MEMORANDUM State of Alaska

DEPARTMENT OF FISH AND GAME

TO: Lowell Fair
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SUBJECT: 2021/22 SHRIMP POT FISHERY GHL MEMO

This memorandum provides a summary of recommendations and plans by Southeast Alaska (SEAK) Region fishery management biologists for the 2021/22 commercial shrimp pot fishery season that opens October 1, 2021.

COMMENTS ON REVIEW PROCESS

Management and research staff met via MS Teams on May 21, 2021, to review and discuss spot and coonstripe shrimp stock status for each of the 21 regulatory shrimp pot fishing areas within SEAK. Research staff summarized available information for each area in the draft *Southeast Pot Shrimp Stock Status Prior the 2021/22 Season* (Smith and Reynolds *In Prep*) report and area management staff completed the review by providing fishery summaries and upcoming fishery plans for each of their areas.

SHRIMP POT FISHERY OVERVIEW

The 2021 SEAK shrimp pot stock status assessment draft report summarized available survey and fishery data for 22 shrimp pot fishing areas (Smith and Reynolds *In Prep*). The report included separate information for the two fishing areas of District 15 and new fishing areas adopted into regulation at the 2018 Alaska Board of Fisheries (BOF) meeting. Baselines for each data set have been established and data was compared to the baseline and scored. Stock status was designated as “good”, “above average”, “moderate”, “below average”,

or "poor" depending on how they scored. A summary of stock status evaluations for each area can be found in Table 3. Stock status was not rated for four areas that were closed last season (Section 13-C was closed but a preseason survey was conducted resulting in data used to rate the area): Seymour Canal, Remainder of District 11, Remainder of District 12, and District 16. Of the areas rated in the report, two areas were rated *poor* (Sections 3-B/C and Sections 6-B/C/D); one area was rated *below average* (District 1); eleven areas were rated *moderate* (Districts 2, 4, 5, 7, 9, 14; Sections 3-A, 13-A/B; Tenakee Inlet; and both areas of District 15); two areas were rated *above average* (Sections 8-A and 10-C and Section 13-C); and two areas were rated *good* (Sections 6-A and 8-B; and Sections 10-A/B). Ratings are based on analysis of catch rate data (survey, logbook, and commercial), shrimp size (carapace length), and L_{50} (size at which 50% are female).

Guideline harvest levels (GHL) since the 2006/07 season and planned GHL changes for the 2021/22 season are presented in Table 1. The overall proposed SEAK GHL is 457,300 pounds, less than last season's overall GHL of 482,300 pounds, less than recent 10-year average GHL of 560,700 pounds, and the lowest overall GHL since the mid-1990s. The historical harvest and effort by area are shown in Table 2. Combined harvest from last season was 555,200 pounds of spot and coonstripe shrimp, 115% of the available GHL of 482,300 pounds and slightly above the recent 10-year average harvest of 549,500 pounds. Regionwide effort was 107 permits, above the recent 10-year average of 103 permits.

Shrimp pot harvests in SEAK remained at or below 50,000 pounds annually through the 1980s, GHLs and harvests expanded through the 1990s and early 2000s, with harvests peaking in the 2003/04 season at 1.1 million pounds. Since then, as seen in Tables 1 and 2, GHLs and harvests declined, stabilizing around 500,000 pounds, a level that appears sustainable.

SHRIMP POT FISHERY MANAGEMENT

Management of the shrimp pot fishery is continually evolving and the department currently utilizes several management strategies based on available information. The traditional management strategy that has been utilized since the late 1990s is to set a GHL within the guideline harvest range (GHR). GHLs remain in place for a minimum of three seasons and available data from each fishing area are reviewed annually and recommendations to changes in area specific GHLs considered. If changes to GHLs are deemed necessary, changes occur in increments of at least 20% but do not exceed 40% of the current GHL or the upper end of the GHR; changes to the GHL less than 20% may not demonstrate how a change in harvest affects the shrimp stock, and changes more than 40% may be larger than the stock can withstand.

Beginning with the 2012/13 season, inseason management began in Districts 6 (Northern Clarence Strait) and 7. Inseason management adjustments to the GHL were based on the preseason survey for District 7 and inseason tracking of >XL (greater than 40.5 grams) shrimp harvests through logbooks, inseason catch per unit effort (CPUE), and shrimp size information obtained from on the grounds sampling in both districts. Inseason adjustments do not exceed 45% of the base level GHL. Inseason management for Northern Clarence Strait (District 6) and District 7 have continued through the 2020/21 season. Beginning with the 2020/21 season, inseason adjustments were also considered in Districts 1 and 2. Similar to Districts 6 and 7, adjustments to the GHLs in Districts 1 and 2 will be based on results of the preseason survey, commercial CPUE, and distribution of effort. Adjustments will not exceed 20% of the base GHL and the department will close the fishery before the GHL is reached if it becomes evident that fishery performance is below historical levels for a healthy stock.

Beginning in the 2020/21 season and moving forward, two new strategies will be utilized for select fishing areas. The first is to recognize the utility of using information gained from preseason surveys to adjust GHLs and/or fishing areas for the current season. This is a deviation from past practices of keeping GHLs in place

for a minimum of three seasons. If adjustments to GHLs are deemed necessary from preseason survey information, the slow up and fast down approach will be utilized. Increases in GHLs will be in 10 to 14% increments and will not exceed 45% or the upper end of the GHR. Decreases in GHL will be in 10 to 25% decrements and if decrements more than 45% are necessary, the area may close for the season. This strategy will be considered for Section 3-A, Tenakee Inlet, and Section 13-C.

The second new strategy applies to the Juneau management area. This strategy is to rotate several fishing areas in northern Southeast on a two or three-year basis to provide more consistent opportunity for north end shrimp fishermen. In 1995, districts were assigned GHLs based on historical harvests. Districts that did not have a significant historical record of shrimp harvest were assigned an exploratory GHR of 0 to 20,000 pounds. This applied to Juneau management area districts; 11, 12, 14, and 16. With this change and increased participation in the shrimp pot fishery, harvests increased substantially in these areas. Over time, harvesting at the upper end of the GHR proved unsustainable. Since the mid to late 2000s, CPUE and harvests in these districts began to decline and increasingly conservative management measures were taken including GHL reductions and commercial, sport and personal use fisheries closures. As a result, annual harvest levels became smaller and more difficult to manage and overall opportunity decreased.

2021/22 SEASON GHL AND MANAGEMENT OVERVIEW

Detailed plans for each area are provided in the following section. There are several specific changes from the 2020/21 season based on evaluation of stock status trends: 1) decrease the Section 3-B/C GHL from 30,000 to 20,000 pounds; 2) set closure date for Sections 6-B/C/D; 3) set closure date for District 9; 4) open the Remainder of District 12 in an alternate-year rotational harvest strategy; and 5) close District 14, continuing the alternate-year rotational harvest strategy for that district.

During the last two meeting cycles the BOF adopted regulations that modified shrimp pot fishing areas and allowed the department to collect more detailed harvest information. In 2018, the BOF adopted four new or redefined management areas (Northern Clarence Strait, Sumner Strait, Southern Frederick Sound, and Northern Frederick Sound). At the 2015 BOF meeting, a regulation was adopted requiring all shrimp catcher-processors to report catch information in logbooks, including detailed size breakdowns of their harvest. Detailed information of the reporting procedures will again be described in the first advisory announcement of the 2021/22 season.

Management practices for the 2021/22 season will be similar to the prior season. Inseason management for Districts 1, 2, and 7 will continue. The base GHLs be 50,000 pounds for District 1, 40,000 pounds for District 2, and 74,300 pounds for District 7. Preseason survey information will again be used to adjust GHLs and/or fishing areas for Section 3-A and Tenakee Inlet. Most Juneau management areas that began opening on a rotational basis for the 2020/21season will be in the second season of the rotation. Areas open this rotation include District 12 remainder. Finally, Sections 6-B/C/D and District 9 will have a set opening period—if catch reports indicate better stock health, open time may be extended. Because of concerns for the Northern Clarence Strait stocks full inseason management will not be utilized this season in Sections 6-B/C/D.

SHRIMP POT GHL RECOMMENDATIONS FOR THE 2021/22 SEASON

District 1—GHL will remain at 50,000 pounds.

For the 2006/07 season the GHL was reduced from 164,000 to 98,400 pounds due to declining harvest rates and increasing season length observed during the previous five seasons. The GHL was reduced for the 2008/09

season to 78,700 pounds and again for the 2009/10 season to 50,000 pounds with a pre-set closure. Due to improving stock health, the GHL was increased to 64,000 pounds for the 2015/16 season. The GHL was subsequently reduced for the 2019/20 season due to sharp declines in both the preseason surveys and the commercial CPUE in Back Behm Canal.

There were several negative stock health indicators during the 2018/19 season that resulted in management actions taken for the 2019/20 season. Despite the overall District 1 commercial CPUE being above baseline, the preseason survey and commercial harvest information continued to indicate sharp declines of shrimp abundance in Back Behm Canal. This was the eighth year of preseason surveys in District 1 and harvest rates of all size classes of shrimp have been in decline since 2012. There was also a sharp decline during the 2018/19 season in commercial CPUE in Back Behm Canal. The continued decrease in the preseason survey harvest rate of all size classes of shrimp with no positive indicators justified a predetermined closure of October 7 in Back Behm Canal. Historically, Back Behm Canal accounts for over 25% of the total harvest in District 1 and a reduction in the districtwide GHL was needed to alleviate additional harvest pressure in the remainder of the district.

The overall District 1 shrimp stock showed improvements in stock health in the 2019/20 season. The 2019/20 season districtwide commercial CPUE increased from the 2018/19 season and was the second highest since the 2000/01 season. The commercial CPUE in Back Behm Canal increased significantly and more importantly the 2019/20 preseason survey showed a significant increase in the catch of small size class shrimp (<30 mm) suggesting a significant recruitment event in the area. Given these changes, the preset closure date in Back Behm Canal was not implemented for the 2020/21 season, however the GHL remained at 50,000 pounds. The 2020/21 preseason survey data showed a further decline in >XL size shrimp and a sharp decline in <XL size shrimp to below the baseline. Commercial fishery performance also dropped sharply from the 2019/20 season and although it is near the baseline the complete lack of small shrimp in the preseason survey suggests extremely poor recruitment. A preset closure of October 6 will be implemented for the 2021/22 season in Back Behm Canal. This has the benefit of significantly reducing harvest and effort while still providing some commercial harvest data. The GHL will remain at 50,000 pounds given the positive stock status throughout the rest of the district. The preseason survey, commercial CPUE, and distribution of effort may be used to adjust the GHL inseason.

The recent 10-year average (2010–2019) harvest is 61,600 pounds. The 2020/21 season's harvest was 54,700 pounds and the season closed October 11.

District 2—GHL will remain at 40,000 pounds.

The District 2 GHL was reduced for the 2009/10 season from 86,000 to 65,000 pounds due to excessive exploitation rates, declining CPUE, and a decrease in mean carapace length (CL). For the 2014/15 season, negative survey indicators prompted a reduction in GHL to 52,000 pounds. Based on extremely poor preseason survey results, Kasaan Bay was closed prior to the 2015/16 season and the GHL was reduced to 42,000 pounds. For the 2016/17 season, continued stock decline in Kasaan Bay and Cholmondeley Sound prompted a further reduction in GHL to 29,400 pounds. After positive indicators in the preseason survey the outer portion of Kasaan Bay and Skowl Arm reopened for the 2018/19 season with a pre-set closure date of October 7. The GHL was increased to 40,000 pounds for the 2020/21 season in response to the improved commercial catch rates observed in both Cholmondeley Sound and Kasaan Bay, increased catch rates of large class shrimp in the preseason survey, and high districtwide CPUE.

The District 2 shrimp pot fishery had a positive response to recent management actions. District wide commercial CPUE was at a historical low in the 2015/2016 season and has since increased, exceeding the baseline in the 2019/20 season and is currently at the second highest level historically. For the 2019/2020 season, portions of Kasaan Bay and Skowl Arm opened with no preset closure date and this management strategy will continue for the 2021/22 season. In addition, the waters of Twelve-Mile Arm will remain closed south of the latitude of Outer Point at 55°31.24´ N lat. The catch rates in Kasaan Bay were at the highest level ever seen in the District 2 shrimp pot fishery. Moira Sound and Cholmondeley Sound are also at extremely high levels. In the 2019/20 season the GHL was intentionally exceeded based on both strong preseason and inseason commercial CPUE. In 2020/21 the GHL was exceeded intentionally again based on strong catch rates in both the preseason survey and the commercial fishery with catches in Kasaan Bay at historically high levels. The excess harvest above the GHL is not expected to have any negative effects on stock health moving forward. District 2 has a preseason survey in both Cholmondeley Sound and Kasaan Bay which comprises 70% to 80% of the district wide GHL; as a result, the confidence with the survey data as an indicator of shrimp abundance in the district is good. The preseason survey, commercial CPUE, and distribution of effort may be used to adjust the GHL inseason if the health of the stock shows a sudden decline.

The recent 10-year average harvest is 50,500 pounds. The 2020/21season's harvest was 53,300 pounds and the season closed October 9.

Section 3-A—GHL will remain at 114,000 pounds.

For the 2000/01 season, the Section 3-A GHL was increased from 200,000 to 264,000 pounds. The GHL was reduced to 198,000 pounds for the 2004/05 season due to a consistent decline in average shrimp size and fishery harvest rates. From the 2004/05 through the 2007/08 seasons, the shrimp population was stable with an average harvest of 198,000 pounds. However, in an effort to increase the health and productivity of the Section 3-A shrimp stock, the GHL was reduced to 158,400 pounds for the 2008/09 season. The GHL remained at 158,400 pounds over the next two years but the average annual harvest over this period was only 128,000 pounds. There were no signs of improvement in the commercial fishery or the department survey which led to a further GHL reduction to 95,000 pounds for the 2010/11 season. Section-wide CPUE began to increase as did biological benchmarks in the preseason survey and the GHL was increased to the current GHL of 114,000 pounds beginning with the 2015/16 season.

Section-wide CPUE decreased slightly from the 2019/20 season but is still at the third highest level seen in the last 20 years. Section 3-A has the highest catch rates in the region as 10,000 to 15,000 pounds are harvested each day. The catch rates have remained high in the commercial fishery and in order to target the GHL while not remaining under, the difference in one day of fishing time can and does result in overages. These overages are not perceived to be detrimental to the health or sustainability of the Section 3-A shrimp stock. The healthy stock status for Section 3-A is not reflected in Hetta Inlet which, while showing a slight increase from the 2019/20 preseason survey, stock health in Hetta Inlet is still at a low level in all indicators and virtually zero in northern Hetta Inlet. Hetta Inlet will continue to be closed north of the latitude of Hetta Point at 55°10.40´ N lat due to poor stock status indicated from both commercial fishery and preseason survey data. The overall stock status for the rest of Section 3-A is good, with section-wide CPUE very high. The good stock status for all but Hetta Inlet, will allow the GHL to remain the same despite the closure of Hetta Inlet.

The recent 10-year average harvest is 114,300 pounds. The 2020/21 season's harvest was 132,700 pounds and the season closed October 11.

Sections 3-B/C—GHL will **decrease to 20,000 pounds.**

For the 2007/08 season the GHL was reduced from 50,000 to 40,000 pounds due to a decline in mean CL and CPUE. For the 2010/11 season, the GHL was reduced to 30,000 pounds based on decreasing commercial CPUE.

In Sections 3-B/C, there is no survey and limited biological sampling. The area wide commercial CPUE, the only metric analyzed in this section, has been on a steady downward trend since the 2016/17 season and is now at its lowest level (less than half of the recent 10-year average) since standardization was possible. Due to consistently declining commercial CPUE over the previous 5 seasons, the GHL is being reduced by 33% to 20,000 pounds. Given the nature of how harvest can rapidly increase after effort spikes immediately after Section 3-A closes, there may be an announced closure shortly after the closure of Section 3-A to not exceed the reduced GHL.

The recent 10-year average harvest is 31,600 pounds. The 2020/21 season harvest was 27,300 pounds and the season closed October 26.

District 4—GHL will remain at 20,000 pounds.

Data is very limited in District 4. No survey is conducted and the fishery has never been sampled. Effort and harvest have been sporadic throughout the history of the fishery. Fishery performance and logbooks are the only data from District 4 that can be used as an indicator of stock health. District 4 is on the open ocean and is exposed to inclement weather for much of the fall season. It often receives little to no effort during the fall fishery resulting in little harvest. The district reopens for the summer fishery but due to the timing, often receives little effort as the local Craig fleet begins salmon fishing during the same time period. Commercial CPUE remains stable, although it is low compared to other districts, and there is currently no concerns with stock health.

The recent 10-year average harvest is 17,500 pounds. The district closed February 28, 2021 and reopened for the spring/summer season. The 2020/21 season harvest is currently 9,300 pounds and remains open for the summer season.

District 5—GHL will remain at 12,000 pounds.

The GHL for District 5 was 20,000 pounds from the 1995/96 season until the 2015/16 season, when it was reduced to 12,000 pounds. The low harvest for the 2020/21 season can be partly attributed to very low effort in District 5. No biological data is available for this area and a survey is not conducted.

The recent 10-year average harvest is 4,700 pounds. The district closed February 28, 2021 and reopened for the spring/summer season. The 2020/21 season's harvest is currently 2,100 pounds and remains open for the summer season.

Sections 6-B/C/D—Fixed season length of 8 days.

The GHL has been adjusted downward for the last three seasons to around 30,000 pounds. While the adjusted GHL has been achieved there has been a declining trend in the carapace size of egg bearing females in all three seasons. Feedback from fishermen suggest that the quantity of large shrimp has been in decline, which is supported by size class catch information from logbook data. For the 2020/2021 season, available markets preferred a product form of head off tails instead of the more traditional size-based product and while logbooks

were still required, size class information was not as detailed making it more difficult to track the condition of the larger sized segments of the population.

During the 2019/2020 season 10 vessels participated with a CPUE of approximately 3.4 pounds per pot lift. In the 2020/21 season, effort was lower with eight vessels participating and a CPUE of approximately 3.9 pounds per pot lift. The 2020/21 season closed after 17 days (October 17) compared to 19 days (October 19) in the 2019/2020 season. Biological data shows that the size of egg bearing females is among the smallest within the Petersburg management area. The available data presents a confusing picture for Sections 6-B/C/D. On one hand CPUE increased in the 2020/2021 season and even though the GHL was decremented by 30% as it was during the 2019/2020 season, it was reached two days sooner with less effort. Better weather in the fall of 2020 may have been partially responsible. However, a particular concern is the decline in size of larger sized shrimp and coupled with reports from fishermen on the grounds suggests that the population may not be as healthy as indicated when just harvest rates alone are considered. In response, the department considered several options ranging from reducing the base GHL to a complete season closure. Given that the overall harvest has remained steady over the last three season a complete closure seems unwarranted. Going forward with no changes could put the population at risk and recognizing that shrimp populations have a long recovery time, status quo seems to be an undesirable option. A reduction in harvest seems advisable and a fixed season length would reduce harvest and still allow the department to obtain information on this stock. The department will monitor harvest metrics inseason and could extend the season if the data indicates that an extension is warranted. An eight-day fishery will likely result in a harvest around 15,000 pounds, will allow the department to collect information on the shrimp stock in the area, and will give the department enough time to assess inseason information for any inseason adjustments.

The GHL for District 6 has ranged from 82,000 pounds in the 2005/06 season to 24,000 pounds in 2011/12 season. Following meetings with industry in 2012, the department devised an experimental management plan to use inseason fishery data to adjust the GHLs in Districts 6 and 7. The adjustment in District 6 is based on catcher-processer CPUE and logbook data and CL data obtained from on-the-grounds sampling. These inseason management criteria have been used for the past eight seasons. The base GHL was set at 32,000 pounds for the 2012 through 2016 seasons. In 2017, the base GHL was raised to 42,900 pounds to allow for adjustment to reach the 60,000 pound upper end of the proposed GHR range. Adjustments to the base GHL has ranged from decreasing by 35% in 2014 to increasing by 40% in 2017.

Sections 6-B/C/D is a new management area created by the BOF in 2018. The management area is comprised of two analysis areas: Northern Clarence and SW Etolin Island with a combined GHR of 0 to 60,000 pounds. The 2021/22 season will be the fourth year since its inception in 2018. This area has historically been the core fishing area of District 6.

The recent 10-year average harvest is 34,000 pounds. The 2020/21 season's harvest was 32,600 pounds and the season closed October 17.

District 7—The GHL will be adjusted inseason with an initial base GHL of 74,300 pounds. Inseason adjustment will not exceed 45% of the initial GHL. Additionally, the department may close the fishery before the inseason GHL is reached if it becomes evident that fishery performance is below historical levels for healthy stocks.

The GHL for District 7 has ranged from 104,000 pounds in the 2000/01 season to 54,600 pounds in the 2010/11 season. Following meetings with industry in 2012, the department devised an experimental management plan to use inseason fishery data to adjust the GHLs in Districts 6 and 7. The adjustment in District 7 is based on

catcher-processer CPUE and logbook data, CL obtained from on-the-grounds sampling, and initial preseason survey results. These inseason management criteria have been used for the past eight seasons. The base GHL was 63,700 pounds for the 2012/13 through the 2014/15 seasons. The base GHL for the area was increased to 74,300 pounds beginning with the 2015/2016 season to allow the upper end of the GHR to be reached with inseason adjustments. Inseason adjustments have ranged from no change to a 30% increase.

Despite being closed three days earlier than the prior season, the inseason GHL was exceeded. When the fishery closed the reported harvest was around 68,000 pounds and because of lag in reports arriving at ADF&G offices the final result was not certain until almost 10 days after the fishery closed and was around 90,000 pounds. For the 2019/20 season, CPUE was 4.3 pounds per pot lift with 15 vessels participating. During the 2020/21 season CPUE was 6.2 pounds per pot lift with 16 vessels participating. The increase in CPUE and an increase in effort resulted in about a 5,000-pound difference in the daily catch rate for the fleet. The higher harvest rates also suggest that the stock is healthy, and the higher harvest will likely not jeopardize shrimp stocks in District 7. The department will stipulate a more frequent reporting requirement for the 2021/22 season.

The recent 10-year average harvest is 78,400 pounds. The 2020/21 season's harvest was 90,400 pounds and the season closed October 9.

Sections 8-B and 6-A—GHL will remain at 15,000 pounds.

Sections 6-A and 8-B were combined into a new management area by the BOF in 2018, comprising three subareas—Eastern Sumner, Western Sumner, and Stikine Strait/Chichagof Pass—with a combined GHR of 0 to 25,000 pounds. The 2020/21 season was the third year for this new area.

Fishery performance has been generally increasing over the past five seasons. Although commercial harvest data is difficult to interpret because effort in these areas can be variable from year to year, commercial CPUE increased slightly and is still above baseline in all analysis areas.

During the 2019/2020 season, six vessels participated with a CPUE of approximately 4 pounds per pot lift. In 2020/21 effort was lower with four vessels participating and a CPUE of approximately 4.7 pounds per pot lift. The 2020/21 season closed after only 11 days (October 11) compared to 18 days (October 18) in the 2019/2020 season. Considering higher harvest rates with less effort would suggest that an increase in GHL might be warranted. However, because this area has only been fished as a combined area since 2018, is not surveyed, and no biological samples were obtained, the department will collect biological samples and monitor how the 2021/22 season progresses before making the decision to adjust the GHL.

The recent 10-year average harvest is 10,800 pounds. The 2020/21 season's harvest was 15,100, pounds and the season closed October 11.

Sections 8-A and 10-C—GHL will remain at 12,000 pounds.

Sections 8-A and 10-C were combined into a new management area by the BOF in 2018. It is comprised of two analysis areas—Farragut Bay and Southern Frederick Sound—with a combined GHR of 0 to 20,000 pounds. The 2020/21 season was the third season for this new area**.**

Commercial CPUE increased to above baseline levels in the 2020/21 season. Commercial harvest data is difficult to interpret as effort in those sections can vary considerably from year to year. Most of the effort

occurs after other management areas close for the season. Additionally, effort in Section 10-C has been low and sporadic in recent years.

During the 2019/2020 season five vessels participated with a CPUE of approximately 4.0 pounds per pot lift. In the 2020/21 season, effort was higher with seven vessels participating and a CPUE of approximately 3.8 pounds per pot lift. The 2020/21 season closed after only 13 days (October 13) compared to 17 days (October 17) in the 2019/2020 season. A single biological sample was collected during an on the grounds survey October 5. This is another area that is not surveyed and has only been a combined management area since 2018.

The recent 10-year average harvest is 9,300 pounds. The 2020/21 season's harvest was 20,600 pounds and the season closed October 13.

District 9—GHL will remain at 6,500 pounds **with a fixed season length of 5 days**.

The GHL in District 9 has changed four times since the 1998/99 season. It was increased 20% from 15,000 to 18,000 pounds for the 2000/01 fishing season, where it remained until the 2011/12 season when it was reduced to 14,000 pounds. In response to continued declining standardized CPUE values, the GHL was reduced by 20% to 11,000 pounds for the 2015/16 season and further reduced to 6,500 pounds for the 2018/19 season. The analysis area composition of the harvest is variable, but most harvest comes from Eliza Harbor and SE Baranof Island. There were no landings from Keku Strait or Western Kuiu Island during the 2011/12 to 2020/21 fishing seasons.

The only data available for this district is commercial CPUE. Commercial CPUE declined severely in 2018/19 but rebounded in the 2019/20 and 2020/21 seasons. District wide CPUE has been below baseline for 14 consecutive seasons. Standardized CPUE is above baseline in Eliza Harbor.

The 2021/22 season will be the fourth season a 40% reduction in GHL will be in effect. If inseason harvest rates indicate steep declines in the shrimp population as observed during the 2018/19 season, a small area closure may be necessary in future seasons. Additionally, because of the remote nature of this district and the relatively small GHL, a five-day season will be allowed initially; however, a shorter harvest reporting interval for catcher-seller and catcher-processor vessels will be implemented and the fishery duration may be extended depending on inseason harvest information.

The recent 10-year average harvest is 13,500 pounds. The 2020/21 season harvest was 10,600 pounds and the season closed October 7.

Sections 10-A/B—GHL will be remain at 35,000 pounds.

Sections 10-A/B were created by the BOF in 2018. It is comprised of three analysis areas: Port Houghton, Hobart/Windham, and Southeast Admiralty with a combined GHR of 0 to 50,000 pounds. The 2020/21 season will be the third year for this new area. This area has historically been the core fishing area of District 10.

The GHL in District 10 increased from 30,000 to 35,000 pounds for the 2000/01 season and to 48,000 pounds for the 2004/05 season. The GHL was reduced to 36,000 pounds for the 2013/14 season and to 29,000 pounds for the 2016/17 season. Commercial harvest information for District 10 indicated shrimp populations declined sharply during the 2011/12 and 2012/13 seasons and again during the 2014/15 season.

The 2019/20 season closed after 9 days with a total of seven vessels making deliveries. The fleet was well distributed and commercial CPUE was approximately 7.8 pounds per pot lift—the highest CPUE during the

previous 20 years. In the 2020/21 season, effort doubled to 14 vessels fishing with much of the effort located in the Hobart Bay area, CPUE was approximately 6.8 pounds per pot lift, or about a pound less per pot and second highest CPUE during the previous 20 years. In the 2019/20 season, the closure date of October 9 was the earliest closure date on record but was surpassed in the 2020/21 season when the season closed October 6. Weather and the short duration of the fishery prevented collection of samples from the fishing grounds and no systematic surveys are conducted in Sections 10-A/B. The commercial CPUE was above baseline again in the 2020/21 season. The speed at which the GHL was reached suggests that the population is healthy and the GHL could be raised; however, since this was only the third season for this management area and the past two seasons have the two highest harvests during the prior 20 years, the department will keep the current GHL in place for the 2021/22 season to observe how the population responds.

Currently, the department has some concern with the high harvest from the 2019/20 and 2020/21 seasons having a negative impact on the shrimp population in Sections 10-A/B. In the 2019/20 season, the fleet was disbursed, and harvest rates were consistent throughout the sections. In 2020, effort was twice that in 2019, however, the fleet was more localized in the Hobart Bay/ Port Houghton area where a larger percentage of the overall harvest came from, which could be cause for concern. Similar to District 7, the department will stipulate a more frequent reporting interval for the 2021/22 season.

The recent 10-year average harvest is 40,200 pounds. The 2020/21 season's harvest was 58,600 pounds and the season closed October 6.

District 11–Seymour Canal (11-S)—will remain closed.

A GHL of 20,000 pounds of spot and coonstripe shrimp was established for all of District 11 in 1995. In 2012, the BOF established separate GHRs of 0 to 30,000 pounds of spot shrimp for Seymour Canal (11-S) and 0 to 15,000 pounds of spot and coonstripe shrimp for the remainder of the District (11-R). In the 2011/12 and 2012/13 seasons, an experimental inseason management approach modeled on the spawner index (SI) method utilized in British Columbia, Canada was investigated in 11-S, but managers felt that with the small extent of the fishing area and rapid pace of the fishery, the SI approach was not suitable and reverted to the preseason GHL approach for the 2013/14 season. Based on declines in commercial CPUE and the observed contraction of the area fished while investigating the SI approach, the GHL for 11-S was reduced to 15,000 pounds for the 2013/14 season and was further reduced to 12,000 pounds for the 2014/15 through 2018/19 seasons. With continuing declines in CPUE and further contraction of the fishing grounds the GHL was reduced to 10,000 pounds for the 2019/20 season.

Commercial CPUE in the 2019/20 season decreased from the previous season to the lowest since the 2001/02 season. This area was closed for the 2020/21 season. It is anticipated 11-S will reopen for the 2022/23 season on a two or three-year rotational strategy. The recent 10-year average harvest is 14,700 pounds.

Remainder of District 11 (11-R)—will remain closed.

A GHL of 7,500 pounds of spot and coonstripe shrimp was established for the District 11 remainder (11-R) for the 2012/13 season. Due to the observed decreases in commercial CPUE in Section 11-A adjacent to the community of Juneau, combined with an analysis of Division of Sport Fish creel data indicating the sport and personal use harvest was at least equal to the commercial harvest, Section 11-A was closed in 2013 to all shrimping to rebuild stock health. Department surveys of the area were conducted in the winters of 2018, 2019, and 2020 with the results pointing to a stock experiencing recruitment failures for multiple years and the area remains closed to preserve the existing spawning stock. The 11-R 7,500-pound GHL was in place through the

2016/17 season with nearly all the harvest coming from Section 11-C. Declining CPUE and concerns of serial depletion led to the closure of Endicott Arm and a reduction in the GHL to 4,000 pounds for 11-R for the 2017/18 and 2018/19 seasons. Harvests in the 2017/18 and 2018/19 seasons were from the same small area in Stephens Passage and the entire area was closed for the 2019/20 and 2020/21 seasons.

11-R has exhibited serial depletion of the spot shrimp stock with the sequential closures of Section 11-A in 2013, Endicott Arm in 2017, and the entirety of Section 11-C due to declines in commercial CPUE and harvest in 2019. It is anticipated 11-R will reopen for the 2022/23 season on a three-year rotational strategy.

The recent 10-year average harvest is 5,200 pounds. This area was closed for the 2020/21 season.

District 12–Tenakee Inlet (12-T)—GHL will remain at 10,000 pounds.

A GHL of 20,000 pounds of spot shrimp was established for all of District 12 in 1995. In the 2000/01 season the entire 20,000-pound GHL for the district was taken from Tenakee Inlet and for the 2001/02 season Tenakee Inlet was separated from the District 12 remainder (12-R) and given its own GHL of 20,000 pounds, and a 15,000-pound GHL was put in place for 12-R. The Tenakee Inlet GHL was increased to 28,000 pounds for the 2005/06 season. With declining CPUE in department preseason surveys, the GHL for Tenakee Inlet was reduced to 17,000 pounds for the 2008/09 season and was further reduced to 10,000 pounds for the 2010/11 season. Following the 2011 preseason survey a stock collapse was evident, and Tenakee Inlet was closed to commercial harvest. With continuing declines in preseason survey performance, Tenakee Inlet was closed to sport and personal use shrimping in 2012. With survey results returning to near baseline levels, personal use and sport shrimping was reopened in December of 2017 and the commercial fishery was reopened in 2018.

Survey data has shown stock recovery in the western portion of Tenakee Inlet over the past seven years and catch rates of large shrimp remained above baseline in 2020, although they decreased from 2019. The size structure of the stock showed a decrease in the larger sized shrimp consistent with commercial removals from the previous season, and a little below the 10-year mean for smaller sized shrimp. A set two-day commercial fishery in 2018 with a GHL of 7,500 pounds of spot shrimp and an area closure west of Long Bay to provide some refugia attracted one boat. Tenakee Inlet was again opened in 2019 with a 7,500-pound GHL. With six boats on the grounds, managers set the season for two days again, with the fishery occurring in the same area as the preseason survey. Harvest was 11,900 pounds of spot shrimp. A similar set two day opening in 2020 drew six boats again with a harvest of 11,700 pounds. With no survey or harvest data from the eastern portion of Tenakee Inlet, it is unknown to what extent the entire inlet has rebounded. A conservative management approach will be utilized as the shrimp population rebuilds throughout the inlet. Tenakee Inlet will be opened similar to the 2021/22 season for a set two days. Tenakee Inlet will not be included in the rotational fishery management strategy in the Juneau management area at this time. The preseason survey will monitor the health of the shrimp population and inform commercial fishery opportunities.

The recent 10-year average harvest is 9,500 pounds (only includes three seasons). The 2020/21 season's harvest was 11,700 pounds and the season closed October 2.

District 12–Remainder—will reopen with a GHL of 7,500 pounds.

The 15,000 pound GHL of spot shrimp for 12-R was reduced to 10,000 pounds for the 2008/09 season, and due to declining commercial CPUE and fishermen concerns the area was closed to rebuild the stock from the 2012/13 through 2014/15 seasons. 12-R was reopened for the 2015/16 season with a reduced GHL of 7,500

pounds; CPUE remained poor and the area was closed again for the 2016/17 through 2018/19 seasons. 12-R reopened for the 2019/20 season with a GHL of 7,500 pounds.

After a three-year closure to rebuild stocks, 12-R was re-opened for the 2015/16 season with catch rates in Kelp Bay, the primary driver of this GHL area unchanged, and another three-year closure was instated to continue to rebuild stocks. This area reopened for the 2019/20 season with a GHL of 7,500 pounds and a harvest of 10,300 pounds. Kelp Bay saw improved commercial CPUE and harvest with fishermen reporting consistent CPUEs but noted a decreasing size of shrimp over the course of the season. Freshwater Bay performed well but did not have any commercial effort for seven years prior to the 2019/20 season. There was no effort in the Point Couverden analysis area. 12-R is anticipated to remain in a two-year rotational harvest strategy.

The recent 10-year average harvest is 8,200 pounds. This area was closed for the 2020/21 season.

Sections 13-A/B—GHL will remain at 15,000 pounds.

Sections 13-A/B were separated from Section 13-C with a GHL of 15,000 pounds of spot shrimp beginning with the 2000/01 season. The GHL has not been modified since its inception. Fishery performance is the only information available for an indicator of stock heath. Commercial CPUE increased from last season and is above baseline.

The recent 10-year average harvest is 15,700 pounds. The 2020/21season's harvest was 19,000 pounds and the season closed October 7.

Section 13-C—will remain closed.

The GHL for Section 13-C was reduced from 42,000 pounds to 34,000 pounds for the 2007/08 season, to 30,000 pounds for the 2008/09 season, to 26,000 pounds for the 2012/13 season, to 16,000 pounds prior to the 2017/18 season. In the more productive Hoonah Sound portion of Section 13-C, annual surveys were conducted from 1998 through 2014 and 2017 through 2020. Due to continued poor stock health metrics from the survey, Section 13-C was closed for the 2020/21 season.

Overall, results from the preseason surveys conducted from 2017 through 2020 indicated poor stock health in Hoonah Sound. However, in 2020, the catch rate of large class shrimp continued to increase slightly following two years of record and near-record lows in 2018 and 2019. The catch rate of small class shrimp increased sharply, from a near-record low in 2019 to slightly above baseline levels in 2020. Both the subsistence and sport shrimp fisheries in Hoonah Sound have been closed since March 1, 2020.

The recent 10-year average harvest is 24,000 pounds. This area was closed for the 2020/21 season.

District 14—will be closed.

A GHL of 20,000 pounds of spot shrimp was established for District 14 in 1995. With declining commercial CPUE, the GHL was reduced to 15,000 pounds for the 2006/07 season and further reduced to 10,000 pounds for the 2008/09 season. The fishery closed for three seasons to rebuild the stock and reopened for the 2012/13 season with a GHL of 10,000 pounds. With CPUE unchanged, District 14 closed again for three seasons. The district reopened for the 2016/17 season with a reduced GHL of 7,500 pounds and an alternate-year rotational harvest strategy. Overall fishery CPUE improved over the 2019/20 season with Eastern Icy Strait CPUE similar

to the last time the area was fished. It is anticipated that District 14 will reopen for the 2022/23 season in a two-year rotational harvest strategy.

The 2020/21 harvest was 7,000 pounds and the season closed October 15.

District 15—GHL will remain at 11,000 pounds of coonstripe shrimp which will again be split between the East side and the remainder of District 15. District 15 East will have a GHL of 3,500 pounds and the remainder will have a GHL of 7,500 pounds. Chilkoot and Lutak Inlets in District 15 East will remain closed for the 2021/22 season.

The District 15 GHL has been managed as two separate areas each with specific GHLs since 2009 following a three-year district wide closure. District 15 East encompasses Lutak, Chilkoot, and Taiya Inlets. The remainder of District 15 includes Chilkat Inlet, and waters south of the latitude of Seduction Point and north of the latitude of Little Island Light. This split has been used as an alternative management strategy and is not currently in regulation. A proposal was submitted for consideration at the 2022 BOF meeting to adopt this strategy into regulation.

District 15 East was managed for a GHL of 7,500 pounds since reopening in 2009 until the 2018/19 season when the GHL was reduced to 3,500 pounds. In addition, Chilkoot and Lutak Inlets were closed due to concerns for the health of the stocks in those areas leaving Taiya Inlet the only open area. Commercial CPUE in Taiya Inlet increased to baseline during the 2018/2019 season and increased to above baseline during the 2019/20 season. Chilkoot and Lutak Inlets opened for the 2019/20 season, but fishery performance remained poor. During the 2020/21 season Taiya Inlet was the only area open and standardized CPUE decreased slightly and currently shows no significant 4-year trend.

The recent 10-year average harvest is 9,500 pounds. The 2020/21 season's harvest was 4,000 pounds and the season closed October 19.

The remainder of District 15 has been managed for a GHL of 7,500 pounds since reopening for the 2009/10 season. During this time, harvests have averaged 3,200 pounds. Commercial CPUE dropped precipitously in the 2015/16 season to the lowest on record. There was no harvest during the 2016/17 season. The 2017/18 and 2018/19 season's CPUE was at baseline levels, but carapace length decreased. The 2019/2020 season's CPUE increased to the highest level compared to the prior seven seasons and was above baseline. During the 2020/21 season, this area remained highly variable showing a large decrease following the prior season's large increase in CPUE. Standardized CPUE is at baseline with no significant four-year trend. Effort was low and harvest information is confidential. District 15 remainder closed by regulation on February 28, 2021.

The recent 10-year average harvest in District 15 remainder is 3,500 pounds of coonstripe shrimp. The 2020/21 season reopened for the spring/summer season on May 15 and the season's harvest was 8,200 pounds. The season closed on June 25.

District 16—will remain closed.

A GHL of 20,000 pounds of coonstripe shrimp was established for District 16 in 1995. With declining commercial CPUE, the GHL was reduced to 15,000 pounds for the 2004/05 season and with continued declines closed for three seasons to rebuild stocks. The fishery reopened in 2008 with a 15,000-pound GHL of spot and coonstripe shrimp and an alternate-year rotational harvest strategy was established. The spot shrimp contribution has historically made up a significant proportion of the harvest, and in recent seasons has been as

high as 70% of the harvest. The GHL has been considered in total pounds of shrimp, combining coonstripe and spot shrimp, since the alternate-year rotational harvest strategy has been in place.

This district was the first in the region to employ the alternate-year rotational harvest strategy to reduce impacts on the stock, beginning with the 2008/09 season. This fishery opened for the sixth time in its biennial schedule in 2018 and CPUE of all shrimp decreased to levels that prompted the initial three-year closure in the 2005/06 season. The 2018/19 season harvest of 5,400 pounds of spot and coonstripe shrimp was the second season since rotational fisheries began that the GHL was not harvested. District 16 will remain closed until 2022/23 when fisheries will open in a three-year rotational harvest strategy.

This area was closed for the 2020/21 season.

REFERENCES CITED

Smith, Q., and M. M. Reynolds. *In Prep*. Southeast Pot Shrimp Stock Status Prior to the 2021/22 Season. Alaska Department of Fish and Game, Fishery Data Series No. 21-XX, Anchorage.

Table 1.–GHLs in pounds whole weight by season for the Registration Area A shrimp pot fisheries, 2006/07 through 2021/22 seasons.

Fishing Area	2021/22	2020/21	2019/20	2018/19	2017/18	2016/17	2015/16	2014/15	2013/14	2012/13	2011/12	2010/11	2009/10	2008/09	2007/08	2006/07
1	50,000	50,000	50,000	64,000	64,000	64,000	64,000	50,000	50,000	50,000	50,000	50,000	50,000	78,700	98,400	98,400
2	40,000	40,000	30,000	29,400	29,400	29,400	42,000	52,000	65,000	65,000	65,000	65,000	65,000	86,000	86,000	86,000
3-A	114,000	114,000	114,000	114,000	114,000	114,000	114,000	95,000	95,000	95,000	95,000	95,000	158,400	158,400	198,000	198,000
3-B/C	**20,000**	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	40,000	40,000	40,000	50,000
4	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
5	12,000	12,000	12,000	12,000	12,000	12,000	12,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
6-B/C/D[5]	**15,000**[1]	30,030[3]	34,320[3]	51,480[3]	44,800[3]	32,000[3]	20,800[3]	36,800[3]	38,400[3]	384,00[3]	24,000	68,000	68,000	68,000	82,000	82,000
7[2]	74,300[3]	74,300[3]	74,300[3]	74,300[3]	96,590[3]	81,730[3]	74,300[3]	70,070[3]	77,500[3]	80,700[3]	54,600	54,600	78,000	78,000	78,000	78,000
8-B/6-A[5]	15,000	15,000	15,000	15,000	10,500	10,500	10,500	10,500	15,000	15,000	15,000	15,000	20,000	20,000	20,000	20,000
8-A/10-C[5]	12,000	12,000	12,000	12,000	–	–	–	–	–	–	–	–	–	–	–	–
9	6,500	6,500	6,500	6,500	11,000	11,000	11,000	14,000	14,000	14,000	14,000	18,000	18,000	18,000	18,000	18,000
10-A/B[5]	35,000	35,000	35,000	35,000	29,000	29,000	36,000	36,000	36,000	48,000	48,000	48,000	48,000	48,000	48,000	48,000
11-Sey	Closed	Closed	10,000	12,000	12,000	12,000	12,000	12,000	15,000	N/A[4]	20,000	20,000	20,000	20,000	20,000	20,000
11-Rem	Closed	Closed	Closed	4,000	4,000	7,500	7,500	7,500	7,500	7,500	–	–	–	–	–	–
12-Ten	10,000	10,000	7,500	7,500	Closed	Closed	Closed	Closed	Closed	Closed	Closed	10,000	17,000	17,000	28,000	28,000
12-Rem	**7,500**	Closed	7,500	Closed	Closed	Closed	7,500	Closed	Closed	Closed	10,000	10,000	10,000	10,000	15,000	15,000
13-A/B	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000
13-C	Closed	Closed	16,000	16,000	16,000	26,000	26,000	26,000	26,000	26,000	30,000	30,000	30,000	30,000	34,000	42,000
14	**Closed**	7,500	Closed	7,500	Closed	7,500	Closed	Closed	Closed	10,000	Closed	Closed	Closed	10,000	15,000	15,000
15	11,000	11,000	11,000	11,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	Closed	Closed	Closed
16	Closed	Closed	Closed	15,000	Closed	15,000	Closed	15,000	Closed	15,000	Closed	15,000	Closed	15,000	Closed	Closed
TOTAL	457,300	482,330	500,120	551,680	523,290	531,630	517,600	524,870	539,400	910,202	525,600	598,600	692,400	752,100	835,400	853,400

Table Notes: All GHLs with the exception **of 11-R, 15, and 16 are GHLs for spot shrimp. 11-R and 16 GHLS are combined spot and coonstripe shrimp and 15 is for coonstripe shrimp only.** Bolding for 2021/22 GHLs indicates a change from the 2020/2021 season.

[1] Section 6-B/C/D GHL is expected harvest for a set 8-day opening.

[2] District 7 GHL may be adjusted inseason. District 6 base = 42,900 pounds and District 7 base = 74,300 pounds.

[3] GHLs were adjusted inseason. District 6 base = 32,000 pounds for years 2012 through 2016, then increased to 42,900 starting in 2017. District 7 base = 63,700 pounds for 2012 through 2014, then increased to 74,300 stating in 2015.

[4] District 11- Seymour Canal did not have a GHL assigned in the 2012/13 season due to experimentation with Spawner Index based management.

[5] New area in 2018.

Table 2.–Shrimp pot fishery harvest in whole pounds by season for the Registration Area A shrimp pot fisheries, 2006/07 through 2020/21 seasons.

Fishing	2020/21	2019/20	2018/19	2017/18	2016/17	2015/16	2014/15	2013/14	2012/11	2011/12	2010/11	2009/10	2008/09	2007/08	2006/07
1	54,697	57,536	57,925	73,114	72,790	61,718	65,993	55,615	70,000	54,688	36,682	46,572	53,278	87,556	141,851
2	53,316	43,569	31,296	27,758	30,629	39,205	50,915	62,058	74,554	76,002	68,724	64,522	87,947	89,787	99,090
3-A	132,684	128,215	105,959	132,102	135,730	115,950	112,061	122,914	107,068	97,580	84,711	135,276	118,845	182,137	205,435
3-B/C	27,315	23,682	21,733	33,422	37,562	30,405	36,049	26,717	33,107	40,116	33,104	46,980	30,136	44,703	47,305
4	9,300*	17,956	14,429	18,353	18,459	19,507	***18,129***	***12,466***	***19,673***	***17,060***	21,384	20,795	0	174	15,085
5	2,127*	699	1,713	7,656	1,117	4,464	3,737	2,998	5,136	8,562	10,523	16,688	8,029	0	10,216
6-B/C/D	32,609	29,048	38,181	52,179	39,126	26,048	22,040	35,106	35,050	30,657	32,784	48,764	28,551	30,957	70,685
7	90,378	85,829	77,482	95,952	84,347	80,069	75,452	94,526	81,488	60,073	48,757	74,012	52,349	76,484	80,492
8-B/6-A	15,099	16,808	16,434	12,132	12,389	9,301	3,588	6,277	9,663	12,302	9,456	13,374	9,586	19,397	25,860
8-A/10-C	20,554	12,737	10,780	8,924	4,035	3,680	9,386	9,318	9,246	8,431	16,851	18,343	6,454	7,886	10,174
9	10,622	11,259	5,412	10,784	12,528	12,201	18,435	15,241	16,183	10,795	21,890	18,960	17,139	17,333	24,110
10-A/B	58,581	62,041	39,973	40,365	34,647	32,693	31,323	31,940	36,419	45,324	47,002	47,483	50,805	39,097	46,599
11-Sey	Closed	9,314	11,457	*******	*******	*******	*******	13,209	21,969	20,877	23,209	25,288	13,742	16,490	20,452
11-Rem	Closed	Closed	4,628	4,768	6,888	6,356	6,438	8,313	8,211	*******	*******	*******	6,292	4,250	3,075
12-Ten	11,748	11,984	2,562	Closed	Closed	Closed	Closed	Closed	Closed	Closed	14,072	10,979	12,270	18,371	30,032
12-Rem	Closed	10,282	Closed	Closed	Closed	5,100	Closed	Closed	Closed	8,335	8,952	7,907	12,382	15,198	18,551
13-A/B	18,992	15,802	12,696	20,623	18,968	13,454	17,297	16,300	13,769	14,590	13,650	9,446	11,902	11,270	16,819
13-C	Closed	13,383	14,182	12,693	26,970	26,096	24,919	23,033	28,493	38,109	31,851	25,223	29,614	29,395	36,449
14	8,474	Closed	5,541	Closed	6,806	Closed	Closed	Closed	8,773	Closed	Closed	Closed	7,736	13,054	13,259
15	12,000*	13,529	7,942	***	5,490	7,632	14,661	14,374	15,768	14,208	9,171	9,593	Closed	Closed	Closed
16	Closed	Closed	5,425	Closed	8,974	Closed	14,706	Closed	*******	Closed	15,050	Closed	*******	Closed	Closed
Total	555,195	563,674	485,748	567,853	568,655	505,581	537,198	550,405	609,275	558,157	548,808	642,354	571,441	703,538	915,540
GHL	482,330	500,120	551,680	523,290	531,630	517,600	524,870	539,400	910,202	525,600	598,600	692,400	752,100	835,400	853,400
% of	115%	113%	92%	108%	105%	96%	100%	101%	104%	107%	93%	93%	78%	85%	108%
Permits	107	94	105	105	105	97	99	109	103	108	106	108	96	108	36

***Table notes*:** Confidential data is in bold italics. Harvest data shown is harvest of spot shrimp, except for 11-Rem, 15, and 16. Districts 11-Remainder and 16 are combined harvest of spot and coonstripe shrimp and District 15 is harvest of coonstripe shrimp only.

* Districts 4, 5, and 15 were re-opened for the summer season on May 15; harvests from these three areas are expected to increase until the season closes July 31.

*** Confidential information, less than three permits reporting.

Table 3.–Summary of commercial shrimp pot fishery management area stock status evaluations following the 2020/2021 season, showing stock status designation (*good, above average, moderate, below average, poor*) and data confidence scores.

Management Area	Fishing Area Unit	Stock Status	Matrix Score	Standardized Score	Data Confidence
Ketchikan	District 1	Below Average	-2.72	-0.44	0.34
	District 2	Moderate	-0.07	-0.01	0.48
	Section 3-A	Moderate	0.18	0.05	0.30
	Sections 3-B/C	Poor	-1.10	-0.94	0.18
	District 4	Moderate	0.00	0.00	0.20
Petersburg	District 5	Moderate	0.00	0.00	0.11
	Sections 6-B/C/D	Poor	-2.37	-0.98	0.34
	District 7	Moderate	-0.73	-0.14	0.59
	Sections 8-B, 6-A	Good	0.93	0.80	0.15
Sitka	District 9	Moderate	-0.22	-0.19	0.12
Petersburg	Sections 8-A, 10-C	Above Average	0.45	0.39	0.20
	Sections 10-A/B	Good	1.04	0.89	0.20
Juneau	11-Seymour	Closed	N/A	N/A	0.00
	11-Remainder	Closed	N/A	N/A	0.00
	12-Tenakee	Moderate	0.42	0.11	0.42
	12-Remainder	Closed	N/A	N/A	0.00
Sitka	Sections 13-A/B	Moderate	0.00	0.00	0.18
	Section 13-C	Above Average	1.00	0.33	0.23
Juneau	District 14	Moderate	0.33	0.33	0.11
Haines	District 15-East	Moderate	0.00	0.00	0.10
	Dist 15-Remainder	Moderate	0.00	0.00	0.18
Juneau	District 16	Closed	N/A	N/A	0.00

Notes: Stock status designations: Designations of *Good, Above Average, Moderate, Below Average, or Poor* are provided from a standardized matrix score based on equal weighting of all data categories available by geographic subdivisions, long-term and short-term trends.

Standardized scores: The standardized score is used to compare among districts and ranges from +1 to -1. The standardized score is calculated as the score divided by the total possible score for a given management unit. A standardized score of ≥0.6 gives a stock status of Good, 0.2 to 0.59 Above Average, -0.19 to 0.19 Moderate, -0.2 to -0.59 Below Average, and ≤-0.6 Poor.

Data confidence: Percentage of data sources available in any given area, out of all possible sources.