



## **Advisory Announcement**

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### **2021 Upper Cook Inlet Commercial Salmon Fishery Season Summary**

The 2021 Upper Cook Inlet (UCI) estimated total run of 5.7 million fish was 1.3 million fish larger than the preseason forecast of 4.4 million fish. The commercial salmon fishery harvest of 1.7 million salmon was the third smallest since 1975 and 42% less than the recent 10-year average harvest of 2.9 million fish (Table 1). The estimated 2021 exvessel value of all salmon species was \$13.9 million, the second lowest exvessel value in the last 10 years, and roughly 48% less than the previous 10-year average annual exvessel value of \$27.0 million. While all five species of Pacific salmon are present in UCI, sockeye salmon were the most valuable accounting for nearly 93% of the total exvessel value during the past 20 years.

Salmon escapements to UCI streams in 2021 were mostly above or within escapement goal ranges for sockeye and chum salmon but were within or below goal ranges for coho and Chinook salmon. In UCI, there are six sockeye salmon systems with escapement goals that were monitored in 2021. Sonar was used to estimate sockeye salmon passage in the Kenai and Kasilof Rivers, while weirs were operated at Larson, Judd, and Big (Fish Creek) Lakes. Sockeye salmon escapement goals were exceeded at three systems (Kenai River, Kasilof River, Judd Lake), and met at three systems (Larson Lake, Fish Creek, Packers Creek). Run timing of sockeye salmon inletwide was estimated at 2 to 9 days late.

In 2021, the lower end of the Kenai River early-run Chinook salmon optimal escapement goal (OEG) was achieved, however the OEG for the late-run Kenai River Chinook salmon was not achieved. Of the three southern Chinook systems, the SEG was achieved at two systems (Anchor River and Ninilchik River wild run), but the Deep Creek Chinook salmon run was not assessed due to lack of funding. In the Northern Cook Inlet region, the lower end of the Little Susitna River Chinook salmon sustainable escapement goal (SEG) was achieved and the upper end of the Deshka River Chinook salmon SEG was exceeded. Chinook salmon escapement goals for the Susitna and West Cook Inlet areas are currently being assessed.

For coho salmon, the Little Susitna River was within its escapement goal, while the escapement goal for Deshka River coho salmon was undetermined due to the weir being pulled early. Lastly, the chum salmon escapement goal was exceeded in Chinitna Bay tributaries.

#### **SOCKEYE SALMON**

##### ***2021 Run and Fishery Summary***

The 2021 UCI preseason total run forecast of 4.4 million sockeye salmon (Table 2), comprised a harvest estimate (sport, personal use, and commercial) of 2.4 million fish, including a commercial fisheries harvest of approximately 1.6 million fish. The 2021 observed total run estimate, which

included inseason estimates of all harvests, as well as escapement of sockeye salmon of approximately 5.7 million fish was 1.3 million fish greater, or 30% more than the preseason forecast (Table 2). Sockeye salmon run abundance to the Kenai River was greater than forecasted by approximately 1.5 million fish and to the Kasilof River by 10,000 fish. Conversely, the number of sockeye salmon returning to Fish Creek was 44,000 less than forecasted, and in the Susitna River it was 103,000 less. For all other systems combined (minor systems) inseason abundance was only 8,000 fish above forecast.

A weak Kenai River late-run Chinook salmon run resulted in paired restrictive actions in the Kenai River sport fishery and the eastside set gillnet (ESSN) commercial fishery in the Upper Subdistrict of the Central District (Figure 1). For the ESSN fishery, this meant less fishing time was allowed than what is stipulated in sockeye salmon management plans, and gear restriction options were also applied. The final passage estimate of 2,441,825 sockeye salmon exceeded the upper bound of the Kenai River sockeye salmon inriver goal range (1,000,000–1,200,000) by more than 1,200,000 fish (Table 3). Given typical sport fishery harvests at this inriver abundance level, the SEG (750,000–1,300,000) may have been exceeded.

In 2021, the peak day of sockeye salmon passage in the Kenai River occurred on August 2 with a count of 151,525 fish. This was the highest daily sockeye salmon passage recorded in August for the Kenai River sonar project, and the second latest peak of sockeye salmon passage recorded compared to 2020, which was the latest. During the previous 10 years, the average date where 50% of the yearly sonar passage occurred in the Kenai River was July 26. In 2021 50% of the total passage did not occur until August 3, eight days later than average, and approximately 62% of the run arrived in August. The Kasilof River sockeye salmon sonar count of 521,859 fish exceeded the upper bound of the Kasilof River Biological Escapement Goal (BEG) of 140,000–320,000 fish, the OEG of 140,000 to 370,000, and was the third largest sockeye salmon passage recorded for the Kasilof River sonar project (39 years). The passage midpoint for Kasilof River occurred on July 19, which was three days later than the midpoint from the previous 10 years. Peak daily Kasilof River sockeye salmon passage of 24,773 occurred on July 20.

The 2021 total UCI commercial harvest of 1,410,842 sockeye salmon was approximately 40% less than the 2011–2020 average annual harvest of 2.4 million fish. Prices varied during the season but, based on an estimated average price of \$1.74 per pound, the total exvessel value for sockeye salmon harvested was approximately \$12.7 million, or 91% of the total 2021 exvessel value of all salmon in UCI.

Proportionately, comparing the drift gillnet and ESSN sockeye salmon harvests, the UCI drift gillnet harvest proportion was greater than the previous 10-year average, excluding 2012 which was impacted by Chinook salmon closures, and the highest proportion since 2014. The 2021 drift gillnet harvest of 851,901 sockeye salmon was 68% of the total harvest of those two fisheries, while the previous 10-year average was 60%. The ESSN fishery harvested approximately 407,007 fish, or 32% of the total sockeye salmon of those two fisheries, and less than the previous 10-year average of 40%.

### ***ESSN Fishery for Sockeye Salmon***

The sockeye salmon run forecast to the Kenai River in 2021 was 2.1 million fish, which meant management of the ESSN fisheries fell into the regulatory provisions of the middle run size tier (2.3–4.6 million fish) as the fishery began. In this run size tier, from July 8 through August 15, the ESSN fishery was open for the regulatory Monday and Thursday 12-hour fishing periods, with up

to 51 additional fishing hours per week. However on June 17, the department issued emergency order (EO) No. 2-KS-1-24-21 restricting the Chinook salmon sport fishery in the Kenai River to no bait beginning July 1, 2021. Consistent with paired restrictions of the *Kenai River Late-Run King Salmon Management Plan* (KRLKSMP; 5 AAC 21.359), EO 2S-04-21 was issued for the ESSN fishery on June 17, which modified the weekly fishing periods. In the ESSN fishery, salmon could be taken only during fishing periods established by EO from June 20 through July 31, and fishing hours were limited. Mandatory gear restriction options that limit set gillnet depth or length during all ESSN fishing periods were also implemented. The gear restrictions required were specified in each EO for each subsequent ESSN opening.

The hours allowed for the ESSN fishery decreased as the season progressed. From June 20 to July 12, commercial fishing periods were restricted to no more than 48 hours per week, with a 36-hour continuous closure per week beginning between 7:00 p.m. Thursday and 7:00 a.m. Friday. On July 12, the department issued a second sport fishery EO, No. 2-KS-1-42-2, further restricting the Chinook salmon sport fishery in the Kenai River to catch and release only. In response, the ESSN fishery was further restricted to no more than 24 hours per week. On July 19, the department issued another EO (2-KS-1-46-21) closing the Kenai River drainage to fishing for Chinook salmon effective 12:01 a.m. Wednesday, July 21. In compliance with the KRLKSMP, the ESSN fishery was also closed beginning July 21.

From the beginning of the ESSN fishing season on June 22 through August 15, the commercial fishing management strategy was largely predicated upon achieving sockeye salmon escapement goals, allowing harvest of sockeye salmon, minimizing the harvest of late-run Kenai River Chinook salmon, and closely monitoring late-run Chinook salmon abundance in the Kenai River as per the KRLKSMP. The Kasilof Section (statistical areas 244-31, 244-22 and 244-21; (Figure 2) set gillnet fishery opened on Tuesday, June 22. On July 1, the North Kalifornsky Beach (NKB) statistical area (244-32) opened with additional restrictions specific to the NKB statistical area, including that from July 1 to the opening of the season in the Kenai and East Foreland Sections, the NKB stat area can be open within 600 feet of the mean high tide mark using set gillnets that are no greater than 29 meshes in depth, and with mesh sizes no greater than four and three quarters inches. This was to provide some sockeye opportunity while trying to minimize the harvest of chinook salmon. In 2021, the first day of fishing for the Kenai and East Foreland Sections concurrently, occurred on Thursday, July 8. During the 2021 fishing season, of the two potential ESSN gear restriction options, the more restrictive provision (limiting gillnet gear by two-thirds) was implemented on fifteen days, and the lesser restriction (limiting gillnet gear by one-third) was implemented on one day. Both the Kenai River sport Chinook salmon fishery and the ESSN commercial fisheries for all salmon were closed after July 20 to conserve Kenai River Chinook salmon. On and after August 1, with paired restrictions for Chinook salmon remaining in effect, the ESSN fishery remained closed for the remainder of the season as per the KRLKSMP. Despite these time, area, and gear restrictions, as well as full closures enacted under the paired restrictions, the final count of 11,832 Kenai River late-run Chinook salmon failed to meet the lower end of either the OEG or the SEG.

As the 2021 season progressed, the number of open fishing periods that were allotted to each fishery were as follows. The Kasilof River sockeye salmon run timing appeared average in late June and early July 2021. Consequently, nine ESSN fishing periods were provided from June 22 to July 7, of which five days also included area-restricted openings of the NKB section. In total, from June 22 through July 20, the Kasilof Section set gillnet fishery was open on 16 different days.

From July 8 through July 20, the Kenai and East Foreland sections were open on five different days.

The option to open ESSN fisheries within 600 feet of shore was used several times in 2021 and the Kasilof River Special Harvest area (KRSHA) was used once. Three fishing opportunities were provided in the Kasilof Section set gillnet fishery within 600 feet of shore on July 6, July 13, and July 14. The NKB statistical area was open within 600 feet of shore on July 1, 3, 5, 6, 7, 13, and 14. Additionally, on July 20 the entire ESSN fishery was open within 600 feet of shore for the first time in its history. The KRSHA opening was on July 18.

On July 27, 2021, the department made a formal inseason estimate of the total sockeye salmon run to date, including an estimate of the run yet to come. Based on the offshore test fish data, and current run abundance counts, the 2021 sockeye salmon run was expected to be two to nine days late, and the Kenai River sockeye salmon total run would be 2.1 million fish. Based on this inseason projection, management of the ESSN fishery would change and fall under the regulations for run sizes less than 2.3 million Kenai River sockeye salmon. However, this change did not alter fishery management in 2021 because Kenai River late-run Chinook salmon abundance remained low, and the Kenai River sport fishery for Chinook salmon was closed on July 21. No further set gillnet fishing periods in the ESSN fishery were allowed for any salmon species after that date.

### ***ESSN Sockeye Salmon Harvest, 2021***

The total 2021 sockeye salmon harvest in the ESSN fisheries was 407,007 fish. From June 23 through July 20, the Kasilof Section was open on 16 different days, harvesting approximately 217,803 sockeye salmon, which was 56% less than the previous 10-year (excluding 2012, due to extensive fishery closures due to low Chinook salmon abundance that year) average of 929,000 fish. From July 8 through August 15, the Kenai and East Foreland Sections were open on five different days, producing a total sockeye salmon harvest of 187,887 fish. This was 47% less than the previous 10-year (excluding 2012) average annual sockeye salmon harvest of 355,000 fish for those sections.

### ***Drift Gillnet Fishery for Sockeye Salmon***

At the beginning of the season, the drift gillnet fishery management fell into the provisions of the middle run size tier for sockeye salmon (2.3–4.6 million fish) but unlike the ESSN fishery this fishery was not directly impacted by the KRLKSMP. The drift gillnet fishery opened on June 21 for the 2021 season. The drift gillnet fishery was open for districtwide fishing periods from the beginning of the season through July 8. Additional fishing opportunity was provided in only the Kasilof Section (Figure 3) on June 22, June 27, July 3, and July 7.

From July 9 through July 15, both regular fishing periods were limited to Drift Gillnet Area 1 and the Expanded Kenai and Expanded Kasilof (Ex. Ken/Kas) Sections (Figures 3 and 4). Additional fishing time was opened on the July 13 and July 14 in the Ex. Ken/Kas Sections for 17 and 18 hours respectively.

From July 16 through July 31, fishing during the first regular period of each week was limited to Drift Gillnet Area 1 and the Ex. Ken/Kas Sections. The second regular period of the first week on June 22 was restricted to the Ex. Ken/Kas, and the Anchor Point Sections. For the second regular period of the second week on July 29, the Ex. Ken/Kas Sections were again open, but the Anchor Point Section was not open due to management plan stipulations along with the inseason sockeye salmon run projection, which fell below 2.3 million fish for Kenai River during that week.

Additional fishing periods from July 16 through July 31 were allowed in the Ex. Ken/Kas Sections and the Anchor Point Section on 5 days. The KRSHA was opened to drift gillnetting for one period on July 18.

After a large influx of sockeye salmon into the Kenai River after July 28, all 4 Monday and Thursday regulatory periods between August 1 and August 15 included Area 1, the Ex. Ken/Kas Sections, and the Anchor Point Section. The Ex. Ken/Kas Sections and Anchor Point Section were also opened 7 periods of extra time through August 15. The final estimate of Kenai River total run size for sockeye salmon was 3.8 million fish, which was 61% above the preseason and inseason estimates (Table 2).

From August 16 through the remainder of the season, all drift gillnet commercial fisheries in UCI followed the regulatory periods of Monday and Thursday in Areas 3 and 4 only (Figure 5) along with openings in Chinitna Bay Subdistrict on Tuesdays and Fridays (Figure 1). All UCI commercial drift gillnet fisheries were closed by EO after September 30 for the 2021 season.

### ***Drift Gillnet Sockeye Salmon Harvest, 2021***

From June 21 through August 12, the drift gillnet fleet fished a total of 26 days as follows: four days in the regular Kasilof Section, three days in the Expanded Corridors, 13 days in the Expanded Corridors and Anchor Point sections, eight days in Drift Gillnet Area 1, and six days in all of the Central District. Beginning on Monday, August 16, all Monday/Thursday regulatory drift gillnet fishing periods were restricted to Drift Gillnet Areas 3 and 4. The total UCI drift gillnet harvest in 2021 was approximately 851,901 sockeye salmon, which was approximately 39% less than the previous 10-year average harvest of 1.4 million fish. The peak day of harvest for the drift gillnet fleet occurred on Monday, July 19, where 232 vessels harvested approximately 117,024 sockeye salmon, or 504 fish per boat. The previous 10-year average peak day harvest per boat was 850 fish.

### ***Western Subdistrict Fishery for Sockeye Salmon***

The Western Subdistrict (Figure 1) set gillnet fishery opened for regulatory fishing periods on Thursday, June 17. This fishery primarily harvests sockeye salmon returning to the Crescent River. Typically, when Crescent River sockeye salmon run indexes warrant additional harvest, an EO would be issued for an extra day in that portion of the Western Subdistrict south of the latitude of Redoubt Point. In 2021, catch per unit effort in the Western Subdistrict did not warrant any additional openings. Approximately 20,144 sockeye salmon were harvested by set gillnetters in the Western Subdistrict. This was 49% less than the average annual harvest of approximately 39,492 fish during the previous 10 years.

### ***Kustatan Subdistrict Fishery for Sockeye Salmon***

The Kustatan Subdistrict includes those waters from the Drift River oil terminal to the Northern District boundary near the West Foreland (Figure 1). From 1993 to 2020, approximately nine permit holders per year reported harvest from this area. In 2021, ten permit holders reported harvest. A portion of the Kustatan Subdistrict was open from June 1–24, allowing harvest for the Big River sockeye salmon fishery, which was an early season fishery limited to one net per permit holder, and open 3 days per week. By regulation, the remaining Kustatan Subdistrict opened June 28. Approximately 10,087 sockeye salmon were harvested in the Kustatan Subdistrict in 2021, of which 3,308 were harvested during the Big River fishery. Similar to 2020, the 2021 sockeye salmon harvest for the Kustatan Subdistrict was the largest harvest in the last 10 years, and more than double the average annual harvest of 3,851 fish during the previous 10 years.

### ***Kalgin Island Subdistrict Fishery for Sockeye Salmon***

The Kalgin Island Subdistrict (Figure 1) opened for regular fishing periods beginning June 28, 2021, except for the west side of Kalgin Island which was open for commercial fishing on Mondays, Wednesdays, and Fridays from June 1 through June 24 as part of the Big River sockeye salmon fishery. In 2021, approximately 50,420 sockeye salmon were harvested from the Kalgin Island Subdistrict, with nearly 10,719 (21%) of those fish taken during the Big River sockeye salmon fishery. The average annual sockeye salmon harvest on Kalgin Island during the previous 10 years was approximately 49,906 fish, with roughly 8,450 of those fish harvested during the early season Big River fishery. A midseason review of the video deployed at Packers Creek for monitoring sockeye salmon escapement into Packers Lake supported two additional fishing periods beyond the Monday and Thursday regular periods in the Kalgin Island Subdistrict, occurring on Saturday, August 7 and Saturday, August 14. The final count for Packers Lake was 19,975 which achieved the lower end of the Packers Lake sockeye salmon escapement goal range.

### ***Northern District Fishery for Sockeye Salmon***

The Northern District opened for sockeye salmon on June 28, immediately after the directed Chinook salmon fishery, and remained open until closed for the season in October. Opened periods were Monday and Thursday each week 7 am to 7 pm. In 2021, approximately 71,417 sockeye salmon were harvested in the Northern District. This harvest was 58% greater than the 2011–2020 average annual harvest of 45,275 sockeye salmon, but about equal to the 1985–2020 average of nearly 76,000 fish. As in past years, restrictions to the Northern District salmon fishery that restricted the number of nets allowed were implemented from July 20 to August 6 to conserve Susitna River sockeye salmon. In 2021, these restrictions were continued one week longer in the General Subdistrict south of the Susitna River.

## **COHO SALMON**

### ***2021 Run and Fishery Summary***

The 2021 commercial harvest estimate of approximately 147,602 coho salmon in UCI was 18% less than the previous 10-year (2011–2020) average of approximately 180,000 fish (Table 1). The 2021 drift gillnet harvest of 80,982 coho salmon was 22% less than the previous 10-year average of approximately 104,000 fish. The Northern District set gillnet fishery harvested 45,825 coho salmon, which was less than the 2020 harvest of 54,400, but above the 10-year average of 41,600.

Based on an average price per pound of \$0.83, the estimated exvessel value of the 2021 commercial coho salmon fishery was approximately \$684,271 or 5% of the total exvessel value of all species in Upper Cook Inlet. This was approximately 26% less than the recent 10-year (2011–2020) average exvessel value of \$930,571 for coho salmon in UCI.

In UCI, there are four coho salmon systems with escapement goals. Fish Creek and the Little Susitna and Deshka Rivers have weirs, while McRoberts Creek was assessed with foot surveys. Coho salmon escapement was counted at the Little Susitna weir from July 16 through August 28. The preliminary coho salmon escapement estimate in the Little Susitna River was 10,923, achieving the SEG of 9,200–17,700. Due to budget constraints in 2021, the Deshka River weir was pulled early on August 11, with a total of 3,338 coho salmon counted by that date. Based on average run timing the SEG (10,200–24,100) may not have been achieved for the Deshka River. The Fish Creek coho salmon SEG was 1,200–6,100 fish, however due to budget cuts, this project

was not operated. Finally, there was a coho salmon foot survey and SEG of 250–700 fish for McRoberts Creek, which drains into Jim Creek of the Knik River drainage. In 2021, the McRoberts Creek foot survey produced a count of 1,499 fish, exceeding the upper bound of the SEG range.

## **CHINOOK SALMON**

The 2021 UCI commercial harvest of Chinook salmon was 3,973 fish, which was 36% less than the previous 10-year (2011–2020) average of 6,188 fish (Table 1). In UCI, there are two commercial fisheries where most Chinook salmon are harvested. These include the set gillnet fisheries in the Northern District, and the ESSN fishery of the Central District. The Chinook salmon harvests of the Northern District were managed under the *Northern District King Salmon Management Plan* (NDKSMP; 5 AAC 21.366), and Chinook salmon harvest of the ESSN fishery was guided by the KRLKSMP. Chinook salmon runs were expected to be below average across Southcentral Alaska for the 2021 season. As predicted, the 2021 Chinook salmon run turned out to be below average, and even lower than the preseason forecasts, leading to both preseason and inseason conservation measures in all fisheries to reduce the harvest of Chinook salmon.

### ***Northern District Chinook Salmon Fishery***

Northern District (ND) Chinook salmon were harvested during the directed fishery in late May and June, as well as throughout the salmon season to a lesser extent. The 2021 preseason run forecast for Deshka River Chinook salmon of 11,464 fish, suggested harvest must be limited to achieve the sustainable escapement goal (SEG) of 9,000–18,000 fish. The Division of Sport Fish issued two EOs implementing restrictions to catch and release angling only, with single unbaited hooks. EO No. 2-KS-2-07-21 restricted angling in areas 1, 2, 3, 4, 5, and 6 of the Susitna River drainages (including Deshka River), and EO No. 2-KS-2-06-21 restricted angling in the Little Susitna River. The directed Chinook salmon fishery is normally 12 hours during Mondays each week, but because the Deshka River Chinook salmon sport fishery was restricted to no retention, commercial fishing time was reduced by 50% to 6 hours, (EO 2S-01-21) as per the NDKSMP. Additionally, the area of the ND from the wood chip dock to the Susitna River was closed to commercial fishing in conjunction with the sport fishery closure of the Chuitna River. Late in the commercial fishing season, the restriction to hours was lifted (EO 2S-01-21) for the last ND Chinook salmon opening, after Chinook salmon abundances improved and sport fisheries were liberalized (EO 2KS-2-23-2).

The final escapement estimate of Chinook salmon in the Deshka River was approximately 18,583, which exceeds the SEG. The Little Susitna River Chinook salmon SEG of 2,100–4,300 was met in 2021 with the weir count of 3,121 Chinook salmon. Aerial goals of the various other Susitna drainage Chinook salmon systems are still preliminary and are pending data analysis to determine whether goals have been achieved. The total yearly Chinook salmon commercial harvest in the ND was 1,893 fish and was 49% below the average annual total harvest of 3,851 fish for the previous 10 years. The directed ND Chinook salmon fishery harvested 1,481 fish.

### ***ESSN Chinook Salmon Fishery***

Kasilof River Chinook salmon and late-run Chinook salmon returning to the Kenai River are the Chinook salmon stocks that are harvested in the ESSN fishery. Kenai River late-run Chinook salmon were managed to meet the OEG of 15,000–30,000 large Chinook salmon. By regulation, if restrictions are implemented in the sport fishery to achieve the OEG, restrictive “paired” actions are also required in the ESSN fishery and can begin on June 20.

Late-run Chinook salmon passage in the Kenai River was counted at the river mile 14 sonar site from July 1 through August 20. The preliminary 2021 sonar count of large late-run Kenai River Chinook salmon was 11,832 with an escapement estimate of 12,176 fish, accounting for sport fishery harvest above the sonar site and spawning below the sonar site. Thus, neither the large fish OEG of 15,000–30,000 or the SEG of 13,500–30,000, for Kenai River late-run Chinook salmon was achieved. Of the three southern Chinook systems, the SEG was achieved at two systems. The Anchor River count was 4,285 (SEG 3,800–7,600) and Ninilchik River wild run count was 808 (SEG 750–1,300). The Deep Creek Chinook run was not assessed due to lack of funding.

The 2021 preseason forecast was for a total run of 18,406 large Kenai River late-run Chinook salmon. Based on low preseason abundance projections for late-run Chinook salmon, the 2021 late-run Chinook salmon sport fishery in the Kenai River was restricted to no bait beginning July 1, 2021. Beginning June 20, the ESSN commercial fishery openings were first restricted, and later closed, as per the KRLKSMP noted above (see ESSN Fishery for Sockeye Salmon).

The ESSN fishery harvested 1,297 Chinook salmon, or 33% of the total UCI commercial harvest. The Chinook salmon harvested in the ESSN fishery included an estimated 208, or 16% that were large Kenai River late-run origin fish. This was 88% below the average of 1,631 large Kenai late run origin fish. The drift gillnet fishery harvested 215 Chinook salmon of all sizes and all stocks. Using a price of \$2.59 per pound for Chinook salmon, the estimated exvessel value of the 2021 harvest was \$124,439, or approximately 1% of the total exvessel value of salmon in UCI.

#### **PINK SALMON**

Pink salmon runs in UCI are even-year dominant, with odd-year average harvests typically less than one-sixth of even-year harvests. The 2021 UCI commercial pink salmon harvest was estimated to be 81,360 fish (Table 1), which was 10% lower than the average annual harvest of nearly 90,000 fish from the previous 10 years of odd-year harvests. Using an average weight of 3.4 lb/fish and an average price of \$0.23/lb, the exvessel value for the 2021 pink salmon harvest was \$63,899 or less than 1% of the total exvessel value of salmon in UCI.

#### **CHUM SALMON**

The 2021 harvest of 70,242 chum salmon was 55% lower than the previous 10-year average annual harvest of 157,000 fish, and the second lowest harvest in the last 10 years (Table 1). The exvessel value of the 2021 UCI commercial chum salmon harvest was \$327,161 or 2% of the total exvessel value in UCI. An aerial survey of Chinitna River/Clearwater Creek was conducted on August 16, 2021. This survey produced an estimate of approximately 9,440 chum salmon within these streams, which was above the SEG range of 3,500–8,000 fish.



Table 1.–Upper Cook Inlet commercial salmon harvest by species, 1976–2021.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1976	10,865	1,664,150	208,695	1,256,728	469,802	3,610,240
1977	14,790	2,052,291	192,599	553,855	1,233,722	4,047,257
1978	17,299	2,621,421	219,193	1,688,442	571,779	5,118,134
1979	13,738	924,415	265,166	72,982	650,357	1,926,658
1980	13,798	1,573,597	271,418	1,786,430	389,675	4,034,918
1981	12,240	1,439,277	484,411	127,164	833,542	2,896,634
1982	20,870	3,259,864	793,937	790,648	1,433,866	6,299,185
1983	20,634	5,049,733	516,322	70,327	1,114,858	6,771,874
1984	10,062	2,106,714	449,993	617,452	680,726	3,864,947
1985	24,088	4,060,429	667,213	87,828	772,849	5,612,407
1986	39,256	4,792,072	757,353	1,300,958	1,134,817	8,024,456
1987	39,440	9,469,248	449,750	109,389	349,150	10,416,977
1988	29,080	6,843,833	561,048	471,080	710,615	8,615,656
1989	26,738	5,011,159	339,931	67,443	122,051	5,567,322
1990	16,105	3,604,710	501,739	603,630	351,197	5,077,381
1991	13,542	2,178,797	426,498	14,663	280,230	2,913,730
1992	17,171	9,108,353	468,930	695,861	274,303	10,564,618
1993	18,871	4,755,344	306,882	100,934	122,770	5,304,801
1994	19,962	3,565,609	583,793	523,434	303,177	4,995,975
1995	17,893	2,952,096	447,130	133,578	529,428	4,080,125
1996	14,306	3,888,922	321,668	242,911	156,520	4,624,327
1997	13,292	4,176,995	152,408	70,945	103,036	4,516,676
1998	8,124	1,219,517	160,688	551,737	95,704	2,035,770
1999	14,383	2,680,518	126,105	16,176	174,554	3,011,736
2000	7,350	1,322,482	236,871	146,482	127,069	1,840,254
2001	9,295	1,826,851	113,311	72,560	84,494	2,106,511
2002	12,714	2,773,118	246,281	446,960	237,949	3,717,022
2003	18,503	3,476,161	101,756	48,789	120,767	3,765,976
2004	26,922	4,927,084	311,058	357,939	146,165	5,769,168
2005	27,667	5,238,699	224,657	48,419	69,740	5,609,182
2006	18,029	2,192,730	177,853	404,111	64,033	2,856,756
2007	17,625	3,316,779	177,339	147,020	77,240	3,736,003
2008	13,333	2,380,135	171,869	169,368	50,315	2,785,020
2009	8,750	2,045,794	153,210	214,321	82,808	2,504,883
2010	9,900	2,828,342	207,350	292,706	228,863	3,567,161
2011	11,248	5,277,995	95,291	34,123	129,407	5,548,064
2012	2,527	3,133,839	106,775	469,598	269,733	3,982,472
2013	5,398	2,683,224	260,963	48,275	139,365	3,137,225
2014	4,660	2,344,034	137,419	642,986	116,127	3,245,226
2015	10,798	2,649,667	216,032	48,004	275,960	3,200,461
2016	10,027	2,396,943	147,495	382,468	123,679	3,060,612
2017	7,660	1,849,243	303,642	167,842	243,600	2,571,987
2018	3,405	817,879	232,290	126,923	115,366	1,295,863
2019	3,149	1,720,559	163,863	70,827	129,176	2,087,574
2020	3,008	695,754	139,240	345,072	29,217	1,212,291
2021	3,973	1,410,842	147,602	81,360	70,242	1,714,019
1975-2020 Avg <sup>a</sup>	15,078	3,219,919	302,165	369,764	349,329	4,256,256
2011-2020 Avg	6,188	2,356,914	180,301	233,612	157,163	2,934,178

<sup>a</sup> 2021 data are preliminary

Table 2.–Upper Cook Inlet sockeye salmon forecast versus actual run\* in thousands of fish, by river system, 2021.

System	Forecast	Actual	% Difference
Kenai River	2,325	3,819	64.3%
Kasilof River	881	871	-1.1%
Susitna River	436	333	-23.6%
Fish Creek	92	48	-47.8%
Minor Systems	639	647	1.3%
Overall Total	4,373	5,700	30.3%

\*Inseason estimates of total run size

Table 3.–Upper Cook Inlet sockeye salmon goals and passage (or counts), 2021.

System	2021 Estimate	Goal type <sup>a</sup>	Lower goal	Upper goal
Kenai River	2,441,825	Inriver	1,000,000	1,200,000
		SEG	750,000	1,300,000
Kasilof River	521,859	BEG	140,000	320,000 <sup>c</sup>
		OEG	140,000	370,000
Larson Lake	21,987	SEG	15,000	35,000
Judd Lake	49,250	SEG	15,000	40,000
Fish Creek	22,271	SEG	15,000	45,000
Packers Creek	19,975	SEG	15,000	30,000

<sup>a</sup> BEG = Biological Escapement Goal, SEG=Sustainable Escapement Goal, OEG=Optimum Escapement Goal, and Inriver = Inriver Goal.

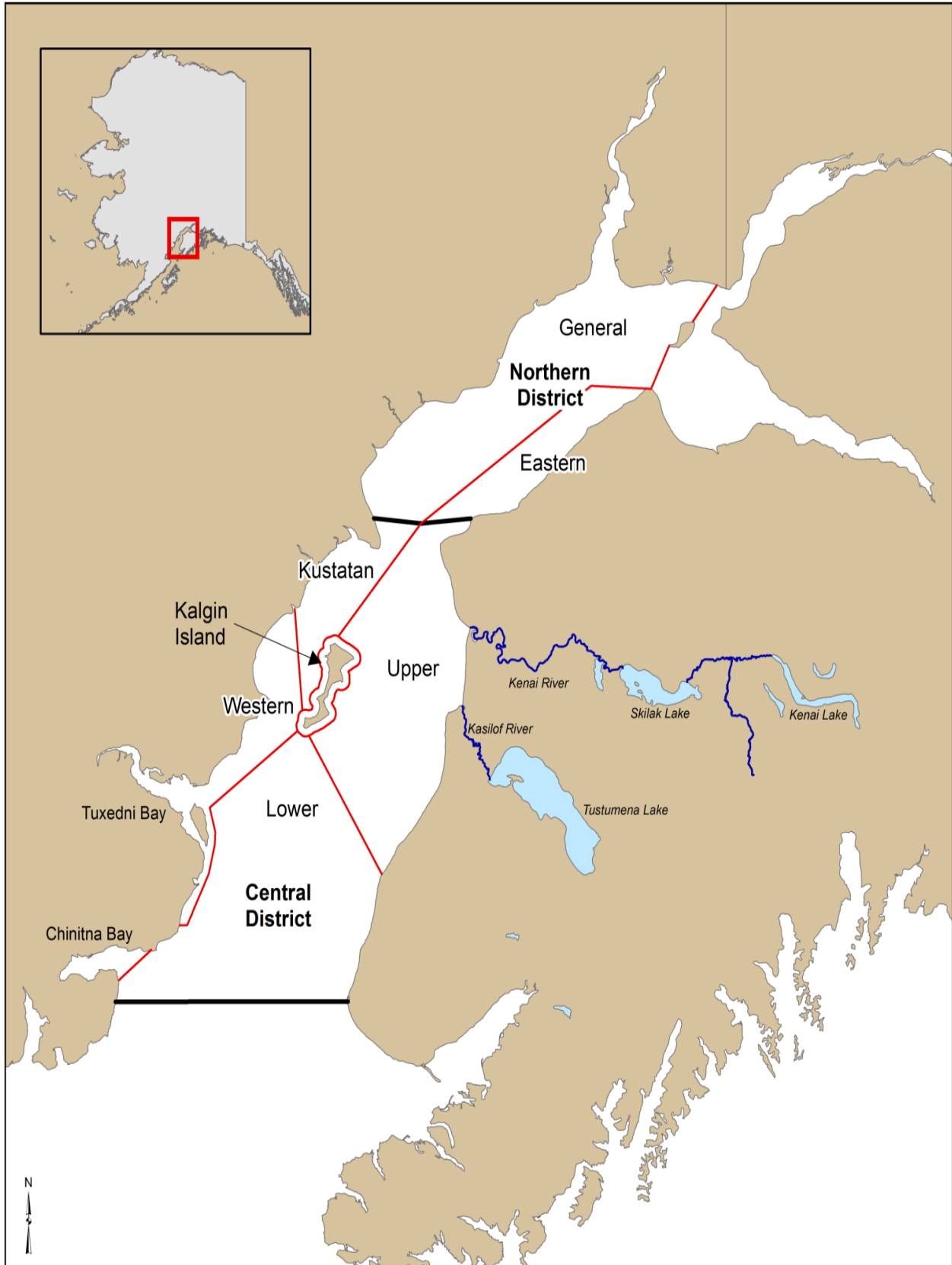


Figure 1.—Upper Cook Inlet commercial fisheries district and subdistrict fishing boundaries.

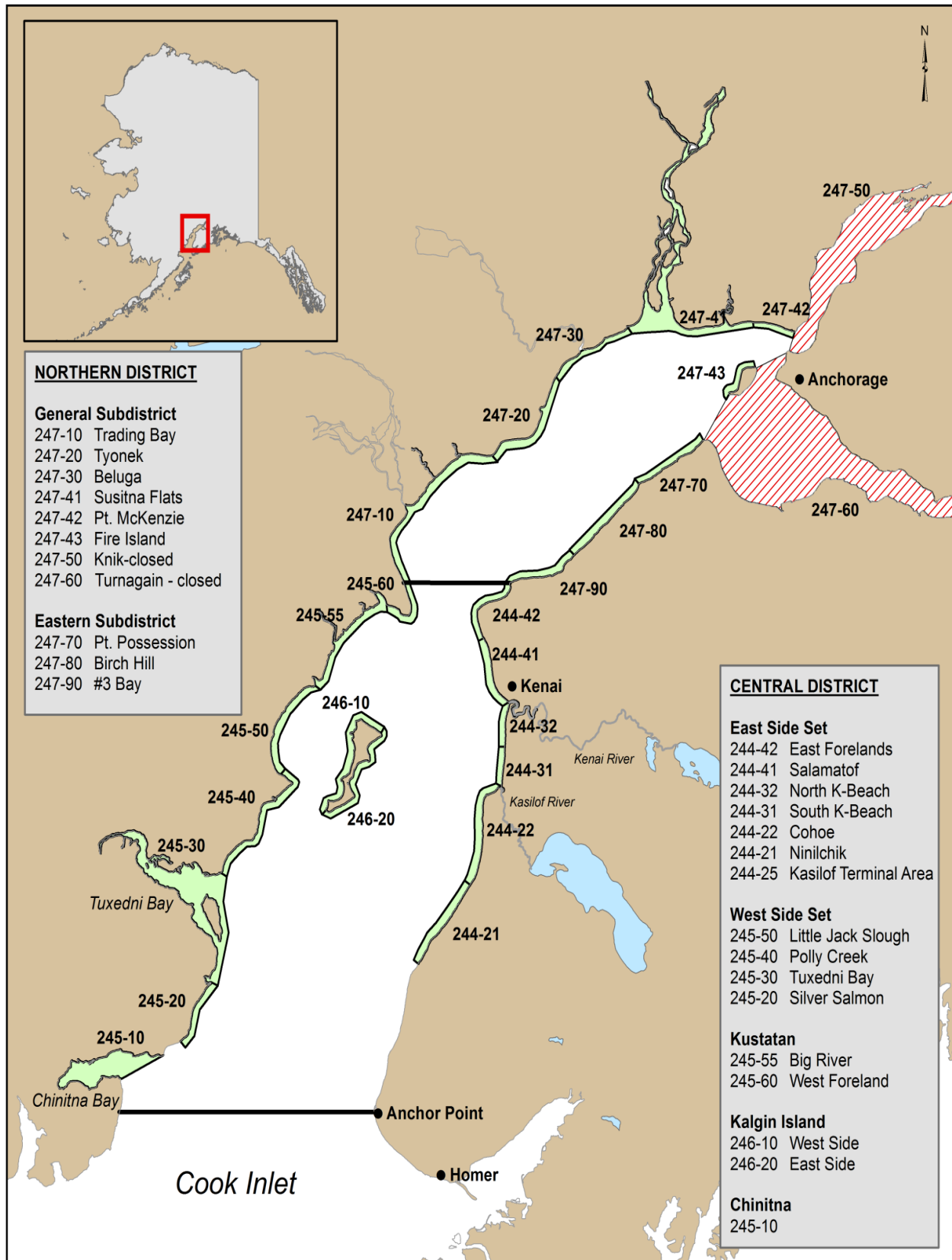


Figure 2–Upper Cook Inlet commercial set gillnet statistical areas.

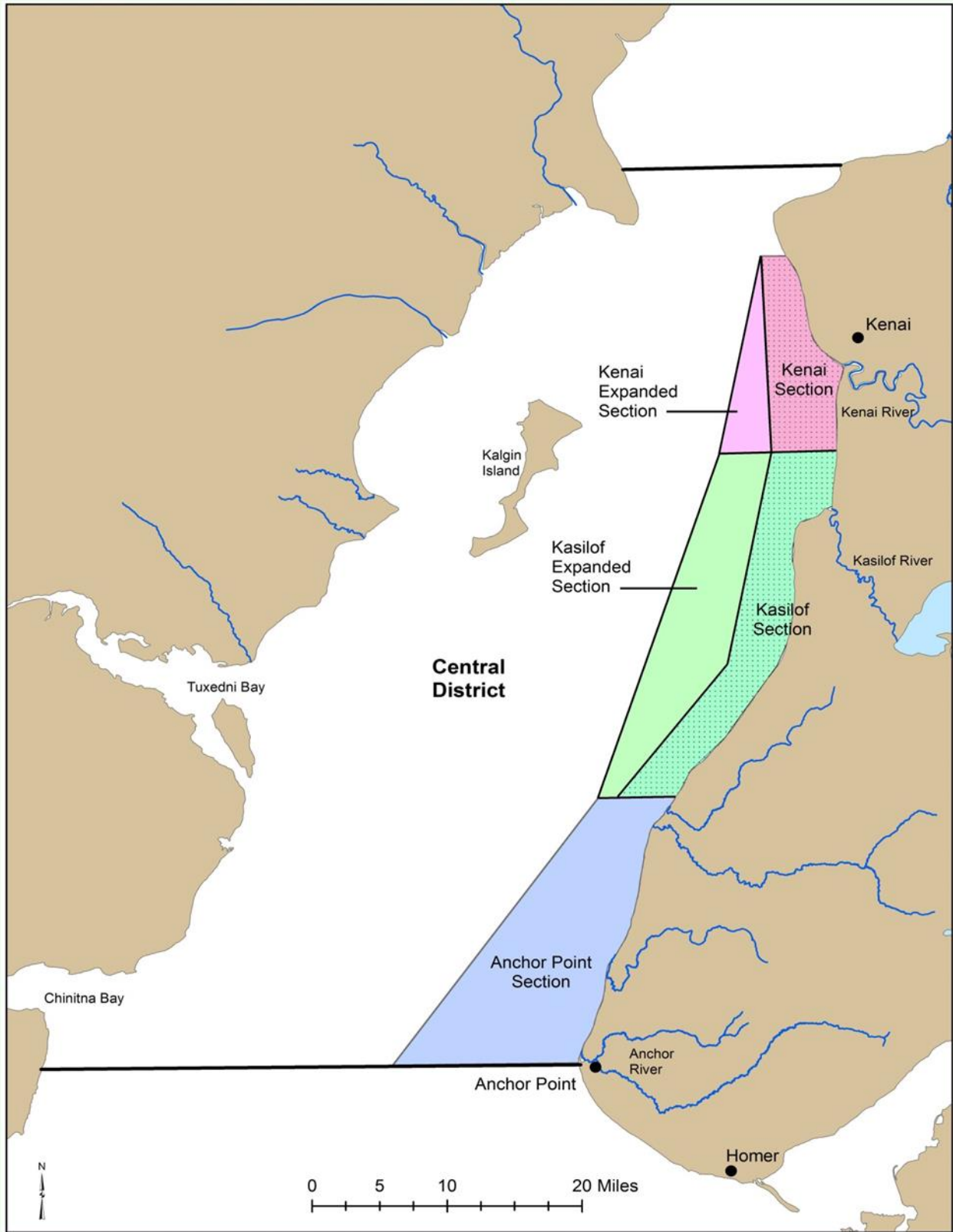


Figure 3.–Map of drift gillnet “corridor” boundaries, including the Kenai and Kasilof sections, Expanded Kenai and Expanded Kasilof sections, and the Anchor Point Section.

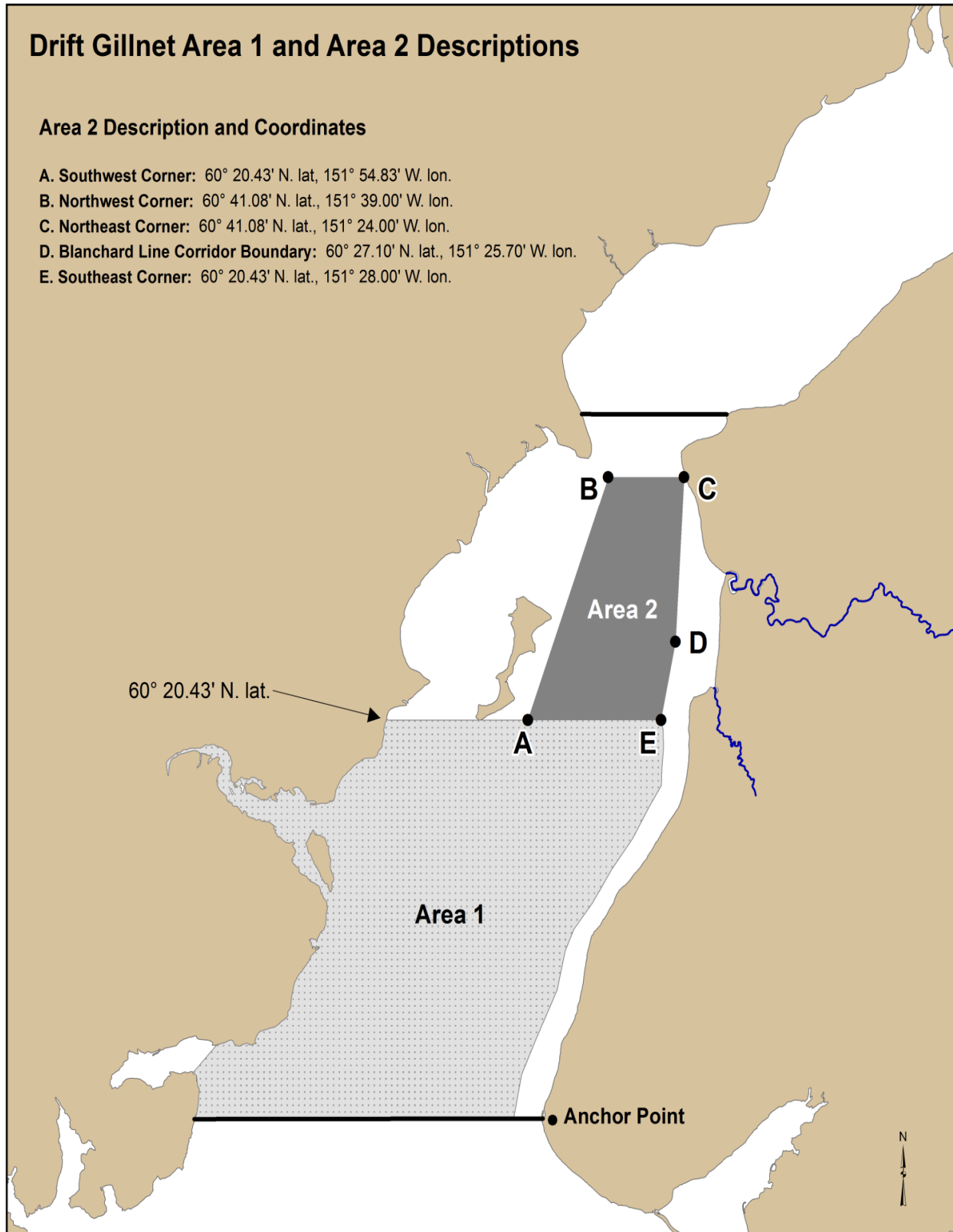


Figure 4.—Fishing boundaries for Drift Gillnet Areas 1 and 2.

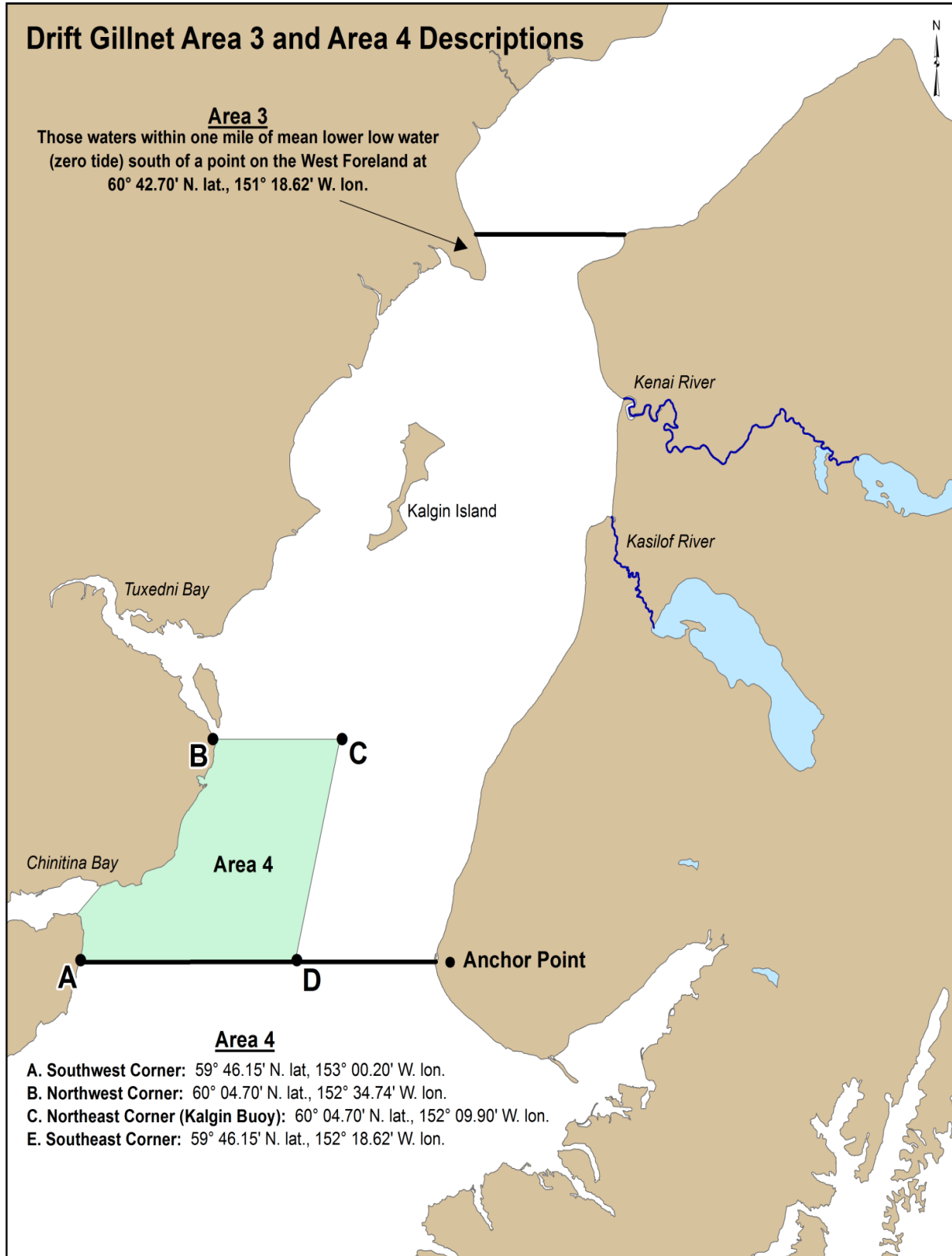


Figure 5—Map of Drift Gillnet Areas 3 and 4.