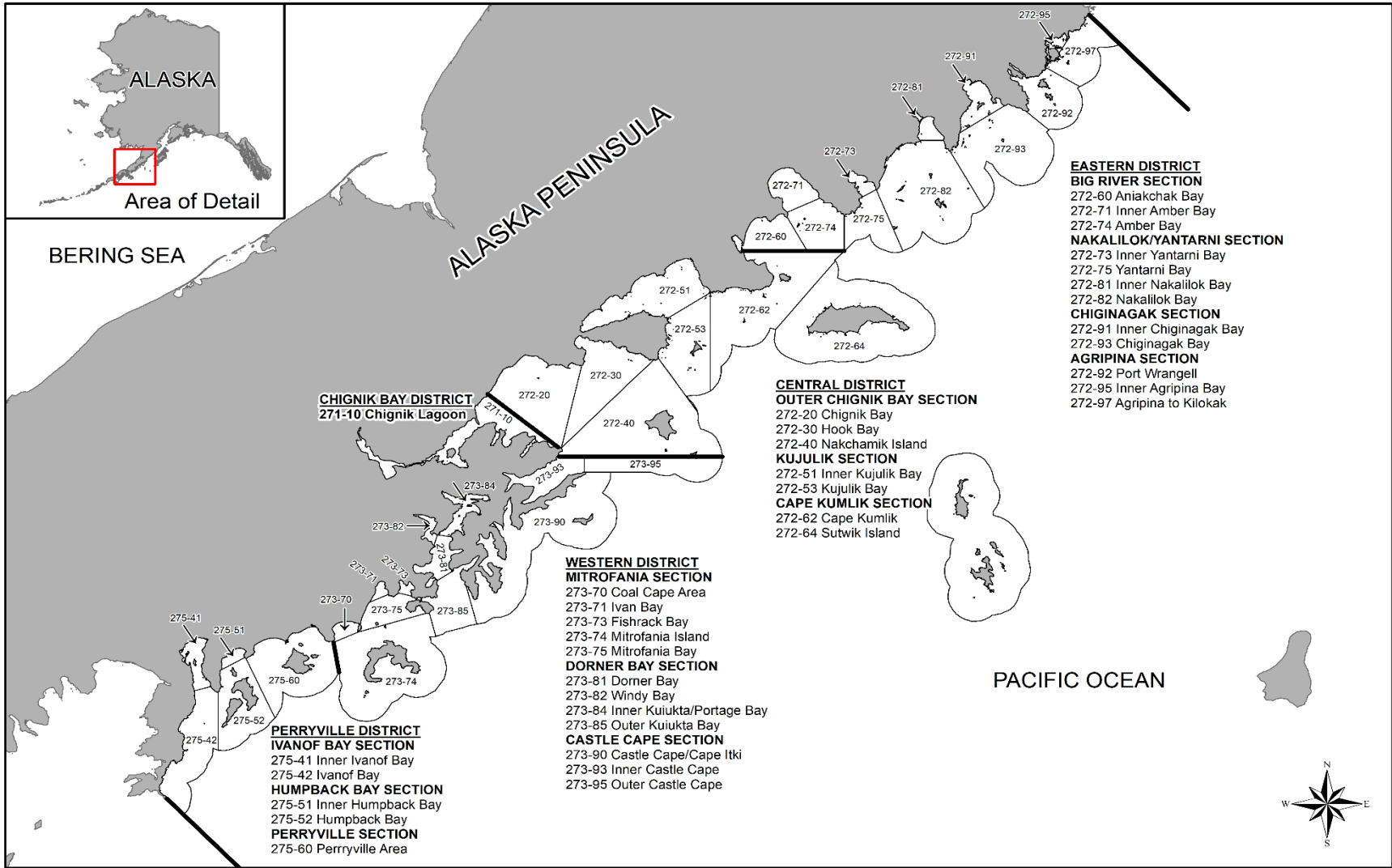


Figure 3.—The Chignik Management Area (within the black bars on the upper right and lower left) including Perryville District, Chignik Bay District, Western District, Central District, and Eastern District.



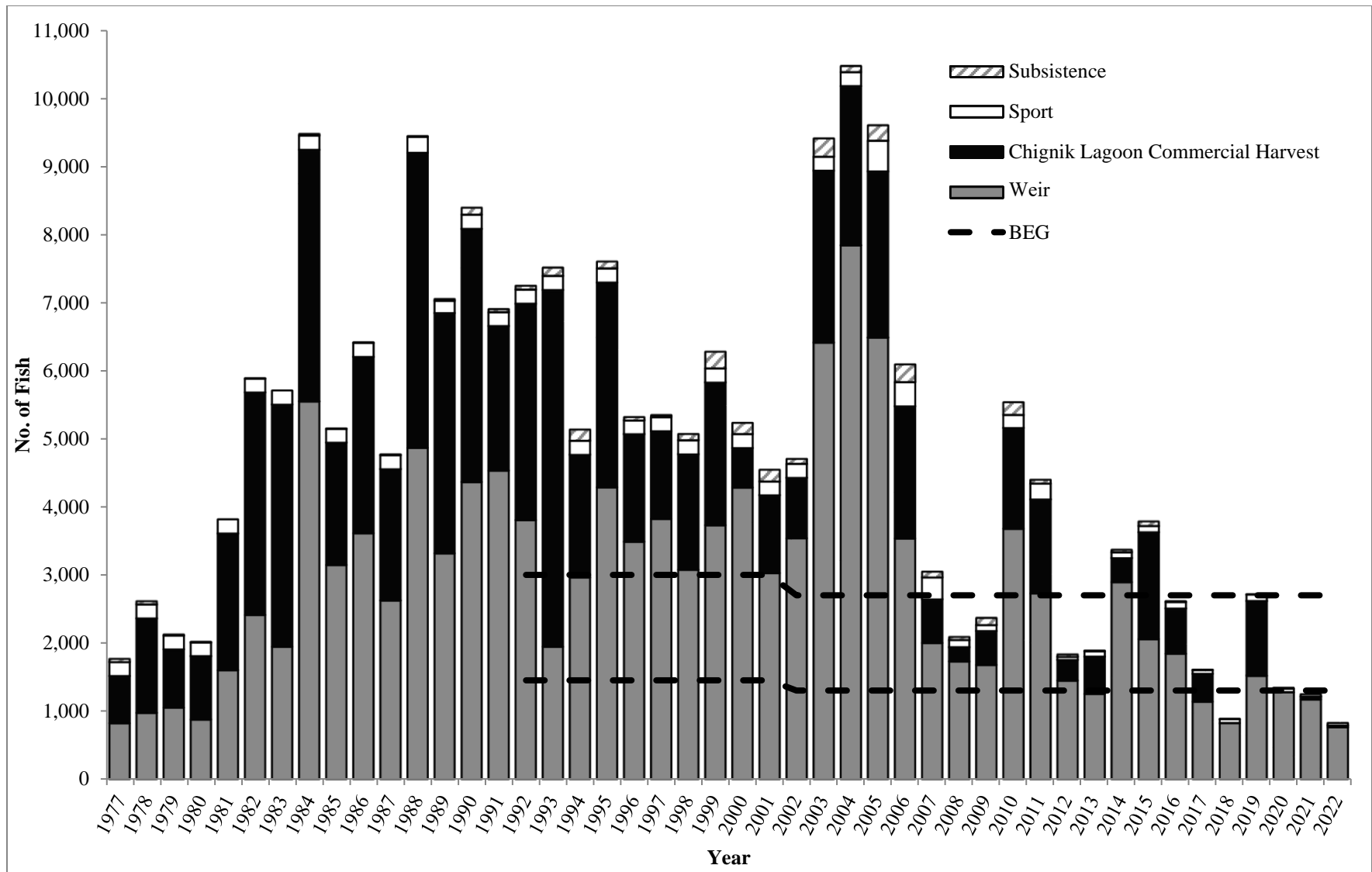


Figure 4.—Sport, subsistence, and commercial harvest, and weir count of Chignik River king salmon with respect to the biological escapement goal (dashed lines), 1977–2022.

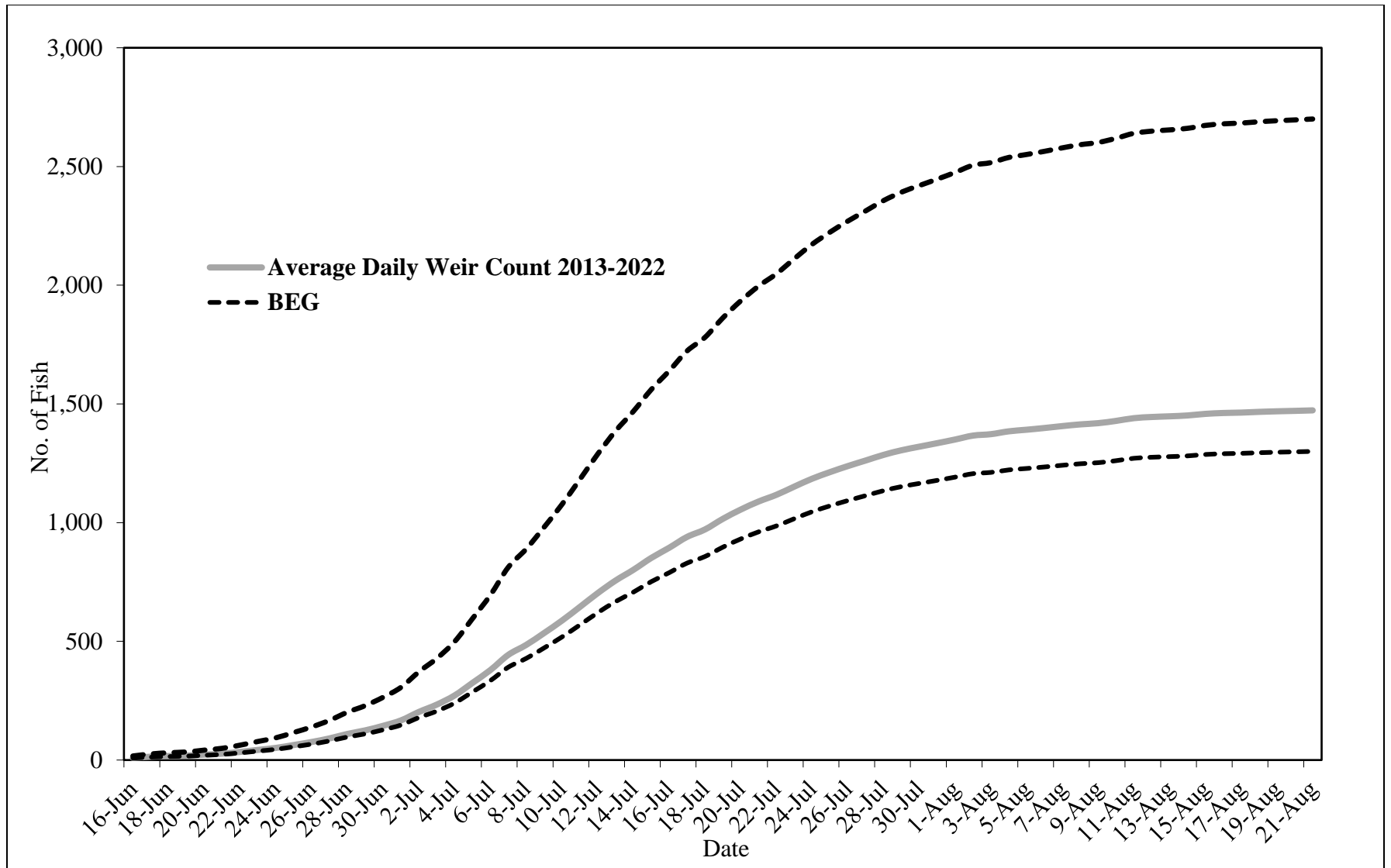


Figure 5.—Chignik River king salmon run timing, 2013–2022.