Analysis of Management Options for the Area 2C and 3A Charter Halibut Fisheries for 2022

A Report to the North Pacific Fishery Management Council

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1.0 Introduction

The International Pacific Halibut Commission (IPHC) approves catch limits for Pacific halibut each year for Regulatory Areas in Alaska. In IPHC Regulatory Areas 2C and 3A, which roughly correspond with Southeast and Southcentral Alaska, these catch limits are allocated between the commercial longline fishery and the sport charter fishery. The allocations are specified in the North Pacific Fishery Management Council's Halibut Catch Sharing Plan (CSP) for Areas 2C and 3A[1]. The allocations vary with the magnitude of the overall catch limit, such that the percentage allocated to the charter sector increases slightly as catch limits decrease. The CSP also specifies that "wastage" or release (discard) mortality will count toward each sector's allocation. The CSP further specifies that, effective in 2014, charter harvest accounting will be based on numbers of halibut reported harvested in Alaska Department of Fish and Game (ADF&G) saltwater guide logbooks.

The charter fishery in Areas 2C and 3A is managed under regulations reviewed and recommended each year by the North Pacific Fishery Management Council (Council) and approved and published by the IPHC as annual management measures. As the first step in this process, the Council's Charter Halibut Management Committee met October 26, 2021, to develop alternative management measures for analysis by the ADF&G for the 2022 season. ADF&G staff provided preliminary estimates of charter harvest and release mortality for the 2021 season to committee members prior to the meeting. In Area 2C, electronic reporting of trips using eLogbook became mandatory in 2021; therefore, logbook data for all trips that were submitted prior to October 19, 2021, were used for preliminary estimates. In recent years, no harvest was reported in Area 2C after October 15th. In Area 3A, where use of paper logbooks is still widespread, the preliminary estimates were based on logbook data for trips through August 31, 2021. Estimates will be finalized by fall of 2022, once all logbook data are entered and edited.

In Area 2C, the 2021 preliminary reported harvest for the charter fishery was 77,287 halibut with an estimated average weight of 14.48 lb (Webster et al. 2021). The Area 2C preliminary estimate of charter removals was 1.154 million pounds (Mlb), including an estimated 0.035 Mlb of release mortality. The preliminary estimate of charter removals was 42.5% over the 0.810 Mlb allocation. Charter regulations in 2C included a one-fish bag limit and a reverse slot limit allowing for harvest of fish less than or equal to 50 inches or greater than or equal to 72 inches (U50O72). When charter regulations were considered in late 2020 and early 2021, there was considerable uncertainty about the continued impacts of the COVID-19 pandemic and it was anticipated that charter effort in Area 2C would be at least 35% below the projected effort; this was accounted for in the development of 2021 regulations.

In Area 3A, an estimated 184,160 halibut were harvested with an average weight of 13.23 lb (Webster et al. 2021). The preliminary estimate of charter removals for Area 3A was 2.454 Mlb, including 0.018 Mlb of release mortality. The preliminary estimate was 25.9% over the allocation of 1.950 Mlb. Charter regulations in 3A included a two-fish bag limit of which one fish could be any size and the second must be less than or equal to 32 inches, no harvest of halibut on Wednesdays, a limit of one trip per vessel per day, and a limit of one trip per Charter Halibut Permit (CHP) per day. When charter regulations for 2021 were considered, it was anticipated that charter effort in Area 3A would be at least 25% below the

[1] Catch Sharing Plan regulations are at: https://www.federalregister.gov/documents/2013/12/12/2013-29598/pacific-halibut-fisheries-catch-sharing-plan-for-guided-sport-and-commercial-fisheries-in-alaska

projected effort due to continued impacts of the COVID-19 pandemic; this was accounted for in the development of 2021 regulations.

The Charter Committee considered the performance of last year's measures, and in light of recent trends in effort, numbers of halibut harvested by charter anglers, average weight of halibut, halibut abundance, and economic considerations, identified the following measures for analysis for 2022:

Area 2C (all options include a one-fish bag limit):

1) Status quo (reverse slot limit allowing harvest of a fish less than or equal to 50 inches or greater than or equal to 72 inches).
2) Additional reverse slot limits with lower limits of the protected slot ranging from 35 to 50 inches and upper limits ranging from 50 to 80 inches.
3) Additional reverse slot limits with lower limits of the protected slot ranging from 35 to 50 inches and an upper limit of 80 inches with a closed day of the week starting on September 17th and adding closed days to May 15th or for the entire season, analyzed for each day of the week.
4) Additional reverse slot limit with lower limits of the protected slot ranging from 35 to 50 inches and an upper limit of 80 inches with a closed day of the week for the entire season (analyzed for each day of the week) and an additional closed day of the week starting on September 17th and adding closed days to May 15th or for the entire season, analyzed for each day of the week.
5) Annual limits of two to four fish, in combination with each of the above options[2].

Area 3A (all options include, unless otherwise noted, the status quo two-fish bag limit with a 32-inch maximum size limit on one fish, one trip per vessel and one trip per CHP per day, and a Wednesday closure all year):

1) Status quo (two-fish bag limit with a 32-inch maximum size limit on one fish, one trip per vessel and one trip per CHP per day, and a Wednesday closure all year).
2) Additional size limits on one fish ranging from 26 to 32 inches combined with one or more Tuesday closures from June 1st to August 31st or for the entire season.
3) Additional size limits on one fish ranging from 26 to 32 inches with Tuesdays closed for the entire season combined with one or more Monday or Thursday closures from June 1st to August 31st or for the entire season.
4) Additional size limits on one fish ranging from 26 to 32 inches combined with annual limits of two to four fish.
5) Additional size limits on one fish ranging from 26 to 32 inches combined with annual limits of two to four fish and one or more Tuesday closures from June 1st to August 31st or for the entire season.
6) A one-fish bag limit with no size limit with or without a Wednesday closure for the entire season.

[2] Annual limits were not evaluated in combination with option 4 (one day of the week closed with additional days closed throughout the season and reverse slot limits). This analysis would have resulted in 40,320 different combinations and there were sufficient options already analyzed that were at or below the reference allocation. It is recommended that future requests combining annual limits, multiple closed days, and size limits are more specific.

7) A one-fish bag limit with reverse slot limits with lower limits of the protected slot ranging from 35 to 60 inches and upper limits ranging from 60 to 80 inches combined with one or more Wednesday closures from June 1st to August 31st or for the entire season or all Wednesdays closed with one or more Tuesday closures from June 1st to August 31st or for the entire season.

8) A seasonal closure prior to May 16th and after July 31st or prior to June 1st and after July 31st with all days of the week open.

This analysis provides information to stakeholders and the Council to assist them in selecting management measures likely to keep total charter removals within their allocations. The allocations will be derived from catch limits determined by the IPHC at their Annual Meeting in January 2022. The charter allocations will not be known when the Council is expected to make its recommendations in December 2021. However, the Council may base recommendations on the charter allocation associated with maintaining the IPHC's reference fishing intensity ($F_{43\%}$) and distributed mortality limits ("interim management procedure", Stewart et al. 2021) or based on other scenarios for coastwide TCEYs and distributed mortality limits, such as the 2021 allocations. It is recommended that the Council include contingencies to accommodate adoption of a range of catch limits and may include buffers for uncertainty in the projected harvests.

The IPHC's 2021 stock assessment results were made available to the public on November 23rd, including the Regulatory Area Total Constant Exploitation Yield (TCEY)s and associated sector allocations for 2022 under the IPHC's interim management procedure. The IPHC is not limited to these options when setting TCEYs. Results presented here are within the context of two possible allocation scenarios. The first scenario is consistent with the interim management procedure and uses a coastwide TCEY at the reference level of 41.22 Mlb and Regulatory Area TCEYs based on the interim management procedure. The second scenario uses the 2021 (status quo) allocations. Allocations under the two scenarios are as follows:

	Charter Allocation (Mlb)	
Regulatory Area	Reference TCEY	2021 Allocation
2C	0.60	0.81
3A	2.05	1.95

This analysis projects total charter fishery removals under the current (status quo) charter fishery regulations in each Regulatory Area. As shown below, under current regulations the projected charter removal in 2022 for Area 2C is 1.10 Mlb. The projected removal for Area 3A is 2.30 Mlb. Removals in both Areas are projected to be above both the reference and 2021 charter allocations. More restrictive regulations will likely be necessary in both Areas for 2022.

Area	Projected Status Quo Charter Removals (Mlb)	Reference TCEY Difference (Mlb) (Allocation – Projection)	Status Quo TCEY Difference (Mlb) (Allocation – Projection)
2C	1.10	-0.50	-0.29
3A	2.30	-0.25	-0.35

For consistency with analyses reported in recent years, the analyses included in this report generally follow previously reported methods (Meyer and Powers 2017; Webster and Powers 2018, 2019, 2020 and

2021). The analyses cover a range of alternatives as proposed by the Charter Halibut Management Committee to allow stakeholders, the Council, and the IPHC to select the desired management measures to meet the charter allocation for each Area. Where applicable, results reference candidate measures that result in projected charter removals within the above allocation scenarios.

These analyses do not attempt to account for or characterize any continued impacts of the COVID-19 pandemic to the charter sector in 2022.

2.0 General Methods

2.1 Definitions and Basic Calculations

Throughout this analysis, the term "harvest" means the number of halibut killed and landed in the charter fishery. "Yield" is the harvest expressed in units of weight. "Release mortality" refers to halibut that die as a result of stress or injury from being caught and then released and is expressed in units of weight. Finally, "removals" refers to all halibut killed in the sport fishery, including harvest and release mortality, and is measured in units of weight. Weight is based on length data from harvested halibut sampled at ports and the length-weight relationship developed by IPHC (Table 1, Clark 1992). Removals are generally projected from harvest, average weight, and release mortality as follows:

$$Harvest(no.fish) = Effort\ (angler - days) \times HPUE\ (harvest\ per\ angler - day),$$

$$Yield(lb) = Harvest \times AverageNetWeight(lb), \text{ and}$$

$$Removals\ (lb) = Yield(lb) \times r(lb)$$

where *r* is the release mortality expansion factor. In IPHC Area 2C the release mortality expansion factor is a function of the lower limit of the reverse slot limit and for 2022 is calculated as:

$$r(lb) = 1.2058 - 0.0035 * (Lower\ Limit\ of\ Reverse\ Slot\ Limit)$$

and in IPHC Area 3A the release mortality is calculated using past data as:

$$r(lb) = 1 + [ReleaseMortality(lb)/Yield\ (lb)\ ]$$

which for 2022 is 1.009, unless otherwise noted.

2.2 Calculations by Subarea

All calculations for Area 2C and Area 3A were done by Subarea and then summed to obtain yield estimates for each Regulatory Area. Analyses were done at the Subarea level because many of the variables analyzed (harvest, effort, average weight, etc.) vary substantially by Subarea.

There are six Subareas in Area 2C and eight Subareas in Area 3A (Table 2, Figure 1). With few exceptions, the Subareas correspond to ADF&G sport fishery management areas as well as the reporting areas used for the ADF&G statewide mail survey of sport fishing (Statewide Harvest Survey; SWHS). The Juneau and Haines/Skagway Areas were combined because the Haines/Skagway Area is not sampled for average weight and harvests are quite small. SWHS Area J is split into three Subareas: Eastern Prince William Sound (EPWS), Western Prince William Sound (WPWS), and the North Gulf Coast (NG). Likewise, Cook Inlet (SWHS Area P) is split into Central Cook Inlet (CCI) and Lower Cook Inlet (LCI) Subareas. These SWHS areas were split into Subareas such that the landings in each Subarea could be matched to estimates of average weight from port sampling. ADF&G obtained length measurements from harvested halibut and interviewed anglers and charter captains in at least one port in each Subarea. In addition, SWHS Area G (Glacier Bay) is divided into the 2C and 3A portions using statistical areas reported during biological sampling and in saltwater guide logbooks. In 2020 and 2021 biological sampling only occurred in the Area 2C portion of SWHS G due to staffing changes that resulted from the

COVID-19 pandemic; therefore, biological data from Yakutat was used as a proxy for the Area 3A portion of SWHS Area G.

2.3 Harvest Forecasts

Time series methods are used to forecast effort in Area 2C and harvest per unit effort (HPUE) in both Areas. Effort is measured in angler days; any days when bottomfish hours or statistical areas were recorded in the logbook or halibut were harvested are considered days with halibut effort, permitting that day was open to harvest of halibut. Forecasts are inherently uncertain because they rely only on past data, which are not necessarily indicative of future trends. Time series forecasts can't be used in all instances because they assume that the same underlying processes are in place as those that generated the historical data. Therefore, recent regulation changes or social/economic conditions may bias a forecast or render it unsuitable for other regulatory scenarios. Time series methods used in this report include simple and double exponential smoothing models using SAS/ETS™[3] software. Simple exponential models have a single parameter representing the level of the estimate and typically fit best to data without a clear trend. Double exponential models have a parameter for level and a parameter for trend, and typically fit best to data with a trend. Both models contain a smoothing weight, the value of which determines how much weight is given to more recent observations. The smoothing weights are optimized to minimize one-step-ahead prediction errors over the entire time series. Generally, the stronger the trend and lower the variability, the higher the smoothing weight and the more emphasis is placed on recent observations. Generally, both simple and double exponential models were run for each time series and the forecasts with the smallest AICc value (Akaike Information Criterion, corrected for small sample size) were selected.

For 2022, attempts were made in both areas to forecast harvest under "normal" (non-pandemic) circumstances. Depending on the data type, this required making assumptions about aspects of the 2020 and 2021 removals and whether they were likely related to or independent of the COVID-19 pandemic and actions taken as a result of the COVID-19 pandemic. If unrelated, those data were incorporated into forecasts, whereas data heavily impacted by the COVID-19 pandemic were omitted from analyses.

For Area 2C, the 2022 harvest forecasts were calculated for each Subarea as the product of the effort and HPUE forecasts. Simple exponential and double exponential forecasts were generated for 2022 effort using logbook data for 2009-2019 and 2021 for Subareas B, C, D, and G2C and using logbook data for 2009-2019 for Subareas A and EF; 2020 was omitted from all Areas and 2021 omitted from Subareas A and EF due to known impacts of the COVID-19 pandemic on effort in those years and Areas (Table 3, Figure 2). For Subareas A and EF simple exponential model results were used in projections despite better fits from double exponential models; these models projected substantial increases in effort due to historic trends and use of a three-year time step that are likely unrealistic based on recent conditions. Areawide, HPUE was likely impacted by the COVID-19 pandemic in both 2020 and 2021; therefore, forecasts were generated for HPUE using logbook data for 2009-2019 for all Subareas (Table 3, Figure 2).

In Area 3A there were substantial and incremental changes in regulations over recent years that appear to have influenced effort including vessel trip limits, CHP trip limits, closing days to fishing, annual limits, and size limits on one of two fish. If the changes in effort observed in Area 3A (Table 4, Figure 3) is due to incremental changes in regulations, the exponential smoothing forecasts may be bias due to changes in the underlying process. Therefore, the 2021 estimate of effort in 3A was assumed as the status quo effort for 2022. In addition, implementation of the first size limits in Area 3A in 2014 resulted in a marked decline in the proportion of the charter halibut harvest made up of second fish in the bag limit (Figure 4). The largest decreases were in Subareas with the highest average weights (Glacier Bay and Yakutat). In other words, at ports with large halibut available, fewer anglers harvested a second fish, preferring instead

[3] SAS/ETS™ software, Version 9.4, SAS System for Windows, Copyright © (2002-2012), SAS Institute, Inc.

to focus on harvesting one large fish. The decrease in retention of a second fish by anglers caused HPUE to decline as well (Table 4, Figure 3). However, the areawide proportion of second fish retained continued to decline every year through 2019 even though changes in size limits and annual limits were quite minor (no change to either since 2016). In 2020, the proportion of second fish in the harvest increased in all 3A ports and remained high in 2021. This may be related to the increased size limit or removal of the annual limit, liberalized management measures implemented because of an assumed decrease in angler effort due to the COVID-19 pandemic, though causation is uncertain. Considering these trends, exponential smoothing models were used to forecast HPUE for 2022 using 2006 – 2019 data.

2.4 Accounting for Release Mortality of Halibut

Under the CSP, the charter halibut allocation includes total removals by the charter sector, including directed harvest and estimated release mortality. In 2018, the IPHC requested that all sizes of discards be included in the directed commercial fishery allocations (prior to 2018 only fish greater than or equal to 26 inches were included). While the CSP is vague with regards to sizes of discards, release mortality of all sizes of halibut were included in projected removals for consistency with the commercial sector and the intent of the IPHC. All sizes of release mortality have been estimated for 2013-2021 for inclusion in the IPHC's annual stock assessment as part of sport fishery removals. Estimation methods are documented in Webster and Buzzee (2020) and in ADF&G's annual reports to the IPHC[4].

The numbers and average weight of released fish are expected to vary with the regulations (e.g. types of size limits, bag limits, annual limits). For example, anglers would be expected to release more fish under a one-fish bag limit than a two-fish bag limit as they search for the largest fish possible to retain. The average weight of released fish would be expected to be higher under maximum size limits or reverse slot limits than under a minimum size limit, because more of the released fish would be large. On the other hand, the number of fish released is likely to be higher under a minimum than maximum size limit because smaller fish are relatively more abundant and more likely to be caught. Under reverse slot limits, the amount of release mortality would be expected to vary with the sizes and range of the protected slot. A wide protected slot would likely result in more released fish than a narrow slot, and a higher protected slot would result in a higher average weight of released fish. Under annual limits, both the number of fish and average weight of released fish would likely increase as annual limits are made more restrictive. Seasonal or daily closures will also increase total number of released fish.

In Area 2C, under reverse slot limits, the ratio of release mortality to charter yield (in pounds) is correlated to the lower bound of the reverse slot limit. Due to the correlation between the lower bound of the slot limit and release mortality, a linear regression model is used for projections. Under status quo regulations, the predicted 2022 ratio of release mortality to harvested halibut is 0.031.

In Area 3A, the ratio of release mortality to charter yield has generally decreased over time, mostly due to a decrease in the number of released fish rather than to changes in the average weight of released fish. The ratio was 0.018 in 2013, and then decreased steadily from 0.022 in 2014 to 0.007 in 2021. For 2022 projections, the 5-year average of 0.009 was applied to yield to account for release mortality under the status quo management measures.

3.0 Area 2C Management Measures

3.1 Status Quo Forecast of the Number of Fish Harvested

Status quo measures for Area 2C include a one-fish bag limit and U50O72 reverse slot size limit. Models of 2022 effort predicted similar effort to 2021 in three of six Subareas; small increases are predicted in Ketchikan and Juneau and a modest decrease in effort is predicted in the Glacier Bay Subarea (Figure 2). HPUE is predicted to decrease slightly in all ports and be similar to pre-pandemic conditions. The 2021

[4] The ADF&G annual reports to the IPHC are available for download at https://www.npfmc.org/halibut-charter-management.

status quo effort forecast for Area 2C is 109,789 angler-days, the weighted average HPUE forecast is 0.66 halibut per angler-day, and the harvest forecast is 72,865 halibut, with a 95% margin of error (±2 standard errors) of ± 8,790 fish (Table 5). This is a decrease from the preliminary harvest for 2021 of 77,287 halibut. To better characterize the uncertainty in these forecasts, including the 2020 and 2021 data resulted in an HPUE forecast of 0.75 halibut per angler-day for a harvest forecast of 81,800 fish with a 95% margin of error of ± 8,766 fish.

3.2 Reverse Slot Limit

3.2.1 Approach

Reverse slot size limits have been used to manage the Area 2C charter fishery since 2012. The goal of the reverse slot limit is to control the average weight of the harvest by requiring retained fish to be either below a lower size limit or above an upper size limit. The reverse slot size limit functions mostly as a maximum size limit, while still preserving the opportunity for anglers to retain exceptionally large fish. The charter industry and the Council have recommended reverse slot size limits because they effectively control average weight without severely impacting angler demand under a one-fish bag limit, thus preserving charter revenues in the face of restrictions.

Average weight under reverse slot limits was predicted using the same methods used for 2014-2021. Briefly, this procedure fixes the proportion of harvest above the upper size limit equal to the proportion in 2010, the last year without a size limit. The proportion of harvest below the lower size limit is assigned the remainder. Average weight is then estimated as a weighted mean of the average weight of fish above and below the upper and lower limits in 2010, where the weighting factors are the respective proportions of harvest above and below those limits.

Average weights estimated from the fishery in 2012-2021 were compared to the 2010 predicted average weights for the size limits that were in place at the time. The average weights estimated from the fishery included any illegally harvested fish in the protected size slot between the lower and upper size limits (illegal-size fish made up an estimated 0.6% to 1.6% of the Area 2C harvest each year). Errors in predicted average weights ranged from -13% to +59% for individual Subareas, and from +5% to +18% for Area 2C overall (average = 12%). Predicted average weight errors were highly variable among years and among Subareas. Correction factors were developed for the predicted average weights for each Subarea. The correction factors were based on the average ratio of the predicted and observed average weights from all years and ranged from 0.73 to 1.05 among Subareas. To test the correction factors, the bias correction was applied to the final harvest estimates for 2020 and preliminary harvest estimates for 2021.

Total charter removals were projected for 2022 under a range of reverse slot limits with lower limits ranging from 35 to 50 inches and upper limits ranging from 50 to 80 inches. Projections of charter removals include the correction factors for bias in estimation of average weight as well as an inflation factor for predicted release mortality based on the lower slot limit.

3.2.2 Results

The projected charter removal under the status quo size limit of U50O72 is 1.095 Mlb (Table 6). Projections ranged from 0.670 to 1.566 Mlb. None of the combinations of size limits were below the reference allocation of 0.60 Mlb. Several options for reverse slot limits were below the 2021 allocation of 0.81 Mlb with lower slot limits of 35 – 39 inches and upper limits of 66 to 80 inches. The most liberal combinations of reverse slot limits that were below the 2021 allocation are shaded in Table 6.

For contrast, if 2020 and 2021 HPUE data had been included in projections, the removal forecast under the status quo size limit would be 1.240 Mlb.

3.3 Reverse Slot Limit with Various Annual Limits

3.3.1 Approach

The effects of various annual limits on harvest in 2C were estimated using charter logbook data that summarized the distribution of annual harvests by individual licensed anglers using 2019 as the base year. This is the most recent year that was not impacted by the COVID-19 pandemic; specifically, some Subareas in 2C saw substantial decreases in effort in 2021 relative to historical effort that were assumed to be associated with cruise ship cancellations in those Subareas. Calculations of annual harvests could not be done for youth anglers (under 16 years old for nonresidents and under 18 years old for residents) because they are not required to be licensed, and therefore harvest cannot be assigned to individuals. Youth accounted for 3.7% – 4.7% (average 4.3%) of charter effort in Area 2C during the years 2011-2021 with the lowest proportion in 2020 and 2021. Because the proportion of youth effort was steady and relatively low, we assume that leaving youth anglers out of the calculations did not significantly bias estimates of the effects of implementing annual limits.

For each Subarea, harvests under each proposed annual limit were estimated by truncating the annual harvest of each angler during the base year at the annual limit. For example, if 500 anglers harvested five fish each in the base year (2,500 fish total), then under an annual limit of four fish, that group of 500 anglers would only harvest 2,000 fish. The number of anglers that would be affected by each annual limit was calculated as the number of anglers that harvested more than the annual limit in the base year. In the example above, all 500 anglers harvested more than four fish and would be affected by a four-fish annual limit, but anglers that harvested four or fewer fish would be unaffected. Using this approach, the annual harvest by licensed anglers was calculated over a range of annual limits and the percentage reduction in harvest was calculated by comparison to their total harvest without an annual limit. All calculations were done by Subarea and summed to obtain the harvests under each annual limit in Areas 2C.

Doing the calculations by Subarea slightly underestimates the harvest reductions associated with annual limits because some anglers fish in multiple Subareas within a year. For example, if an individual angler caught four fish in each of two Subareas in the base year, the analysis by Subarea would indicate that a four-fish annual limit would have no effect on that angler's annual harvest in either Subarea. However, the limit would reduce that angler's annual harvest by 50 percent. The degree of underestimation depends on how many anglers fished multiple Subareas in a year. The magnitude of this error was evaluated by comparing the percentage harvest reductions estimated from Subarea and areawide data. For Area 2C, the estimated reductions in harvest based on Subarea data were underestimated by 0.1% to 0.5% for annual limits from two to four fish; therefore, the underestimation caused by anglers fishing multiple Subareas was negligible and may provide a slightly conservative estimate.

Total charter removals were projected for a range of two to four fish annual limits under a range of reverse slot limits with lower limits ranging from 35 to 50 inches and upper limits ranging from 50 to 80 inches. Tables of projected total removals were generated for 2022 harvest forecast with annual limits. A single level of harvest is associated with each sub-table because it was assumed that the size limits by themselves have no effect on the number of fish harvested. Projections of charter removals include the correction factors for bias in estimation of average weight as well as an inflation factor for predicted release mortality based on the lower slot limit.

3.3.2 Results

The areawide estimated harvest reductions associated with annual limits range from about 21% under an annual limit of two fish to 1.3% under an annual limit of four fish (Table 7).

If a two-fish annual limit were implemented, a range of reverse slot limits with lower limits of 35 to 38 inches and upper limits of 70 to 80 inches are forecast to constrain the charter harvest to the reference allocation of 0.60 Mlb in 2022 (Table 8c). No reverse slot limits analyzed were below the reference allocation under three or four-fish annual limits. Forecasts indicate that a range of reverse slot limits with

lower limits of 35 to 40 inches and upper limits of 66 to 80 inches combined with a four-fish annual limit would constrain the charter harvest to 0.81 Mlb (Table 8a). More options for size limits are available as annual limits are reduced (Table 8b-c).

3.4 Reverse Slot Limit with Day of the Week Closures

3.4.1 Approach

Harvest was projected with day of the week closures in Area 2C with reverse slot limits ranging from a lower limit of 35 to 50 inches and with the upper limit fixed at 80 inches. The potential effect of closing days on each day of the week with starting dates from May 15th through September 17th or for the entire year was estimated (Table 9a-g). The analysis relied on complete logbook data for 2019. Generally, speaking, the analysis proceeded by estimating the proportional effect of each day closure in 2019 and applying those to the harvest forecast for 2022. 2019 data were used because it was the most recent year with complete data that was not affected by the COVID-19 pandemic.

The first step was to identify dates that would be closed in 2022 under each possible number of closed days for each day of the week. Once the specific closed dates for each scenario were identified, the corresponding dates for each day of the week was identified from the 2019 data set for analyses. There was a three-day difference in dates from 2019 to 2022. The analysis assumed that the proportion of harvest occurring on each day in 2019 would be eliminated if those days were closed. In other words, the harvest that occurred on those days represented the maximum potential change in harvest if those days were closed. All analyses were done by Subarea to account for differences in the structure of the charter fleet among Subareas. The total annual harvest under each scenario of closed days was compared to the harvest scenario of no closed days (2019) to estimate the proportional change in harvest for 2022.

Options for closing one day for the entire year (Table 10) and a range of dates on a second day of the week were also explored following the above methods. Results can be calculated by subtracting the values in Table 11 (savings from dates closed at various reverse slot limits) from values in Table 10 (entire season days closed), noting that two different days of the week need to be used and at consistent reverse slot limits. For example, at a U40O80 reverse slot limit with Sundays closed, projected removals are 0.706 Mlb; if Mondays are also closed starting August 1 (at a U40O80), savings are 0.058 Mlb for a projected removal of 0.648 Mlb (0.706 – 0.058 = 0.648).

A day of the week closure would be unlikely to achieve the estimated maximum reductions in halibut harvest because of the potential for displaced clients to book on alternate dates. We do not have sufficient information to accurately estimate the effect of a day of the week closure; we can only say that it would reduce halibut harvest by no more than the presented maximum reductions, and that the reduction would likely be less.

3.4.2 Results

Implementation of a daily closure on a single day of the week could be used to bring the projected removals within the reference allocation of 0.60 Mlb or the 2021 allocation of 0.81 Mlb (Tables 9a-g). In general, Monday closures are projected to result in slightly lower removals than other days of the week. A U35O80 reverse slot limit would need to be implemented with closed days on one day of the week beginning in late June or early July or a U36O80 reverse slot limit implemented with Mondays closed starting May 16th in order for removals to remain below 0.60 Mlb; no size limits above U36O80 are forecasted to keep removals below 0.60 Mlb. Many options for variable numbers of closure days on each day of the week in concert with reverse slot limits with lower limits ranging from 40 to 46 inches are forecasted to keep removals below 0.81 Mlb. A wide range of options are available with closure dates on a second day, depending on which days of the week are selected and the season's size limits (Tables 10 & 11a-g).

3.5 Reverse Slot Limit with Annual Limits Combined with Day of the Week Closures

3.5.1 Approach

Harvest was projected in Area 2C under reverse slot limits with lower limits of 35 to 50 inches and an upper limit of 80 inches with a combination of annual limits of two to four fish and closed days on each day of the week with starting dates from May 15th through September 17th or for the entire year. The same protocols were used for this analysis as the analyses for annual limits and day of the week closures, outlined above. Annual limits were applied to harvest estimates prior to day of the week closure reductions because they have a more definitive effect on overall harvest.

These estimates should be considered maximum reductions in harvest relative to annual limits because we do not know how many anglers might rebook on alternate days of the week and still harvest their annual limit.

3.5.2 Results

Implementation of an annual limit combined with a daily closure could be used to bring the projected removals within the reference allocation or the 2021 allocation under numerous combinations of reverse slots, closed days, and annual limits. The actual reductions achieved from these management measures will be somewhere between reductions from a reverse slot limit with annual limits alone and the maximum reductions presented in Tables 12a-g, 13a-g, & 14a-g. Overall, fewer days would need to be closed to stay within allocations if annual limits were implemented. Lower limits of 35 or 36 inches combined with closed days under a four-fish annual limit are necessary under the reference TCEY while limits of 40 to 46 inches are possible with a four-fish annual limit and closure days under the 2021 allocation. With three-fish annual limits and closed days, lower limits of 35 to 37 inches and 42 to 48 inches are possible under the reference and 2021 allocations, respectively. With two-fish annual limits and closed days, lower limits of 38 to 44 inches and 49 or 50 inches are possible under the reference and 2021 allocations.

4.0 Area 3A Management Measures

4.1 Status Quo Forecast of the Number of Fish Harvested

The status quo measures for Area 3A included a two-fish bag limit with a maximum size limit of 32 inches on one fish, no retention of halibut on Wednesdays, and limits of one trip per vessel and one trip per CHP per day. As explained earlier, the status quo effort forecast was equal to the 2021 preliminary estimate. HPUE decreased in all Subareas from 2013 – 2019 which was likely a result of the number of anglers retaining two fish due to size limits on the second fish and to a lesser extent the imposition of annual limits, then increased in all Subareas in 2020 and 2021 likely due to the change of size limits that allowed for harvest of a larger second fish and removal of the annual limit. The larger size limits in 2020 and 2021 and removal of the annual limits were implemented because of the COVID-19 pandemic and therefore data from those years was not included in the HPUE forecasts. The status quo effort forecast for Area 3A for 2022 is 123,023 angler-days, with a weighted average HPUE of 1.34 halibut per angler-day, and the harvest forecast is 164,382 halibut with a 95% margin of error (± 2 standard errors) of 28,160 fish (Table 15). This is a decrease from the preliminary harvest estimate for 2021 of 184,160 halibut. To better characterize the uncertainty in these forecasts, including the 2020 and 2021 HPUE data resulted in an areawide HPUE forecast of 1.50 halibut per angler-day for a harvest forecast of 184,254 fish with a 95% margin of error of ± 11,027 fish.

4.2 Forecast of the Average Weight in each Subarea

4.2.1 Approach

Average weight was calculated as a weighted mean of the fish of any size and the fish subject to a maximum size limit. Calculations were done for each Subarea, then aggregated to Area 3A. The average weight for the fish of any size was assumed to be the overall average weight in 2013, the last year without

a size limit in Area 3A. The average weight for size-restricted fish was calculated as the average weight of fish less than or equal to the specified size limit in 2013 (32 inches under status quo, size limits from 26 to 32 inches were all evaluated). These average weights were then weighted by the 2022 projected proportions of harvest made up of "first" and "second" fish in an angler's bag limit. These terms do not refer to the order in which the fish were caught, but rather to whether the fish came from limits of one or two fish. For example, if an angler kept only one halibut on a trip, the fish was designated a "first" fish. If an angler kept two halibut, one was designated "first" and the other "second." The proportions of "second" fish in the harvest were forecasted for 2022 from 2010-2019 logbook data using the exponentially-weighted time series models described in Section 2.3. Only data through 2019 were used to mimic the methods used to forecast HPUE and because the substantial increase seen in second fish in 2020 and 2021 was likely a result of regulations reflective of pandemic conditions. These forecasted proportions ranged from 43-44% in Cook Inlet down to 4-11% in the Glacier Bay and Yakutat Subareas, with a weighted average of 37% for Area 3A overall (Figure 4).

The average weights predicted using this method for each size limit differed from average weights observed under those size limits in past years. Factors contributing to those differences include changes since 2013 in the size distribution of the population, changes in the sizes of fish anglers are willing to keep given annual limits, and changes in the proportions of first and second fish in the harvest. Therefore, the predicted average weights were corrected, or adjusted to match current average weights. Bias corrections were based on the difference between predicted and estimated (observed) average weights for 2014-2021. Predicted average weights for past years tended to be underestimated for all Subareas, ranging from 52% below to 12% above observed values across all Subareas and years, and predicted values were from 29% to 16% below observed values across years for Area 3A overall. Correction factors, based on the average ratio of the predicted and observed average weights, ranged from 1.00 to 1.53 among Subareas.

4.2.2 Results

The status quo forecast of average weight in 3A is 13.88 lbs. Status quo is based on a two fish bag limit with one fish of any size and a maximum size limit of 32 inches on one fish. This is above the 2021 preliminary average weight estimate of 13.23 lbs. Estimated removals, including yield and release mortality, under status quo regulations is 2.302 Mlb and is above the reference allocation of 2.05 Mlb and the 2021 allocation of 1.95 Mlb.

For contrast, if 2020 and 2021 HPUE and proportion of first and second fish data had been included in projections, the removal forecast under the status quo size limit would be 2.492 Mlb.

4.3 Maximum Size Limit on One Fish Combined with Tuesday closures

4.3.1 Approach

Charter removals were projected under maximum size limits ranging from 26 to 32 inches on the second fish and Tuesday closures from June through August or for the entire season were explored for flexibility in recommending management measures. Projected removals include a 0.9% inflation factor to account for release mortality and a correction for the average weight as described above. These projections incorporate all other status quo measures.

The analysis for Tuesday closures relied on complete logbook data for 2016, the last year in which the fishery was open on all Tuesdays and closed on Wednesdays. The analysis proceeded by estimating the proportional effect of closing Tuesdays in 2016 and applying those proportional effects to the harvest forecast for 2022. The first step was to identify the dates of specific Tuesdays that would be closed in 2022 under each possible number of closed days. There are a total of 13 Tuesdays during the period June-August, 2022, and 48 Tuesdays from February – December, 2022 (Table 16). Once the specific closed Tuesdays were identified, the corresponding Tuesday to each of those dates was identified from 2016. The date of each Tuesday from 2016 matched the dates in 2022. The analysis assumed the proportions of

harvest occurring on each Tuesday in 2016 would be eliminated if those days were closed, respectively. Closing all Tuesdays beyond the June-August period would only reduce harvest another 1.8% (Table 16), reflecting the relatively low levels of harvest in the shoulder seasons.

In past years, this analysis relied on maintaining the proportion of harvest before and after July 31st due to the availability of preliminary logbook data. With mandatory eLogbooks in Southeast Alaska, reliable preliminary logbook data are now available through August 31st in Southcentral due to the associated reduction in data entry demands, so maintaining the proportion of harvest before and after July 31st is no longer essential to analyses. Nevertheless, in 3A analyses proceeded by selecting closed days in the same manner as past years' analyses. The benefit to this practice is that closing days during the peak of the season results in greater reductions to effort and harvest with fewer days closed.

As outlined in the 2C analysis of daily closures, the harvest reductions (relative to all Tuesdays open) under each scenario represent the maximum expected reduction in the number of fish harvested. A day of the week closure would be unlikely to achieve the maximum reduction in halibut harvest because of the potential for displaced anglers to book on alternate dates. We do not have sufficient information to accurately estimate the effect of a day of the week closure; we can only say it would reduce halibut harvest by no more than the presented maximum reductions, and that the reduction would likely be less.

Average weight under each size limit from 26 to 32 inches was calculated as a weighted mean of the fish of any size and the fish subject to a maximum size limit as outlined in section 4.2.1.

4.3.2 Results

Removal estimates for combinations of closed Tuesdays and size limits on one fish ranged from 1.730 Mlb for a 26 inch fish with all Tuesdays closed to 2.302 Mlb for a 32 inch fish with no Tuesdays closed (status quo, Table 17). Combinations of size limits and closed days that were below the reference allocation of 2.05 Mlb ranged from 26 to 32 inches and one to nine closed Tuesdays. Combinations that were below the 2021 allocation of 1.95 Mlb ranged from 26 to 32 inches and five to all Tuesdays closed.

4.4 Maximum Size Limit on One Fish Combined with Tuesdays closed and Additional Days Closed

4.4.1 Approach

Status quo regulations in Area 3A included a year-round closure of the charter fishery on Wednesdays. Charter removals were projected with all Tuesdays closed under maximum size limits ranging from 26 to 32 inches and Monday or Thursday closures ranging from zero to thirteen days or for the entire season. Projected removals include a 0.9% inflation factor to account for release mortality. These projections incorporate all other status quo measures.

The analysis estimated the proportional reduction in halibut harvest with each additional daily closure in 2016 and applied those proportional reductions to the harvest forecast for 2022. 2016 was used as the base year because it was the most recent year with available data with the same days closed as status quo. Specific dates for closure days in 2022 can be found in Table 18.

Identification of closed Mondays and Thursdays and estimation of the proportional effects followed the same procedures outlined above for closed Tuesdays. Methods for changes in the maximum size limit followed the procedures outlined in section 4.2.1.

4.4.2 Results

The potential reductions in harvest relative to status quo ranged from 16.7% for all Tuesdays and no closed Monday or Thursday to 33.5% or 34.7% for all closed Tuesdays and all closed Mondays or Thursdays, respectively (Table 18a-b). Proportional reductions and projected removals varied slightly and were generally similar between Monday and Thursday closures. For the entire year, Thursdays had slightly more savings than Mondays. Removal estimates with Tuesdays closed and combinations of closed Mondays and size limits on one fish ranged from 1.381 Mlb to 1.883 Mlb (Table 19). Removal

estimates with Tuesdays closed and combinations of closed Thursdays and size limits on one fish ranged from 1.355 Mlb to 1.889 Mlb (Table 20). All combinations of size limits and closed days were below the reference allocation of 2.05 Mlb and the 2021 allocation of 1.95 Mlb.

4.5 Maximum Size Limit on One Fish Combined with Annual Limits

4.5.1 Approach

Combinations of other size limits and annual limits were explored to provide the Council flexibility in recommending management measures. Charter removals were projected under maximum size limits ranging from 26 to 32 inches on the second fish and annual limits of two to four fish. Projected removals include a 0.9% inflation factor to account for release mortality. These projections incorporate all other status quo measures, including the charter vessel trip limit, permit trip limit, and a Wednesday closure for the entire year.

Average weight under each size limit was calculated as described in section 4.2.1.

The effects of various annual limits on harvest were estimated using preliminary charter logbook data that summarized the distribution of annual harvests by individual licensed anglers from 2021. 2021 data were used in Area 3A for 2022 annual limit forecasts because continued effects of the COVID-19 pandemic on effort was not evident among Subareas in 2021 in Area 3A. Calculations of annual harvests could not be done for youth anglers because they are not required to be licensed, and therefore harvest cannot be assigned to individuals. Youth accounted for 6.4% of charter effort in Area 3A in 2021; youth anglers accounted for a slightly higher proportion of total effort in 2020 and 2021 than previous years. Because the proportion of youth effort was relatively low, we assume that leaving youth anglers out of the calculations did not bias estimates of the effects of implementing annual limits.

For each Subarea, harvests under each proposed annual limit were estimated by truncating the annual harvest of each angler during 2021 at the given annual limit. For example, if 500 anglers harvested four fish each in 2021 (2,000 fish total), then under an annual limit of three fish, that group of 500 anglers would only harvest 1,500 fish. The number of anglers that would be affected by each annual limit was calculated as the number of anglers that harvested more than the given annual limit in 2021. In the example above, all 500 anglers harvested more than three fish and would be affected by a three-fish annual limit, but anglers that harvested three or fewer fish would be unaffected. Using this approach, the annual harvest by licensed anglers was calculated over a range of annual limits and the percentage reduction in harvest was calculated by comparison to their total harvest with no annual limit. All calculations were done by Subarea and summed to obtain the harvests under each annual limit in Area 3A.

Doing the calculations by Subarea slightly underestimates the harvest reductions associated with annual limits because some anglers fish in multiple Subareas within a year. For example, if an individual angler caught two fish in each of two Subareas in the base year, the analysis by Subarea would indicate that a three-fish annual limit would have no effect on that angler's annual harvest in either Subarea. In reality, the limit would cut that angler's annual harvest by 25 percent. The degree of underestimation depends on how many anglers fished multiple Subareas in a year. The magnitude of this error was evaluated by comparing the percentage harvest reductions estimated from Subarea and areawide data. The Subarea method underestimated the reductions in harvest by 3.3 to 0.7 percentage points for annual limits from two to four fish, respectively. The underestimation caused by anglers fishing multiple Subareas was considered negligible. Furthermore, because this underestimated the reduction of harvest, results are considered conservative estimates.

4.5.2 Results

The effects of annual limits varied by Subarea, with the largest effects in the Kodiak (Table 21). Areawide, application of annual limits to the harvest would result in harvest reductions of 3.1% to 14.1%

with four to two fish annual limits. With all other status quo measures in effect, implementing a four-fish annual limit is estimated to reduce the harvest from 164,382 to 159,183 halibut (Table 21).

A 27 inch size limit on the second fish combined with a four-fish annual limit is forecast to constrain removals to below the reference allocation of 2.05 Mlb; options for larger size limits and more restrictive annual limits are also available (Table 22). No size limits combined with a four fish annual limit constrained the removal forecast to the 2021 allocation of 1.95 Mlb. Under a three fish annul limit, a 27 inch size limit on the second fish would constrain the harvest to below 1.95Mlb and under a two fish annual limit, a 31 inch size limit would be possible.

4.6 Maximum Size Limit on One Fish Combined with Annual Limits and Tuesday Closures

4.6.1 Approach

Combinations of other size limits, annual limits, and Tuesday closures were explored to provide the Council flexibility in recommending management measures. Charter removals were projected under maximum size limits ranging from 26 to 32 inches, one to thirteen Tuesday closures or a Tuesday closure for the entire season and annual limits of two to four fish. Projected removals include a 0.9% inflation factor to account for release mortality. These projections incorporate other status quo measures, including the charter vessel trip limit, permit trip limit, and a Wednesday closure for the entire year.

Average weight under each size limit was calculated as described in section 4.2.1. Effects of annual limits were calculated as described in section 4.5.1. These were applied prior to the effect of Tuesday closures as annual limits are expected to have a more definitive effect on harvest. Effects of Tuesday closures were then applied following the methods outlined in section 4.3.1.

4.6.2 Results

Combinations of a 26 to 32 inch size limit combined with a four-fish annual limit and zero to six closed Tuesdays are forecast to constrain removals below the reference allocation of 2.05 Mlb; more restrictive annual limits allow for larger size limits with fewer closed days (Table 23a-c). Combinations of a 26 to 32 inch size limit combined with a four-fish annual limit and three to ten closed Tuesdays are forecast to constrain removals below the 2021 allocation of 1.95 Mlb; more restrictive annual limits allow for larger size limits with fewer closed days (Table 23a).

4.7 One-Fish Bag Limit, No Size Limit, With and Without Wednesday Closure

4.7.1 Approach

This measure would combine a one-fish bag limit with no size limit, with or without a Wednesday closure and with all other status quo regulations.

The biggest challenge is estimation of the average weight under such a regulation. When the Area 2C charter fishery went from a two-fish bag limit with a maximum size limit on one fish (32 inches) to a one-fish bag limit with no size limit in 2009, the average weight increased 20% from the previous year, and increased another 13% in 2010 under the same regulation. The total increase in average weight over those two years was 36%. Under a one-fish bag limit, it is expected that anglers will high-grade to get the largest fish possible; the resulting increase in average weight will offset the decrease in the number of fish harvested to an unknown degree.

There are no empirical data from a fishery under a one-fish bag limit in Area 3A to use to predict the degree anglers may high-grade. It is also questionable whether the data from Area 2C is applicable to Area 3A, but the increase in average weight seen in 2009 and 2010 may be indicative of what is possible. There are many plausible approaches to predict average weight, with no clear way to decide which is the most accurate. Two average weight scenarios were considered. The first scenario used the average weight of O32 fish in 2021. It is not possible to tell from biological sampling data which fish were “first” fish, much less which fish were caught by which angler. Length data are obtained from fish or their filleted

carcasses, where the fish from different anglers are mixed and the anglers are not present or can't tell which fish belong to whom. Because there was a size limit on one fish of 32 inches, it was assumed that all fish over 32 inches were "first" fish and might emulate conditions under a one fish bag limit. This assumption is an approximation, as there may have been charter trips where some anglers retained two fish under the maximum size limit for one fish. The second scenario looked at the average weight of all sizes of fish from 2021 and included a 36% inflation factor as observed in Area 2C as mentioned in the preceding paragraph.

For both scenarios, the projected harvest was based on the status quo harvest forecast under a two-fish bag limit (section 4.1.1), reduced by the 2022 forecast of the proportion of second fish in the harvest. It is assumed that a one fish bag limit will not affect effort in Area 3A. The average net weight of fish under 32 inches was 6.9 lbs (net weight) in 2021; it is unknown whether the inability to harvest a fish of that size will incentivize an increase in days fished to harvest the same numbers of fish or lead to a reduction in angler effort due to the more restrictive bag limits. Most likely, any changes due to angler behavior will be offset and result in similar levels of effort to the status quo forecast.

The effect of opening Wednesdays was evaluated using data from 2014, the most recent year with no closure days. The analysis generally assumed that the proportion of harvest that occurred on Wednesdays would be added back in if Wednesdays were opened. The analysis first evaluated the additional harvest that would occur under a two fish bag limit, then reduced the harvest to a one fish bag limit using the proportion of first and second fish, as outlined above. Addition of harvest on all Wednesdays increased the harvest forecast by 18%. This is considered to be a maximum increase as it's unknown whether past closure days have fully eliminated harvest that would have happened on those days.

Harvest projections were multiplied by each average weight scenario to obtain the projected yield under each scenario, and yields were inflated by 2% to account for release mortality. This number was selected arbitrarily, as there were no data upon which to base an estimate. Area 3A has never had a one fish bag limit, but it was assumed that releases will increase with a more restrictive bag limit both due to high grading and the bag limit itself.

4.7.2 Results

The forecast proportions of second fish varied by Subarea, with an overall average of 37.1%. After removing the second fish, the harvest forecast with all Wednesdays closed is 103,420 fish. The projections of charter removals under the two scenarios were 2.525 Mlb using the average weight of O32 fish in 2021 and 1.951 Mlb using the average weight of all size of fish in 2021with a 36% inflation (Table 24a). The range of results demonstrates the uncertainty with this type of regulation and it is unknown whether removals would be below the reference allocation of 2.05 Mlb. The harvest forecast with all Wednesdays opened is 122,716 fish. The projections of charter removals under the two scenarios were 2.997 Mlb using the average weight of O32 fish in 2021 and 2.315 Mlb using the average weight of all size of fish in 2021 with a 36% inflation (Table 24b). Results with Wednesday open were above the reference allocation and the 2021 allocation for both scenarios.

It was not possible to identify the most accurate projection for this measure. The projections are highly sensitive to the average weight, and average weight cannot be predicted under this measure because it is not possible to predict angler behavior. Therefore, these options are presented not as a choice, but to illustrate the range of uncertainty associated with this management measure.

4.8 One-Fish Bag Limit with Reverse Slot Limit Combine with Tuesday and Wednesday Closures

4.8.1 Approach

This measure would combine a one-fish bag limit with a size limit under a range of Wednesday closures or all Wednesdays closed with range of Tuesday closures and other status quo regulations including trip limits.

The projected harvest was based on the status quo harvest forecast under a two-fish bag limit, reduced by the 2022 forecast of the proportion of second fish in the harvest (see section 4.7.1). The average weight of fish under 32 inches was 6.9 lbs (net weight) in 2021; it is unknown whether the inability to harvest a fish of that size will incentivize an increase in days fished to harvest the same numbers of fish or lead to a reduction in angler effort due to the more restrictive bag limits. However, the addition of a reverse slot limit may have an impact on angler behavior that we are unable to account for in this analysis. There may be anglers who decide not to fish or to fish fewer days under such restrictive limits. There may be anglers who decide to fish additional days to increase the poundage they are able to retain.

Effects of opening Wednesdays or closing Tuesdays were applied to harvest following the methods outlined in sections 4.7.1 and 4.3.1. It was assumed that the proportional change in harvest from opening or closing days would be consistent regardless of whether the bag limit was one or two fish. Specific dates and associated harvest projections are included in Table 25.

The average weight of the fish was projected as was done for the reverse slot limit in Area 2C (section 3.2.1), but using length data from 2013, the last year without a size limit in Area 3A. Projections were made for lower size limits ranging from 35-60 inches (U35-U60) and upper limits ranging from 60-80 inches (O60-O80). The lack of experience with this measure created another problem, namely there were no empirical mean weight data to correct the predictions to current conditions, as was done with the status quo measures. However, imposition of a U59-O60 size limit would be the functional equivalent of one fish of any size. To correct mean weight, the projections were adjusted by a single correction factor to make the projected yield under a U59-O60 reverse slot limit match the projected yield under a one fish bag limit with no size restrictions. The yield projections under average weight of all sizes of fish in 2021 inflated by 36% with a one fish bag limit (section 4.7.1) was used to obtain this correction factor. This scenario was used because it mimics observed changes in average weight when a one fish bag limit was first implemented in Area 2C. Correcting the yield was the functional equivalent of correcting mean weight because the harvest (number of fish) projections were the same.

The yield projections were inflated by a factor of 4% to account for release mortality. This number was selected arbitrarily, as there were no data upon which to base an estimate. Area 3A has never had a one fish bag limit or a reverse slot limit, but it was assumed that releases will increase due to the more restrictive bag and size limits.

4.8.2 Results

Implementation of a one-fish bag limit with a reverse slot limit combined with closure days could be used to bring the removals below either allocation scenario (Tables 26 & 27). Under the Reference TCEY, there are workable options with a zero to thirteen closed Wednesdays with lower limits from 44 – 60 inches and upper limits from 60 – 80 inches (Table 26a). All options with closed Tuesday were under the reference allocation; a reverse slot would not be necessary and any size fish could be harvested with all Tuesdays open (no associated table because all options are viable). Under the 2021 allocation, there are workable options with a zero to all closed Wednesdays with lower limits from 39 – 60 inches and upper limits from 60 – 80 inches (Table 26b). With all Wednesdays closed reverse slot limit options with zero to three Tuesday closures are available with lower limits ranging from 56 to 60 inches and upper limits from 60 to 70 inches (Table 27).

4.9 Status Quo with All Days of the Week Open and a Seasonal Closure Prior to May 16 or June 1 and After July 31

4.9.1 Approach

This analysis looked at changing the halibut season for the charter sector in Area 3A from the status quo (February 1 – December 31) to an opening date of either May 16 or June 1 and a closing date of July 31. This management measure would allow for harvest on all days of the week throughout the open season. These projections incorporate all other status quo measures.

The analysis followed the same harvest projection procedures as other analyses for opening Wednesdays (Section 4.7.1). Status quo regulations in Area 3A included a year-round closure to retention of halibut by the charter fishery on Wednesdays. The analysis for opening all days relied on complete logbook data for 2014, the last year in which the fishery did not have any daily closures. The analysis proceeded by estimating the proportional effect of closed days in 2014 and applying those proportional effects to the harvest forecast for 2022. Estimated harvest for the entire year with all days opened was 193,864 halibut; this was used as the base harvest to estimate seasonal closures.

The analysis then assumed that the proportions of harvest in 2019 occurring before and after the open season dates would be eliminated if those days were closed in 2022. 2019 was used as the base year because it is the most recent year with complete data not affected by the COVID-19 pandemic and may most closely mimic the 2022 fishing season assuming no effects of the pandemic. It was assumed that day of the week closures did not have a substantial impact on the proportion of harvest before and after the seasonal closure dates.

Average weight under each size limit was calculated and corrected as described in section 4.2.1 and a 0.9% release mortality inflation factor was added to estimate removals.

4.9.2 Results

The projected removals associated with all days of the week open from May 16 – July 31 and all other status quo management measures were 1.761 Mlb. The projected removals for a season with all days of the week open from June 1 – July 31 were 1.613 Mlb (Table 28). The projected removals are below both allocation scenarios.

5.0 Implementation Considerations

5.1 Size Limits

There are no anticipated problems associated with implementation of a reverse slot limit in Area 2C or maximum size limit on the second fish in Area 3A. Size limits have been used successfully in both Regulatory Areas for several years. Maximum size limits and reverse slot limits are implemented for the charter halibut fishery to control the average weight of harvested fish. This type of regulation increases the number of fish released thereby increasing removals associated with release mortality. Not only do these size limits generate additional regulatory (versus voluntary) release of halibut, they also increase the average weight of released fish. The relative impact of size limits, in terms of release mortality and angler satisfaction, is expected to vary by Subarea due to variation in the availability of large fish caught. For example, clients fishing in Subareas where large fish are commonly caught would likely end up releasing relatively more fish above the maximum size limit or in the protected slot, and those fish would likely be larger. Although release mortality is higher under size limits, it is included in the estimates of removals and is accounted for in the charter sector allocation.

5.2 Annual Limits

Annual limits were implemented in Area 3A in 2015 (5 fish) and 2016 – 2019 (4 fish). If annual limits are recommended for the charter fishery in either area, it is crucial for enforcement purposes to ensure that the regulation be accompanied by a recording requirement like that implemented in past years. Specifically, immediately upon retaining a halibut, charter anglers must record, in ink, the date, location (IPHC area), and species (halibut) on their harvest record. Enforcement of the annual limit consists of checking anglers with halibut to make sure the harvest is recorded. It is expected that Guided Angler Fish (GAF) taken under the CSP would be exempt from the recording requirement as these harvests accrue toward the IFQ fishery allocation.

Halibut harvest accounting by individual anglers would be implemented through ADF&G charter logbooks as was done in past years. Logbooks require reporting the number of halibut kept and released by individual anglers, as well as the angler's name and fishing license/ID number. No number can be

recorded for youth anglers as they are not required to be licensed. Under the CSP, all anglers (including youth) are required to certify in the logbook that the reported number of halibut kept and released is correct.

ADF&G has committed to reporting on annual limit violations. The 5-fish annual limit in 2015 was implemented without a recording requirement. Beginning in 2016, the annual limit was decreased to 4 fish and a recording requirement was implemented. Since 2015, 0.2% - 1.0% of licensed anglers have exceeded the annual limit, accounting for 0.2% - 0.6% of harvest by licensed anglers.

Another concern with annual limits is that compliance may be low among youth anglers. Youth anglers are not required to be licensed but are still required to complete a harvest record upon harvesting halibut. Although enforcement in the field would be no different for youth anglers, their annual harvests cannot be evaluated post-season using logbook data. However, youth anglers comprised only 3.7% of angler-days in Area 2C and 6.4% of angler-days in Area 3A in 2021, so harvest by youth anglers beyond the annual limit is unlikely to be substantial.

5.3 Daily Closures

As mentioned earlier, the primary issue with daily closures is that the effect cannot be accurately predicted or evaluated. Daily closures are expected to reduce effort, and therefore their effect is confounded with any factors that affect effort (e.g., trip limits, economic trends). This analysis could only estimate the maximum potential change in halibut harvest but cannot predict possible changes in angler behavior, such as anglers booking alternate days. In Area 3A, closure of days during the peak season (June through August) may be more effective than closure of a day or two here and there. With each additional day closed, there would be fewer days available to rebook and fewer charters available to take the displaced anglers. The effectiveness of day of the week closures in Area 2C is expected to be similar to those seen in Area 3A. However, differences in business models and angler behavior between the Areas may impact the effectiveness of this management measure.

Another impact of daily closures is the potential increase in the harvest of other species such as salmon, rockfishes, sablefish, and lingcod. Some charter businesses are able to book anglers to catch other species, particularly salmon. Increases in harvest may intensify conservation concerns for these stocks.

5.4 Bag Limits

As shown in Section 4.7, the projections of charter removals under a one-fish bag limit in 3A are sensitive to the average weight, but there is not enough experience or empirical data to indicate what average weight would be under this measure. If implemented, one consideration is that this measure could cause a shift in the distribution of effort and harvest from Cook Inlet and the North Gulf to other parts of Area 3A with larger fish, such as Yakutat or Eastern Prince William Sound. In addition, the more restrictive bag limit could increase effort if anglers decide to fish additional days to harvest the same numbers of fish or if anglers decide to fish fewer days as a result of the more restrictive regulations.

5.5 Seasonal Closures

The projections of charter removals under a shorter season are sensitive to the proportion of fish harvested during the proposed open and closed season in past years. Data from 2019 were used in this analysis, but the possibility that 2019 data are not representative of what may happen in 2022 should also be considered. If implemented, one consideration is that this measure could cause a shift in the distribution of effort and harvest into the open season. As with daily closures, the effect cannot be accurately predicted or evaluated. A shorter season is expected to reduce effort. This analysis could only estimate the maximum potential reduction in halibut harvest but cannot predict possible changes in angler behavior, such as anglers booking alternate days. With a shorter season, there would likely be less available space to rebook on alternate dates or with alternate businesses.

As with daily closures, another impact of a shorter season is the potential increase in the harvest of other species such as salmon, rockfishes, sablefish, Pacific cod, and lingcod. Some charter businesses are able to book anglers to catch other species, particularly salmon. Increases in harvest may intensify conservation concerns for these stocks.

5.6 Continued Impacts of the COVID-19 Pandemic

The COVID-19 pandemic had widespread impacts on the charter sector that cannot be accurately evaluated. We assume in these analyses that conditions in 2022 will be similar to pre-pandemic conditions. Continued impacts to the economy and tourism may impact realized charter effort in 2022. Generally, it has been assumed that continued impacts would decrease effort, however, improvements to the economy and widespread availability of vaccines and other mitigation measures could also encourage more charter effort in the future. Any continued impacts of the pandemic are not considered in this analysis.

6.0 References

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Table 1. Estimated average net weight (headed and gutted) and round weight of Pacific halibut by length. Estimates are based on the current International Pacific Halibut Commission length-weight relationships[5].

Length (Inches)	Net Weight (lb)	Round Weight (lb)
20	2.3	3.1
21	2.7	3.6
22	3.2	4.2
23	3.7	4.9
24	4.2	5.6
25	4.8	6.4
26	5.4	7.2
27	6.2	8.2
28	6.9	9.2
29	7.8	10.3
30	8.7	11.5
31	9.6	12.8
32	10.7	14.2
33	11.8	15.7
34	13.0	17.3
35	14.3	19.0
36	15.6	20.8
37	17.1	22.7
38	18.6	24.8
39	20.3	27.0
40	22.0	29.3
41	23.8	31.7
42	25.8	34.3
43	27.8	37.0
44	30.0	39.9
45	32.2	42.9
46	34.6	46.0
47	37.1	49.3
48	39.7	52.8
49	42.5	56.5
50	45.3	60.3

(continued at right)

Length (Inches)	Net Weight (lb)	Round Weight (lb)
51	48.3	64.3
52	51.5	68.5
53	54.8	72.8
54	58.2	77.4
55	61.7	82.1
56	65.5	87.1
57	69.3	92.2
58	73.3	97.5
59	77.5	103.1
60	81.9	108.9
61	86.4	114.9
62	91.0	121.1
63	95.9	127.5
64	100.9	134.2
65	106.1	141.1
66	111.5	148.3
67	117.0	155.7
68	122.8	163.3
69	128.7	171.2
70	134.9	179.4
71	141.2	187.8
72	147.8	196.5
73	154.5	205.5
74	161.5	214.8
75	168.7	224.3
76	176.1	234.2
77	183.7	244.3
78	191.5	254.7
79	199.6	265.5
80	207.9	276.5

[5] IPHC length-weight relationships are $NetWt(lb) = 6.921 \times 10^{-6}\ ForkLength(cm)^{3.24}$ and $RndWt(lb) = 9.205 \times 10^{-6}\ ForkLength(cm)^{3.24}$ from Clark (1992).

Table 2. Subareas of IPHC Areas 2C and 3A, ports where ADF&G halibut sampling occurs, and Subarea abbreviations used in tables and figures in this report.

IPHC Area	Subarea	Ports with Sampling and Angler Interviews	Abbreviations
2C	Ketchikan	Ketchikan	Ketch, A
	Prince of Wales Island	Craig, Klawock	PWalesI, PWI, B
	Petersburg/Wrangell	Petersburg, Wrangell	Pburg, C
	Sitka	Sitka	D
	Juneau, Haines, Skagway	Juneau	Jun, E, EF
	Glacier Bay (2C portion)	Gustavus, Elfin Cove*	GlacB, GlacB-2C, G2C
3A	Glacier Bay (3A portion)	Gustavus, Elfin Cove*	GlacB, GlacB-3A, G3A
	Yakutat	Yakutat	Yak, H
	Eastern Prince William Sound	Valdez	EPWS
	Western Prince William Sound	Whittier	WPWS
	North Gulf	Seward	NGulf, NGC
	Lower Cook Inlet	Homer	LCI
	Central Cook Inlet	Anchor Point, Deep Creek	CCI
	Kodiak	Kodiak	Kod, QR

*No sampling or interviews in 2020 or 2021

Table 3. Charter logbook effort, harvest per unit effort, and harvest of halibut in IPHC Area 2C, 2012 - 2021. Preliminary numbers for 2021 (in italics) are based on logbook data for charter trips entered as of October 19, 2021.

	Subarea						
Year	Ketch	PWI	Pburg	Sitka	Jun	GlacB-2C	Total 2C
Effort (angler-days)[a,b]							
2012	11,886	18,242	2,675	24,881	7,803	9,976	75,463
2013	13,582	20,180	3,029	24,470	9,288	11,206	81,755
2014	14,680	21,491	2,839	28,638	10,375	12,390	90,413
2015	16,685	21,931	3,071	31,113	11,391	10,613	94,804
2016	16,595	23,440	3,373	31,093	12,069	9,694	96,264
2017	18,678	25,466	3,133	33,481	13,729	9,786	104,273
2018	21,661	25,708	3,538	32,394	13,993	11,396	108,690
2019	20,998	24,412	3,194	33,057	14,674	10,414	106,749
2020	4,521	12,644	1,934	16,605	4,089	5,133	44,926
2021	*13,350*	*26,048*	*3,221*	*33,270*	*12,057*	*12,322*	*100,268*
Halibut Harvest per Angler-Day (HPUE)							
2012	0.440	0.767	0.653	0.672	0.628	0.819	0.673
2013	0.494	0.833	0.696	0.706	0.698	0.792	0.713
2014	0.486	0.801	0.729	0.761	0.678	0.789	0.719
2015	0.465	0.744	0.691	0.759	0.675	0.768	0.693
2016	0.507	0.725	0.621	0.789	0.633	0.667	0.687
2017	0.460	0.753	0.630	0.777	0.592	0.692	0.677
2018	0.440	0.729	0.606	0.751	0.572	0.637	0.644
2019	0.439	0.742	0.523	0.766	0.615	0.699	0.661
2020	0.776	0.771	0.768	0.834	0.854	0.783	0.804
2021	*0.677*	*0.795*	*0.678*	*0.809*	*0.721*	*0.792*	*0.771*
Harvest (number of halibut)[b]							
2012	5,234	13,985	1,748	16,711	4,903	8,175	50,756
2013	6,711	16,810	2,107	17,265	6,487	8,880	58,260
2014	7,138	17,214	2,071	21,798	7,034	9,781	65,036
2015	7,762	16,322	2,121	23,611	7,687	8,153	65,656
2016	8,414	16,999	2,095	24,528	7,642	6,469	66,147
2017	8,590	19,173	1,975	26,018	8,123	6,769	70,648
2018	9,530	18,731	2,143	24,327	7,998	7,255	69,984
2019	9,217	18,105	1,672	25,306	9,020	7,280	70,600
2020	3,507	9,750	1,485	13,848	3,490	4,020	36,100
2021	*9,034*	*20,702*	*2,185*	*26,912*	*8,689*	*9,765*	*77,287*

[a] – Effort is defined as angler-days with recorded bottomfish hours or harvest of at least one halibut.

[b] – Effort and harvest are client-only except 2014-2020 data which includes all reported crew data even though prohibited.

Table 4. Charter logbook effort, harvest per unit effort, and harvest of halibut in IPHC Area 3A, 2012 - 2021. Preliminary estimates for 2021 (in italics) are based on logbook data for charter trips through August 31, 2021, entered as of November 01, 2021.

	Subarea								
Year	GlacB-3A	Yak	EPWS	WPWS	NGulf	CCI	LCI	Kod	Tot 3A
Effort (angler-days)[a,b]									
2012	1,030	2,681	3,440	3,507	30,154	26,238	40,561	10,036	117,647
2013	1,264	2,919	3,618	3,736	29,872	27,741	40,615	9,313	119,078
2014	1,424	3,315	3,576	3,435	29,613	20,633	37,111	9,927	109,034
2015	1,852	3,267	3,527	3,484	30,864	19,882	33,011	8,756	104,643
2016	1,887	3,382	4,126	4,094	33,007	16,865	36,978	8,427	108,766
2017	2,211	3,405	3,579	3,679	27,934	17,330	35,426	7,899	101,463
2018	2,739	4,412	4,045	3,955	27,535	16,871	33,723	8,476	101,756
2019	2,094	4,365	4,653	4,764	29,889	15,184	33,663	8,961	103,573
2020	958	1,994	3,495	3,770	20,694	10,773	24,250	5,851	71,745
2021	*1,224*	*4,249*	*4,974*	*4,668*	*31,779*	*17,164*	*46,167*	*12,797*	*123,023*
Halibut Harvest per Angler-Day (HPUE)									
2012	1.262	1.279	1.440	1.359	1.495	1.916	1.883	1.334	1.697
2013	1.132	1.301	1.506	1.524	1.488	1.878	1.851	1.328	1.684
2014	0.791	1.034	1.225	1.314	1.430	1.866	1.824	1.245	1.599
2015	0.746	0.983	1.218	1.330	1.501	1.802	1.791	1.010	1.564
2016	0.757	0.964	1.149	1.096	1.294	1.705	1.741	1.001	1.455
2017	0.728	0.939	1.143	1.016	1.166	1.665	1.718	0.983	1.406
2018	0.688	0.980	1.187	1.088	1.056	1.670	1.668	0.883	1.340
2019	0.755	0.985	1.103	1.094	1.143	1.660	1.642	0.916	1.343
2020	0.899	1.157	1.379	1.296	1.212	1.779	1.744	1.227	1.486
2021	*1.007*	*1.148*	*1.405*	*1.131*	*1.176*	*1.841*	*1.768*	*1.187*	*1.497*
Harvest (number of halibut)[b]									
2012	1,300	3,430	4,954	4,766	45,094	50,281	76,381	13,388	199,594
2013	1,431	3,798	5,450	5,695	44,447	52,107	75,181	12,370	200,479
2014	1,126	3,429	4,379	4,514	42,337	38,504	67,701	12,358	174,348
2015	1,381	3,210	4,296	4,635	46,321	35,834	59,110	8,845	163,632
2016	1,428	3,259	4,742	4,487	42,721	28,747	64,392	8,438	158,214
2017	1,609	3,196	4,090	3,737	32,576	28,850	60,845	7,761	142,664
2018	1,884	4,322	4,803	4,302	29,068	28,183	56,262	7,488	136,312
2019	1,582	4,301	5,132	5,214	34,171	25,200	55,274	8,208	139,082
2020	861	2,308	4,882	4,887	25,078	19,094	42,299	7,180	106,589
2021	*1,232*	*4,878*	*6,989*	*5,278*	*37,358*	*31,592*	*81,644*	*15,189*	*184,160*

[a] – Effort is defined as angler-day on open days with recorded bottomfish hours or harvest of at least one halibut.

[b] – Effort and harvest are client-only except 2014-2020 data which includes all reported crew data even though prohibited.

Table 5. Forecasts of effort, halibut harvest per unit effort (HPUE), and harvest (numbers of halibut) for Area 2C in 2022 under status quo regulations, with associated standard errors. Status quo regulations include a one-fish bag limit and U50O72 reverse slot size limit.

Subarea	Effort (angler-days)	Std Error	HPUE	Std Error	Harvest (no. halibut)	Std Error
Ketch	20,999	2,664	0.44	0.065	9,245	1,789
PWI	26,453	1,531	0.75	0.039	19,825	1,548
Pburg	3,132	374	0.52	0.072	1,640	297
Sitka	33,624	1,734	0.76	0.067	25,673	2,613
Jun	14,673	1,777	0.62	0.071	9,019	1,500
GlacB-2C	10,908	1,359	0.68	0.077	7,463	1,247
Area 2C	109,789	4,194	0.66	NA	72,865	4,040

Table 6. Projected charter removals (Mlb) for Area 2C in 2022 under reverse slot limits ranging from U35O50 to U50O80 with a 1-fish bag limit. All reverse slot limits exceeded the reference allocation of 0.60 Mlb. Dark shaded cells represent projections for the most liberal combinations that do not exceed the 2021 allocation of 0.81 Mlb. All values in the table include corrections for errors in estimation of average weight and inflation factors for release mortality.

Harvest = 72,865

Lower Limit (in)	Upper Length Limit (in)															
	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80
35	1.296	1.211	1.146	1.073	1.020	0.972	0.905	0.841	0.805	0.776	0.746	0.727	0.700	0.684	0.682	0.670
36	1.326	1.243	1.180	1.108	1.056	1.008	0.942	0.879	0.843	0.814	0.785	0.765	0.739	0.723	0.721	0.709
37	1.343	1.261	1.199	1.128	1.076	1.029	0.964	0.901	0.865	0.837	0.807	0.788	0.762	0.746	0.744	0.732
38	1.370	1.290	1.229	1.159	1.108	1.062	0.997	0.935	0.899	0.871	0.842	0.823	0.797	0.781	0.780	0.767
39	1.390	1.311	1.250	1.181	1.130	1.085	1.020	0.959	0.923	0.896	0.867	0.848	0.822	0.807	0.805	0.793
40	1.404	1.326	1.267	1.198	1.148	1.103	1.040	0.979	0.944	0.916	0.888	0.869	0.843	0.828	0.826	0.814
41	1.423	1.347	1.288	1.221	1.171	1.127	1.064	1.003	0.969	0.941	0.913	0.894	0.869	0.853	0.852	0.840
42	1.433	1.359	1.301	1.234	1.185	1.141	1.079	1.019	0.984	0.957	0.929	0.911	0.886	0.870	0.868	0.856
43	1.446	1.372	1.315	1.249	1.201	1.158	1.096	1.036	1.002	0.975	0.947	0.929	0.904	0.889	0.887	0.875
44	1.465	1.393	1.337	1.272	1.225	1.181	1.120	1.062	1.028	1.001	0.973	0.955	0.930	0.915	0.913	0.901
45	1.487	1.416	1.361	1.297	1.250	1.208	1.147	1.089	1.055	1.029	1.002	0.983	0.959	0.944	0.942	0.930
46	1.499	1.430	1.376	1.312	1.266	1.224	1.164	1.107	1.073	1.047	1.020	1.002	0.977	0.962	0.961	0.949
47	1.518	1.450	1.397	1.334	1.289	1.247	1.188	1.131	1.098	1.072	1.045	1.027	1.003	0.988	0.986	0.975
48	1.529	1.463	1.410	1.349	1.304	1.262	1.203	1.147	1.114	1.089	1.062	1.044	1.020	1.005	1.003	0.992
49	1.552	1.487	1.436	1.375	1.331	1.290	1.232	1.177	1.144	1.119	1.092	1.074	1.050	1.036	1.034	1.023
50	1.566	1.503	1.452	1.392	1.349	1.309	1.251	1.196	1.164	1.139	1.113	1.095	1.071	1.057	1.055	1.044

Table 7. Estimated effects of annual limits of two to four halibut on Area 2C charter anglers and projected harvest for 2022. Effects were estimated using 2019 logbook data from licensed anglers. The percent of affected anglers is the portion of individual anglers that harvested more than the specified annual limit in 2019.

Annual Limit	Subarea						
	Ketch	PWI	Pburg	Sitka	Jun	GlacB	Area 2C
			Estimated percent of anglers affected by the annual limit:				
2	6.5%	40.8%	18.9%	41.8%	25.1%	35.3%	31.1%
3	0.8%	7.8%	6.4%	9.4%	12.3%	18.9%	8.5%
4	0.2%	1.4%	1.0%	1.6%	3.5%	6.8%	2.0%
			Estimated percent change in harvest relative to no annual limit:				
2	-6.1%	-23.3%	-15.7%	-23.8%	-23.4%	-28.4%	-21.1%
3	-0.9%	-4.6%	-4.5%	-5.2%	-9.5%	-12.3%	-5.6%
4	-0.2%	-1.0%	-0.7%	-0.9%	-2.7%	-3.6%	-1.3%
			Projected harvest (number of halibut):				
2	8,681	15,210	1,382	19,559	6,911	5,344	57,088
3	9,161	18,918	1,567	24,349	8,161	6,547	68,702
4	9,223	19,625	1,629	25,430	8,776	7,191	71,874
No Limit	9,245	19,825	1,640	25,673	9,019	7,463	72,865

Table 8. Projected charter removals (Mlb) for Area 2C in 2022 under reverse slot limits ranging from U35O50 to U50O80 with a 1-fish bag limit combined with annual limits ranging from four to two fish. Light shaded cells represent projections for the most liberal upper and lower size limits that do not exceed the reference allocation of 0.60 Mlb. Dark shaded cells represent projections for the most liberal upper and lower size limits that do not exceed the 2021 allocation of 0.81 Mlb. All values in the table include corrections for errors in estimation of average weight and inflation factors for release mortality.

a. 4-fish annual limit, harvest = 71,874

Lower Limit (in)	Upper Length Limit (in)															
	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80
35	1.276	1.193	1.129	1.057	1.005	0.958	0.892	0.829	0.793	0.765	0.736	0.716	0.690	0.674	0.673	0.661
36	1.307	1.225	1.162	1.091	1.040	0.993	0.928	0.866	0.830	0.802	0.774	0.754	0.729	0.713	0.711	0.699
37	1.323	1.243	1.181	1.111	1.060	1.014	0.949	0.888	0.852	0.824	0.796	0.777	0.751	0.736	0.734	0.722
38	1.350	1.271	1.211	1.142	1.091	1.046	0.982	0.921	0.886	0.858	0.830	0.811	0.786	0.770	0.768	0.757
39	1.369	1.291	1.232	1.163	1.114	1.069	1.005	0.945	0.910	0.883	0.855	0.836	0.811	0.795	0.793	0.782
40	1.383	1.307	1.248	1.181	1.131	1.087	1.024	0.964	0.930	0.903	0.875	0.856	0.831	0.816	0.814	0.802
41	1.402	1.327	1.269	1.202	1.154	1.110	1.048	0.989	0.954	0.928	0.900	0.881	0.856	0.841	0.839	0.828
42	1.412	1.339	1.281	1.216	1.168	1.124	1.063	1.004	0.970	0.943	0.916	0.898	0.873	0.858	0.856	0.844
43	1.425	1.352	1.296	1.231	1.183	1.140	1.079	1.021	0.987	0.961	0.934	0.916	0.891	0.876	0.874	0.863
44	1.444	1.373	1.317	1.253	1.207	1.164	1.104	1.046	1.012	0.986	0.959	0.941	0.917	0.902	0.900	0.889
45	1.465	1.395	1.341	1.278	1.232	1.190	1.130	1.073	1.040	1.014	0.987	0.969	0.945	0.930	0.928	0.917
46	1.477	1.409	1.355	1.293	1.248	1.206	1.147	1.090	1.058	1.032	1.005	0.987	0.963	0.948	0.947	0.935
47	1.496	1.429	1.376	1.315	1.270	1.229	1.170	1.115	1.082	1.057	1.030	1.012	0.988	0.974	0.972	0.961
48	1.507	1.441	1.389	1.329	1.285	1.244	1.186	1.131	1.098	1.073	1.047	1.029	1.005	0.991	0.989	0.978
49	1.530	1.465	1.415	1.355	1.311	1.271	1.214	1.159	1.127	1.102	1.076	1.059	1.035	1.021	1.019	1.008
50	1.543	1.480	1.431	1.372	1.329	1.289	1.233	1.179	1.147	1.122	1.096	1.079	1.056	1.041	1.040	1.029

b. 3-fish annual limit, harvest = 68,702

Lower Limit (in)	Upper Length Limit (in)															
	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80
35	1.216	1.136	1.076	1.007	0.957	0.913	0.850	0.790	0.756	0.729	0.702	0.684	0.659	0.644	0.642	0.631
36	1.245	1.167	1.108	1.040	0.991	0.947	0.885	0.826	0.792	0.765	0.738	0.720	0.695	0.681	0.679	0.668
37	1.261	1.184	1.125	1.058	1.010	0.967	0.905	0.846	0.812	0.786	0.760	0.741	0.717	0.702	0.700	0.689
38	1.287	1.211	1.154	1.088	1.040	0.997	0.936	0.878	0.845	0.819	0.792	0.774	0.750	0.735	0.734	0.722
39	1.305	1.231	1.174	1.109	1.062	1.019	0.959	0.901	0.868	0.842	0.816	0.798	0.774	0.759	0.757	0.746
40	1.318	1.246	1.189	1.125	1.079	1.036	0.977	0.920	0.887	0.861	0.835	0.817	0.793	0.779	0.777	0.766
41	1.336	1.265	1.209	1.146	1.100	1.058	0.999	0.943	0.910	0.885	0.859	0.841	0.817	0.803	0.801	0.790
42	1.346	1.276	1.221	1.158	1.113	1.072	1.013	0.957	0.925	0.900	0.874	0.856	0.833	0.818	0.817	0.806
43	1.358	1.288	1.235	1.173	1.128	1.087	1.029	0.973	0.941	0.916	0.891	0.873	0.850	0.835	0.834	0.823
44	1.376	1.308	1.255	1.194	1.150	1.110	1.052	0.997	0.965	0.940	0.915	0.898	0.874	0.860	0.859	0.848
45	1.396	1.330	1.278	1.218	1.174	1.134	1.077	1.023	0.991	0.967	0.942	0.925	0.901	0.887	0.886	0.875
46	1.408	1.343	1.292	1.232	1.189	1.150	1.093	1.040	1.008	0.984	0.959	0.942	0.919	0.905	0.903	0.893
47	1.426	1.362	1.312	1.253	1.211	1.172	1.116	1.063	1.032	1.007	0.983	0.966	0.943	0.929	0.928	0.917
48	1.437	1.374	1.324	1.266	1.225	1.186	1.131	1.078	1.047	1.023	0.999	0.982	0.959	0.945	0.944	0.933
49	1.458	1.397	1.348	1.291	1.250	1.212	1.157	1.105	1.075	1.051	1.027	1.010	0.988	0.974	0.972	0.962
50	1.471	1.411	1.363	1.307	1.267	1.229	1.175	1.124	1.093	1.070	1.046	1.029	1.007	0.993	0.992	0.981

(continued)

Table 8. (continued)

c. 2-fish annual limit, harvest = 57,088

Lower Limit (in)	Upper Length Limit (in)															
	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80
35	1.006	0.940	0.889	0.833	0.793	0.756	0.704	0.654	0.626	0.604	0.582	0.567	0.546	0.534	0.533	0.524
36	1.031	0.966	0.916	0.861	0.821	0.785	0.733	0.684	0.656	0.634	0.612	0.598	0.577	0.565	0.564	0.555
37	1.044	0.980	0.931	0.876	0.837	0.801	0.750	0.701	0.674	0.652	0.630	0.615	0.595	0.583	0.582	0.573
38	1.066	1.003	0.955	0.901	0.862	0.827	0.776	0.728	0.701	0.679	0.657	0.643	0.623	0.611	0.609	0.600
39	1.081	1.019	0.972	0.918	0.880	0.845	0.795	0.747	0.720	0.699	0.677	0.663	0.642	0.631	0.629	0.620
40	1.092	1.031	0.985	0.932	0.894	0.860	0.810	0.763	0.736	0.715	0.693	0.679	0.659	0.647	0.646	0.637
41	1.107	1.048	1.002	0.950	0.912	0.878	0.829	0.782	0.756	0.734	0.713	0.699	0.679	0.667	0.666	0.657
42	1.115	1.057	1.012	0.960	0.923	0.889	0.841	0.794	0.768	0.747	0.726	0.712	0.692	0.680	0.679	0.670
43	1.125	1.067	1.023	0.972	0.936	0.902	0.854	0.808	0.781	0.761	0.740	0.726	0.706	0.694	0.693	0.684
44	1.141	1.084	1.040	0.990	0.954	0.921	0.873	0.828	0.802	0.781	0.760	0.746	0.727	0.715	0.714	0.705
45	1.157	1.102	1.059	1.009	0.974	0.941	0.894	0.849	0.823	0.803	0.782	0.769	0.749	0.738	0.737	0.728
46	1.167	1.113	1.071	1.022	0.987	0.954	0.908	0.863	0.837	0.817	0.797	0.783	0.764	0.752	0.751	0.743
47	1.182	1.129	1.087	1.039	1.005	0.973	0.926	0.882	0.857	0.837	0.817	0.803	0.784	0.773	0.771	0.763
48	1.192	1.139	1.098	1.051	1.017	0.985	0.939	0.895	0.870	0.850	0.830	0.816	0.797	0.786	0.785	0.777
49	1.209	1.158	1.118	1.071	1.038	1.006	0.961	0.918	0.893	0.873	0.853	0.840	0.821	0.810	0.809	0.800
50	1.220	1.170	1.130	1.084	1.051	1.021	0.976	0.933	0.908	0.889	0.869	0.856	0.837	0.826	0.825	0.816

Table 9. Projected charter removals (Mlb) for Area 2C in 2022 under reverse slot limits with lower limits of the protected slot ranging from 35 to 50 inches and an upper limit of 80 inches with days closed throughout the season. Light shaded cells represent projections for the most liberal upper and lower size limits that do not exceed the reference allocation of 0.60 Mlb. Dark shaded cells represent projections for the most liberal upper and lower size limits that do not exceed the 2021 allocation of 0.81 Mlb. All values in the table include corrections for errors in estimation of average weight and inflation factors for release mortality.

a. Sunday closures

		Sunday Closures																				
		None	Starting Sept 18	Starting Sept 11	Starting Sept 04	Starting Aug 28	Starting Aug 21	Starting Aug 14	Starting Aug 7	Starting July 31	Starting July 24	Starting July 17	Starting July 10	Starting July 03	Starting June 26	Starting June 19	Starting June 12	Starting June 05	Starting May 29	Starting May 22	Starting May 15	All Year
	Harvest	72,865	72,799	72,576	72,125	71,472	71,122	70,168	69,306	68,515	67,708	66,767	65,977	65,276	64,616	64,073	63,685	63,450	63,203	63,071	63,027	63,025
Lower Limit (in)	35	0.670	0.669	0.667	0.663	0.658	0.654	0.646	0.638	0.631	0.623	0.615	0.608	0.601	0.595	0.590	0.587	0.585	0.582	0.581	0.581	0.581
	36	0.709	0.708	0.706	0.702	0.696	0.692	0.683	0.675	0.667	0.660	0.651	0.643	0.636	0.630	0.625	0.621	0.619	0.616	0.615	0.615	0.615
	37	0.732	0.731	0.729	0.725	0.718	0.715	0.705	0.697	0.689	0.681	0.672	0.664	0.657	0.651	0.645	0.641	0.639	0.636	0.635	0.635	0.635
	38	0.767	0.767	0.764	0.760	0.753	0.749	0.740	0.731	0.722	0.714	0.704	0.696	0.689	0.682	0.677	0.672	0.670	0.667	0.666	0.665	0.665
	39	0.793	0.792	0.790	0.785	0.778	0.774	0.764	0.755	0.746	0.738	0.728	0.719	0.712	0.705	0.699	0.695	0.692	0.689	0.688	0.687	0.687
	40	0.814	0.813	0.811	0.806	0.799	0.795	0.784	0.775	0.766	0.757	0.747	0.739	0.731	0.724	0.718	0.713	0.711	0.708	0.706	0.706	0.706
	41	0.840	0.839	0.836	0.831	0.824	0.820	0.809	0.799	0.791	0.781	0.771	0.762	0.754	0.747	0.741	0.736	0.733	0.730	0.729	0.728	0.728
	42	0.856	0.856	0.853	0.848	0.840	0.836	0.825	0.815	0.806	0.797	0.786	0.778	0.770	0.762	0.756	0.751	0.748	0.745	0.744	0.743	0.743
	43	0.875	0.874	0.872	0.866	0.859	0.855	0.843	0.833	0.824	0.815	0.803	0.795	0.786	0.779	0.772	0.768	0.765	0.762	0.760	0.759	0.759
	44	0.901	0.901	0.898	0.892	0.885	0.880	0.869	0.858	0.849	0.839	0.828	0.819	0.810	0.802	0.796	0.791	0.788	0.785	0.783	0.782	0.782
	45	0.930	0.929	0.927	0.921	0.913	0.909	0.897	0.886	0.876	0.866	0.854	0.845	0.836	0.828	0.821	0.816	0.813	0.810	0.808	0.807	0.807
	46	0.949	0.948	0.945	0.940	0.931	0.927	0.915	0.904	0.894	0.884	0.872	0.862	0.853	0.845	0.838	0.833	0.830	0.826	0.824	0.824	0.824
	47	0.975	0.974	0.971	0.965	0.957	0.952	0.940	0.928	0.918	0.908	0.895	0.886	0.877	0.868	0.861	0.856	0.852	0.849	0.847	0.846	0.846
	48	0.992	0.991	0.988	0.982	0.973	0.969	0.956	0.945	0.934	0.924	0.911	0.901	0.892	0.883	0.876	0.871	0.867	0.864	0.862	0.861	0.861
	49	1.023	1.022	1.019	1.013	1.004	0.999	0.986	0.974	0.963	0.952	0.940	0.929	0.920	0.911	0.904	0.898	0.894	0.891	0.889	0.888	0.888
	50	1.044	1.043	1.040	1.033	1.024	1.019	1.006	0.994	0.983	0.972	0.959	0.949	0.939	0.930	0.922	0.917	0.913	0.909	0.907	0.907	0.907

Table 9. (continued)

b. Monday closures

		Monday Closures																				
		None	Starting Sept 19	Starting Sept 12	Starting Sept 05	Starting Aug 29	Starting Aug 22	Starting Aug 15	Starting Aug 08	Starting Aug 01	Starting July 25	Starting July 18	Starting July 11	Starting July 04	Starting June 27	Starting June 20	Starting June 13	Starting June 06	Starting May 30	Starting May 23	Starting May 16	All Year
	Harvest	72,865	72,843	72,634	72,249	71,744	70,855	69,804	68,832	67,802	66,797	65,760	64,855	64,197	63,363	62,779	62,412	62,091	61,830	61,679	61,651	61,636
Lower Limit (in)	35	0.670	0.670	0.668	0.664	0.660	0.652	0.642	0.633	0.624	0.614	0.605	0.597	0.591	0.583	0.578	0.574	0.571	0.569	0.567	0.567	0.567
	36	0.709	0.709	0.707	0.703	0.698	0.690	0.679	0.670	0.660	0.650	0.640	0.632	0.625	0.617	0.611	0.608	0.605	0.602	0.601	0.600	0.600
	37	0.732	0.732	0.730	0.726	0.721	0.712	0.702	0.692	0.682	0.671	0.661	0.652	0.646	0.637	0.631	0.628	0.624	0.622	0.620	0.620	0.620
	38	0.767	0.767	0.765	0.761	0.756	0.746	0.735	0.725	0.714	0.704	0.693	0.684	0.677	0.668	0.662	0.658	0.654	0.652	0.650	0.650	0.650
	39	0.793	0.793	0.790	0.786	0.781	0.771	0.760	0.749	0.738	0.727	0.716	0.706	0.699	0.690	0.684	0.680	0.676	0.673	0.672	0.671	0.671
	40	0.814	0.813	0.811	0.807	0.801	0.791	0.780	0.769	0.758	0.747	0.735	0.725	0.718	0.709	0.702	0.698	0.694	0.691	0.689	0.689	0.689
	41	0.840	0.839	0.837	0.833	0.827	0.817	0.805	0.794	0.782	0.770	0.759	0.748	0.741	0.731	0.725	0.720	0.716	0.713	0.711	0.711	0.711
	42	0.856	0.856	0.854	0.849	0.843	0.833	0.821	0.809	0.797	0.786	0.774	0.764	0.756	0.746	0.739	0.735	0.731	0.727	0.726	0.725	0.725
	43	0.875	0.875	0.872	0.868	0.862	0.851	0.839	0.827	0.815	0.803	0.791	0.780	0.772	0.762	0.755	0.751	0.747	0.743	0.742	0.741	0.741
	44	0.901	0.901	0.898	0.894	0.888	0.877	0.864	0.852	0.839	0.827	0.815	0.804	0.796	0.786	0.778	0.773	0.769	0.766	0.764	0.763	0.763
	45	0.930	0.930	0.927	0.923	0.916	0.905	0.892	0.879	0.866	0.854	0.841	0.830	0.821	0.811	0.803	0.798	0.794	0.790	0.788	0.788	0.788
	46	0.949	0.949	0.946	0.941	0.934	0.923	0.909	0.897	0.884	0.871	0.858	0.846	0.838	0.827	0.819	0.814	0.810	0.806	0.804	0.804	0.804
	47	0.975	0.974	0.971	0.967	0.960	0.948	0.934	0.921	0.908	0.895	0.881	0.870	0.861	0.850	0.842	0.836	0.832	0.828	0.826	0.826	0.825
	48	0.992	0.991	0.989	0.984	0.977	0.965	0.951	0.938	0.924	0.910	0.897	0.885	0.876	0.865	0.857	0.851	0.846	0.843	0.840	0.840	0.840
	49	1.023	1.022	1.019	1.014	1.007	0.995	0.980	0.967	0.952	0.939	0.925	0.912	0.903	0.892	0.883	0.878	0.873	0.869	0.867	0.866	0.866
	50	1.044	1.043	1.040	1.035	1.028	1.015	1.000	0.987	0.972	0.958	0.944	0.931	0.922	0.910	0.901	0.896	0.891	0.887	0.885	0.884	0.884

c. Tuesday closures

		Tuesday Closures																				
		None	Starting Sept 20	Starting Sept 13	Starting Sept 06	Starting Aug 30	Starting Aug 23	Starting Aug 16	Starting Aug 09	Starting Aug 02	Starting July 26	Starting July 19	Starting July 12	Starting July 05	Starting June 28	Starting June 21	Starting June 14	Starting June 07	Starting May 31	Starting May 24	Starting May 17	All Year
	Harvest	72,865	72,827	72,613	72,223	71,657	71,049	70,078	69,073	68,051	67,169	66,330	65,381	64,722	63,897	63,339	63,134	62,852	62,672	62,603	62,567	62,562
Lower Limit (in)	35	0.670	0.670	0.668	0.664	0.659	0.653	0.644	0.635	0.625	0.617	0.609	0.601	0.595	0.587	0.582	0.580	0.577	0.576	0.575	0.575	0.575
	36	0.709	0.709	0.707	0.703	0.697	0.691	0.682	0.672	0.662	0.653	0.645	0.636	0.629	0.621	0.616	0.614	0.611	0.609	0.608	0.608	0.608
	37	0.732	0.732	0.730	0.726	0.720	0.714	0.704	0.694	0.683	0.674	0.666	0.656	0.650	0.642	0.636	0.634	0.631	0.629	0.628	0.628	0.628
	38	0.767	0.767	0.765	0.761	0.755	0.748	0.738	0.727	0.716	0.707	0.698	0.688	0.681	0.672	0.666	0.664	0.661	0.659	0.658	0.658	0.658
	39	0.793	0.792	0.790	0.786	0.780	0.773	0.762	0.751	0.740	0.730	0.721	0.711	0.704	0.695	0.689	0.686	0.683	0.681	0.680	0.680	0.680
	40	0.814	0.813	0.811	0.807	0.800	0.793	0.782	0.771	0.759	0.749	0.740	0.730	0.722	0.713	0.707	0.704	0.701	0.699	0.698	0.698	0.698
	41	0.840	0.839	0.837	0.832	0.826	0.818	0.807	0.796	0.784	0.773	0.764	0.753	0.745	0.736	0.729	0.727	0.723	0.721	0.720	0.720	0.720
	42	0.856	0.856	0.853	0.849	0.842	0.835	0.823	0.811	0.799	0.789	0.779	0.768	0.760	0.750	0.744	0.741	0.738	0.735	0.735	0.734	0.734
	43	0.875	0.875	0.872	0.867	0.860	0.853	0.841	0.829	0.816	0.806	0.796	0.784	0.776	0.767	0.760	0.757	0.753	0.751	0.750	0.750	0.750
	44	0.901	0.901	0.898	0.893	0.886	0.878	0.866	0.854	0.841	0.830	0.820	0.808	0.800	0.790	0.783	0.780	0.776	0.774	0.773	0.773	0.772
	45	0.930	0.930	0.927	0.922	0.915	0.906	0.894	0.881	0.868	0.857	0.846	0.834	0.825	0.815	0.808	0.805	0.801	0.799	0.798	0.797	0.797
	46	0.949	0.948	0.946	0.941	0.933	0.925	0.912	0.899	0.885	0.874	0.863	0.851	0.842	0.831	0.824	0.821	0.817	0.815	0.814	0.813	0.813
	47	0.975	0.974	0.971	0.966	0.958	0.950	0.937	0.923	0.909	0.897	0.886	0.874	0.865	0.854	0.846	0.843	0.839	0.837	0.836	0.835	0.835
	48	0.992	0.991	0.988	0.983	0.975	0.966	0.953	0.940	0.925	0.913	0.902	0.889	0.880	0.869	0.861	0.858	0.854	0.851	0.850	0.850	0.850
	49	1.023	1.022	1.019	1.014	1.005	0.996	0.983	0.969	0.954	0.941	0.930	0.916	0.907	0.896	0.888	0.885	0.880	0.878	0.877	0.876	0.876
	50	1.044	1.043	1.040	1.034	1.026	1.017	1.003	0.989	0.973	0.961	0.949	0.935	0.926	0.914	0.906	0.903	0.898	0.896	0.895	0.894	0.894

Table 9. (continued)

d. Wednesday closures

		Wednesday Closures																				
		None	Starting Sept 21	Starting Sept 14	Starting Sept 07	Starting Aug 31	Starting Aug 24	Starting Aug 17	Starting Aug 10	Starting Aug 03	Starting July 27	Starting July 20	Starting July 13	Starting July 06	Starting June 29	Starting June 22	Starting June 15	Starting June 08	Starting June 01	Starting May 25	Starting May 18	All Year
	Harvest	72,865	72,829	72,665	72,328	71,756	71,171	70,254	69,399	68,399	67,693	66,823	65,882	65,170	64,373	63,696	63,290	62,962	62,729	62,577	62,561	62,545
Lower Limit (in)	35	0.670	0.670	0.670	0.668	0.665	0.654	0.646	0.638	0.628	0.622	0.614	0.605	0.599	0.591	0.585	0.581	0.578	0.576	0.574	0.574	0.574
	36	0.709	0.709	0.709	0.707	0.704	0.692	0.683	0.675	0.665	0.658	0.650	0.640	0.633	0.626	0.619	0.615	0.612	0.609	0.608	0.608	0.607
	37	0.732	0.732	0.732	0.730	0.727	0.715	0.706	0.697	0.687	0.679	0.671	0.661	0.654	0.646	0.639	0.635	0.631	0.629	0.627	0.627	0.627
	38	0.767	0.767	0.767	0.765	0.762	0.749	0.740	0.730	0.720	0.712	0.703	0.693	0.686	0.677	0.670	0.665	0.662	0.659	0.658	0.657	0.657
	39	0.793	0.792	0.792	0.790	0.787	0.774	0.764	0.755	0.744	0.736	0.726	0.716	0.708	0.699	0.692	0.687	0.684	0.681	0.679	0.679	0.679
	40	0.814	0.813	0.813	0.811	0.808	0.794	0.784	0.775	0.763	0.755	0.745	0.735	0.727	0.718	0.710	0.705	0.702	0.699	0.697	0.697	0.697
	41	0.840	0.839	0.839	0.837	0.833	0.820	0.809	0.799	0.787	0.779	0.769	0.758	0.750	0.741	0.733	0.728	0.724	0.721	0.719	0.719	0.719
	42	0.856	0.856	0.856	0.854	0.850	0.836	0.825	0.815	0.803	0.794	0.784	0.773	0.765	0.755	0.747	0.742	0.738	0.735	0.733	0.733	0.733
	43	0.875	0.875	0.875	0.872	0.868	0.854	0.843	0.833	0.820	0.812	0.801	0.790	0.781	0.772	0.763	0.758	0.754	0.751	0.749	0.749	0.749
	44	0.901	0.901	0.901	0.899	0.894	0.880	0.869	0.858	0.845	0.836	0.825	0.814	0.805	0.795	0.786	0.781	0.777	0.774	0.772	0.771	0.771
	45	0.930	0.930	0.930	0.927	0.923	0.908	0.896	0.885	0.872	0.863	0.852	0.840	0.831	0.820	0.812	0.806	0.801	0.798	0.796	0.796	0.796
	46	0.949	0.949	0.949	0.946	0.942	0.926	0.914	0.903	0.890	0.880	0.869	0.857	0.847	0.837	0.828	0.822	0.818	0.814	0.812	0.812	0.812
	47	0.975	0.974	0.974	0.972	0.967	0.951	0.939	0.927	0.914	0.904	0.892	0.880	0.870	0.860	0.850	0.844	0.840	0.836	0.834	0.834	0.834
	48	0.992	0.991	0.991	0.989	0.984	0.968	0.956	0.944	0.930	0.920	0.908	0.895	0.886	0.875	0.865	0.859	0.854	0.851	0.849	0.849	0.848
	49	1.023	1.022	1.022	1.019	1.015	0.998	0.985	0.973	0.959	0.948	0.936	0.923	0.913	0.902	0.892	0.886	0.881	0.877	0.875	0.875	0.875
	50	1.044	1.043	1.043	1.040	1.035	1.018	1.005	0.993	0.978	0.968	0.955	0.942	0.932	0.920	0.910	0.904	0.898	0.895	0.893	0.892	0.892

e. Thursday closures

		Thursday Closures																				
		None	Starting Sept 22	Starting Sept 15	Starting Sept 08	Starting Sept 01	Starting Aug 25	Starting Aug 18	Starting Aug 11	Starting Aug 04	Starting July 28	Starting July 21	Starting July 14	Starting July 07	Starting June 30	Starting June 23	Starting June 16	Starting June 09	Starting June 02	Starting May 26	Starting May 19	All Year
	Harvest	72,865	72,801	72,667	72,322	71,744	71,210	70,250	69,284	68,331	67,529	66,780	65,850	65,134	64,446	63,649	63,087	62,791	62,543	62,406	62,340	62,310
Lower Limit (in)	35	0.670	0.669	0.668	0.665	0.660	0.655	0.646	0.637	0.628	0.621	0.614	0.606	0.599	0.593	0.586	0.580	0.578	0.575	0.574	0.573	0.573
	36	0.709	0.708	0.707	0.704	0.698	0.693	0.684	0.674	0.665	0.657	0.650	0.641	0.634	0.627	0.620	0.614	0.611	0.609	0.607	0.607	0.606
	37	0.732	0.731	0.730	0.727	0.721	0.715	0.706	0.696	0.687	0.679	0.671	0.662	0.655	0.648	0.640	0.634	0.631	0.629	0.627	0.626	0.626
	38	0.767	0.767	0.765	0.762	0.756	0.750	0.740	0.730	0.720	0.711	0.703	0.694	0.686	0.679	0.671	0.665	0.661	0.659	0.657	0.657	0.656
	39	0.793	0.792	0.791	0.787	0.780	0.775	0.764	0.754	0.743	0.735	0.727	0.716	0.709	0.701	0.693	0.687	0.683	0.680	0.679	0.678	0.678
	40	0.814	0.813	0.811	0.808	0.801	0.795	0.784	0.774	0.763	0.754	0.746	0.735	0.728	0.720	0.711	0.705	0.701	0.698	0.697	0.696	0.696
	41	0.840	0.839	0.837	0.833	0.827	0.820	0.809	0.798	0.787	0.778	0.769	0.759	0.751	0.743	0.734	0.727	0.724	0.721	0.719	0.718	0.718
	42	0.856	0.856	0.854	0.850	0.843	0.837	0.825	0.814	0.803	0.794	0.785	0.774	0.766	0.758	0.748	0.742	0.738	0.735	0.733	0.733	0.732
	43	0.875	0.874	0.873	0.868	0.861	0.855	0.843	0.832	0.821	0.811	0.802	0.791	0.782	0.774	0.765	0.758	0.754	0.751	0.749	0.748	0.748
	44	0.901	0.901	0.899	0.895	0.887	0.881	0.869	0.857	0.845	0.835	0.826	0.815	0.806	0.798	0.788	0.781	0.777	0.774	0.772	0.771	0.771
	45	0.930	0.929	0.928	0.923	0.916	0.909	0.897	0.884	0.872	0.862	0.852	0.841	0.832	0.823	0.813	0.806	0.802	0.798	0.796	0.796	0.795
	46	0.949	0.948	0.946	0.942	0.934	0.927	0.915	0.902	0.890	0.879	0.869	0.858	0.849	0.840	0.830	0.822	0.818	0.814	0.812	0.812	0.811
	47	0.975	0.974	0.972	0.967	0.959	0.952	0.939	0.926	0.914	0.903	0.893	0.881	0.872	0.863	0.852	0.844	0.840	0.836	0.835	0.834	0.833
	48	0.992	0.991	0.989	0.984	0.976	0.969	0.956	0.943	0.930	0.919	0.909	0.896	0.887	0.878	0.867	0.859	0.855	0.851	0.849	0.848	0.848
	49	1.023	1.022	1.020	1.015	1.007	0.999	0.986	0.972	0.959	0.947	0.937	0.924	0.915	0.905	0.894	0.886	0.881	0.878	0.876	0.875	0.874
	50	1.044	1.043	1.041	1.036	1.027	1.019	1.006	0.992	0.979	0.967	0.956	0.943	0.933	0.924	0.912	0.904	0.899	0.896	0.894	0.892	0.892

Table 9. (continued)

f. Friday closures

		Friday Closures																				
		None	Starting Sept 23	Starting Sept 16	Starting Sept 09	Starting Sept 02	Starting Aug 26	Starting Aug 19	Starting Aug 12	Starting Aug 05	Starting July 29	Starting July 22	Starting July 15	Starting July 08	Starting July 01	Starting June 24	Starting June 17	Starting June 10	Starting June 03	Starting May 27	Starting May 20	All Year
	Harvest	72,865	72,842	72,765	72,398	71,839	71,499	70,652	69,540	68,688	67,798	66,817	65,816	65,206	64,425	63,686	63,117	62,705	62,563	62,400	62,305	62,287
Lower Limit (in)	35	0.670	0.670	0.669	0.666	0.661	0.658	0.650	0.639	0.632	0.623	0.614	0.605	0.599	0.592	0.585	0.580	0.576	0.575	0.574	0.573	0.573
	36	0.709	0.709	0.708	0.705	0.699	0.696	0.687	0.677	0.668	0.660	0.650	0.640	0.634	0.627	0.620	0.614	0.610	0.609	0.607	0.606	0.606
	37	0.732	0.732	0.731	0.727	0.722	0.718	0.710	0.699	0.690	0.681	0.671	0.661	0.655	0.647	0.640	0.634	0.630	0.628	0.627	0.626	0.626
	38	0.767	0.767	0.766	0.762	0.757	0.753	0.744	0.732	0.723	0.714	0.704	0.693	0.687	0.678	0.671	0.665	0.660	0.659	0.657	0.656	0.656
	39	0.793	0.793	0.792	0.788	0.782	0.778	0.768	0.756	0.747	0.737	0.727	0.716	0.709	0.701	0.693	0.687	0.682	0.680	0.679	0.678	0.677
	40	0.814	0.814	0.813	0.808	0.802	0.798	0.789	0.776	0.767	0.757	0.746	0.735	0.728	0.719	0.711	0.705	0.700	0.698	0.697	0.695	0.695
	41	0.840	0.839	0.838	0.834	0.828	0.824	0.814	0.801	0.791	0.781	0.770	0.758	0.751	0.742	0.734	0.727	0.722	0.721	0.719	0.718	0.717
	42	0.856	0.856	0.855	0.851	0.844	0.840	0.830	0.817	0.807	0.796	0.785	0.773	0.766	0.757	0.749	0.742	0.737	0.735	0.733	0.732	0.732
	43	0.875	0.875	0.874	0.869	0.863	0.858	0.848	0.835	0.824	0.814	0.802	0.790	0.783	0.774	0.765	0.758	0.753	0.751	0.749	0.748	0.748
	44	0.901	0.901	0.900	0.895	0.889	0.884	0.873	0.860	0.849	0.838	0.826	0.814	0.807	0.797	0.788	0.781	0.775	0.774	0.771	0.770	0.770
	45	0.930	0.930	0.929	0.924	0.917	0.912	0.901	0.887	0.876	0.865	0.853	0.840	0.832	0.822	0.813	0.806	0.800	0.798	0.796	0.795	0.795
	46	0.949	0.949	0.947	0.943	0.935	0.931	0.919	0.905	0.894	0.882	0.870	0.857	0.849	0.839	0.830	0.822	0.816	0.814	0.812	0.811	0.811
	47	0.975	0.974	0.973	0.968	0.961	0.956	0.944	0.930	0.918	0.906	0.894	0.880	0.872	0.862	0.852	0.844	0.839	0.837	0.834	0.833	0.833
	48	0.992	0.992	0.990	0.985	0.978	0.973	0.961	0.946	0.934	0.922	0.909	0.896	0.888	0.877	0.867	0.859	0.853	0.851	0.849	0.847	0.847
	49	1.023	1.022	1.021	1.016	1.008	1.003	0.991	0.976	0.963	0.951	0.937	0.923	0.915	0.904	0.894	0.886	0.880	0.878	0.875	0.874	0.874
	50	1.044	1.043	1.042	1.037	1.029	1.023	1.011	0.995	0.983	0.970	0.957	0.942	0.934	0.923	0.912	0.904	0.898	0.896	0.893	0.892	0.891

g. Saturday closures

		Saturday Closures																				
		None	Starting Sept 24	Starting Sept 17	Starting Sept 10	Starting Sept 03	Starting Aug 27	Starting Aug 20	Starting Aug 13	Starting Aug 06	Starting July 30	Starting July 23	Starting July 16	Starting July 09	Starting July 02	Starting June 25	Starting June 18	Starting June 11	Starting June 04	Starting May 28	Starting May 21	All Year
	Harvest	72,865	72,833	72,758	72,510	72,052	71,534	70,861	69,922	69,005	68,170	67,201	66,313	65,565	64,787	64,224	63,673	63,301	63,104	62,941	62,851	62,824
Lower Limit (in)	35	0.670	0.670	0.670	0.669	0.667	0.658	0.652	0.643	0.635	0.627	0.618	0.610	0.603	0.596	0.591	0.586	0.583	0.581	0.579	0.578	0.578
	36	0.709	0.709	0.709	0.708	0.706	0.696	0.690	0.681	0.672	0.664	0.654	0.646	0.639	0.631	0.626	0.620	0.617	0.615	0.613	0.612	0.612
	37	0.732	0.732	0.732	0.731	0.729	0.719	0.712	0.703	0.694	0.685	0.676	0.667	0.659	0.652	0.646	0.640	0.637	0.635	0.633	0.632	0.632
	38	0.767	0.767	0.767	0.766	0.764	0.753	0.746	0.737	0.727	0.718	0.708	0.699	0.691	0.683	0.677	0.671	0.667	0.665	0.664	0.663	0.662
	39	0.793	0.792	0.792	0.792	0.789	0.778	0.771	0.761	0.751	0.742	0.732	0.722	0.714	0.706	0.700	0.694	0.690	0.687	0.685	0.684	0.684
	40	0.814	0.813	0.813	0.813	0.810	0.799	0.791	0.781	0.771	0.762	0.751	0.741	0.733	0.724	0.718	0.712	0.708	0.706	0.704	0.703	0.702
	41	0.840	0.839	0.839	0.838	0.836	0.824	0.817	0.806	0.796	0.786	0.775	0.765	0.757	0.748	0.741	0.735	0.731	0.728	0.726	0.725	0.725
	42	0.856	0.856	0.856	0.855	0.852	0.841	0.833	0.822	0.812	0.802	0.791	0.780	0.772	0.763	0.756	0.750	0.745	0.743	0.741	0.740	0.739
	43	0.875	0.875	0.875	0.874	0.871	0.859	0.851	0.840	0.829	0.819	0.808	0.797	0.789	0.779	0.773	0.766	0.762	0.759	0.757	0.756	0.756
	44	0.901	0.901	0.901	0.900	0.897	0.885	0.877	0.865	0.854	0.844	0.832	0.821	0.813	0.803	0.796	0.789	0.785	0.782	0.780	0.779	0.778
	45	0.930	0.930	0.930	0.929	0.926	0.913	0.905	0.893	0.882	0.871	0.859	0.848	0.839	0.829	0.822	0.815	0.810	0.807	0.805	0.804	0.803
	46	0.949	0.949	0.949	0.948	0.944	0.931	0.923	0.911	0.899	0.889	0.876	0.865	0.856	0.845	0.838	0.831	0.826	0.823	0.821	0.820	0.819
	47	0.975	0.974	0.974	0.973	0.970	0.957	0.948	0.936	0.924	0.913	0.900	0.889	0.879	0.869	0.861	0.854	0.849	0.846	0.843	0.842	0.842
	48	0.992	0.991	0.991	0.990	0.987	0.974	0.965	0.952	0.940	0.929	0.916	0.904	0.894	0.884	0.876	0.869	0.864	0.861	0.858	0.857	0.857
	49	1.023	1.022	1.022	1.021	1.018	1.004	0.995	0.982	0.969	0.958	0.945	0.932	0.922	0.911	0.904	0.896	0.890	0.888	0.885	0.884	0.883
	50	1.044	1.043	1.043	1.042	1.039	1.024	1.015	1.002	0.989	0.977	0.964	0.951	0.941	0.930	0.922	0.914	0.909	0.906	0.903	0.902	0.901

Table 10. Projected charter removals (Mlb) for Area 2C in 2022 under reverse slot limits with lower limits of the protected slot ranging from 35 to 50 inches and an upper limit of 80 inches with days closed for the entire season. Light shaded cells represent projections for the most liberal upper and lower size limits that do not exceed the reference allocation of 0.60 Mlb. Dark shaded cells represent projections for the most liberal upper and lower size limits that do not exceed the 2021 allocation of 0.81 Mlb. All values in the table include corrections for errors in estimation of average weight and inflation factors for release mortality.

	Closed Day	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	Harvest	63,025	61,636	62,562	62,545	62,310	62,287	62,824
Lower Limit (in)	35	0.581	0.567	0.575	0.574	0.573	0.573	0.578
	36	0.615	0.600	0.608	0.607	0.606	0.606	0.612
	37	0.635	0.620	0.628	0.627	0.626	0.626	0.632
	38	0.665	0.650	0.658	0.657	0.656	0.656	0.662
	39	0.687	0.671	0.680	0.679	0.678	0.677	0.684
	40	0.706	0.689	0.698	0.697	0.696	0.695	0.702
	41	0.728	0.711	0.720	0.719	0.718	0.717	0.725
	42	0.743	0.725	0.734	0.733	0.732	0.732	0.739
	43	0.759	0.741	0.750	0.749	0.748	0.748	0.756
	44	0.782	0.763	0.772	0.771	0.771	0.770	0.778
	45	0.807	0.788	0.797	0.796	0.795	0.795	0.803
	46	0.824	0.804	0.813	0.812	0.811	0.811	0.819
	47	0.846	0.825	0.835	0.834	0.833	0.833	0.842
	48	0.861	0.840	0.850	0.848	0.848	0.847	0.857
	49	0.888	0.866	0.876	0.875	0.874	0.874	0.883
	50	0.907	0.884	0.894	0.892	0.892	0.891	0.901

Table 11. Projected savings in charter removals (Mlb) for Area 2C in 2022 under reverse slot limits with lower limits of the protected slot ranging from 35 to 50 inches and an upper limit of 80 inches from closed days throughout the season. Savings can be subtracted from values in Table 10 to evaluate closure of one full and one partial day throughout the season. All values in the table include corrections for errors in estimation of average weight and inflation factors for release mortality.

a. Sunday closures

		Starting Sept 18	Starting Sept 11	Starting Sept 04	Starting Aug 28	Starting Aug 21	Starting Aug 14	Starting Aug 7	Starting July 31	Starting July 24	Starting July 17	Starting July 10	Starting July 03	Starting June 26	Starting June 19	Starting June 12	Starting June 05	Starting May 29	Starting May 22	Starting May 15	All Year
	Harvest	66	289	740	1,393	1,743	2,697	3,559	4,350	5,157	6,098	6,888	7,589	8,249	8,792	9,180	9,415	9,662	9,794	9,838	9,840
Lower Limit (in)	35	0.001	0.003	0.007	0.012	0.016	0.024	0.032	0.039	0.047	0.055	0.062	0.069	0.075	0.080	0.083	0.085	0.088	0.089	0.089	0.089
	36	0.001	0.003	0.007	0.013	0.017	0.026	0.034	0.042	0.049	0.058	0.066	0.073	0.079	0.084	0.088	0.090	0.093	0.094	0.094	0.095
	37	0.001	0.003	0.007	0.014	0.017	0.027	0.035	0.043	0.051	0.060	0.068	0.075	0.081	0.087	0.091	0.093	0.096	0.097	0.097	0.097
	38	0.001	0.003	0.008	0.014	0.018	0.028	0.037	0.045	0.053	0.063	0.071	0.078	0.085	0.091	0.095	0.098	0.100	0.102	0.102	0.102
	39	0.001	0.003	0.008	0.015	0.019	0.029	0.038	0.047	0.055	0.065	0.073	0.081	0.088	0.094	0.098	0.101	0.103	0.105	0.105	0.105
	40	0.001	0.003	0.008	0.015	0.019	0.030	0.039	0.048	0.057	0.067	0.075	0.083	0.090	0.096	0.101	0.103	0.106	0.108	0.108	0.108
	41	0.001	0.003	0.008	0.016	0.020	0.030	0.040	0.049	0.058	0.069	0.078	0.085	0.093	0.099	0.104	0.106	0.109	0.111	0.111	0.111
	42	0.001	0.003	0.008	0.016	0.020	0.031	0.041	0.050	0.059	0.070	0.079	0.087	0.094	0.101	0.105	0.108	0.111	0.113	0.113	0.113
	43	0.001	0.003	0.009	0.016	0.020	0.032	0.042	0.051	0.060	0.072	0.080	0.089	0.096	0.103	0.108	0.110	0.113	0.115	0.116	0.116
	44	0.001	0.004	0.009	0.017	0.021	0.033	0.043	0.053	0.062	0.074	0.083	0.091	0.099	0.106	0.111	0.114	0.117	0.119	0.119	0.119
	45	0.001	0.004	0.009	0.017	0.022	0.034	0.044	0.054	0.064	0.076	0.085	0.094	0.102	0.109	0.114	0.117	0.120	0.122	0.123	0.123
	46	0.001	0.004	0.009	0.018	0.022	0.034	0.045	0.055	0.065	0.077	0.087	0.096	0.104	0.111	0.116	0.119	0.123	0.125	0.125	0.125
	47	0.001	0.004	0.010	0.018	0.023	0.035	0.046	0.057	0.067	0.079	0.089	0.098	0.107	0.114	0.119	0.122	0.126	0.128	0.128	0.128
	48	0.001	0.004	0.010	0.018	0.023	0.036	0.047	0.058	0.068	0.081	0.091	0.100	0.108	0.116	0.121	0.124	0.128	0.130	0.131	0.131
	49	0.001	0.004	0.010	0.019	0.024	0.037	0.049	0.059	0.070	0.083	0.093	0.103	0.112	0.119	0.125	0.128	0.132	0.134	0.134	0.135
	50	0.001	0.004	0.010	0.019	0.024	0.037	0.050	0.060	0.071	0.085	0.095	0.105	0.114	0.121	0.127	0.131	0.134	0.136	0.137	0.137

Table 11. (continued)

b. Monday closures

		Starting Sept 19	Starting Sept 12	Starting Sept 05	Starting Aug 29	Starting Aug 22	Starting Aug 15	Starting Aug 08	Starting Aug 01	Starting July 25	Starting July 18	Starting July 11	Starting July 04	Starting June 27	Starting June 20	Starting June 13	Starting June 06	Starting May 30	Starting May 23	Starting May 16	All Year
	Harvest	22	231	616	1,121	2,010	3,061	4,033	5,063	6,068	7,105	8,010	8,668	9,502	10,086	10,453	10,774	11,035	11,186	11,214	11,229
Lower Limit (in)	35	0.000	0.002	0.006	0.010	0.018	0.028	0.037	0.046	0.056	0.065	0.073	0.079	0.087	0.092	0.096	0.099	0.101	0.103	0.103	0.103
	36	0.000	0.002	0.006	0.011	0.019	0.030	0.039	0.049	0.059	0.069	0.077	0.084	0.092	0.098	0.101	0.104	0.107	0.109	0.109	0.109
	37	0.000	0.002	0.006	0.011	0.020	0.031	0.040	0.051	0.061	0.071	0.080	0.086	0.095	0.101	0.105	0.108	0.110	0.112	0.112	0.112
	38	0.000	0.002	0.006	0.012	0.021	0.032	0.042	0.053	0.064	0.074	0.084	0.091	0.099	0.106	0.110	0.113	0.116	0.117	0.118	0.118
	39	0.000	0.003	0.007	0.012	0.022	0.033	0.044	0.055	0.066	0.077	0.086	0.093	0.103	0.109	0.113	0.117	0.120	0.121	0.122	0.122
	40	0.000	0.003	0.007	0.012	0.022	0.034	0.045	0.056	0.067	0.078	0.088	0.096	0.105	0.112	0.116	0.120	0.123	0.124	0.125	0.125
	41	0.000	0.003	0.007	0.013	0.023	0.035	0.046	0.058	0.069	0.081	0.091	0.099	0.108	0.115	0.120	0.123	0.126	0.128	0.129	0.129
	42	0.000	0.003	0.007	0.013	0.023	0.036	0.047	0.059	0.071	0.082	0.093	0.101	0.110	0.117	0.122	0.126	0.129	0.131	0.131	0.131
	43	0.000	0.003	0.007	0.013	0.024	0.036	0.048	0.060	0.072	0.084	0.095	0.103	0.113	0.120	0.124	0.128	0.132	0.134	0.134	0.134
	44	0.000	0.003	0.007	0.014	0.025	0.037	0.049	0.062	0.074	0.086	0.097	0.106	0.116	0.123	0.128	0.132	0.136	0.138	0.138	0.138
	45	0.000	0.003	0.008	0.014	0.026	0.039	0.051	0.064	0.077	0.089	0.101	0.109	0.119	0.127	0.132	0.136	0.140	0.142	0.142	0.142
	46	0.000	0.003	0.008	0.015	0.026	0.039	0.052	0.065	0.078	0.091	0.102	0.111	0.122	0.130	0.135	0.139	0.143	0.145	0.145	0.145
	47	0.000	0.003	0.008	0.015	0.027	0.040	0.053	0.067	0.080	0.093	0.105	0.114	0.125	0.133	0.138	0.143	0.147	0.149	0.149	0.149
	48	0.000	0.003	0.008	0.015	0.027	0.041	0.054	0.068	0.082	0.095	0.107	0.116	0.127	0.135	0.141	0.145	0.149	0.151	0.152	0.152
	49	0.000	0.003	0.008	0.016	0.028	0.042	0.056	0.070	0.084	0.098	0.110	0.119	0.131	0.139	0.145	0.150	0.154	0.156	0.156	0.157
	50	0.000	0.003	0.009	0.016	0.029	0.043	0.057	0.072	0.086	0.100	0.112	0.122	0.134	0.142	0.148	0.153	0.157	0.159	0.159	0.160

c. Tuesday closures

		Starting Sept 20	Starting Sept 13	Starting Sept 06	Starting Aug 30	Starting Aug 23	Starting Aug 16	Starting Aug 09	Starting Aug 02	Starting July 26	Starting July 19	Starting July 12	Starting July 05	Starting June 28	Starting June 21	Starting June 14	Starting June 07	Starting May 31	Starting May 24	Starting May 17	All Year
	Harvest	38	252	642	1,208	1,816	2,787	3,792	4,814	5,696	6,535	7,484	8,143	8,968	9,526	9,731	10,013	10,193	10,262	10,298	10,303
Lower Limit (in)	35	0.000	0.002	0.006	0.011	0.017	0.026	0.035	0.045	0.053	0.061	0.069	0.075	0.083	0.088	0.090	0.093	0.094	0.095	0.095	0.095
	36	0.000	0.002	0.006	0.012	0.018	0.027	0.037	0.047	0.056	0.064	0.073	0.080	0.088	0.093	0.095	0.098	0.100	0.101	0.101	0.101
	37	0.000	0.003	0.006	0.012	0.018	0.028	0.038	0.049	0.058	0.066	0.076	0.082	0.091	0.096	0.098	0.101	0.103	0.104	0.104	0.104
	38	0.000	0.003	0.007	0.013	0.019	0.030	0.040	0.051	0.061	0.069	0.079	0.086	0.095	0.101	0.103	0.106	0.108	0.109	0.109	0.109
	39	0.000	0.003	0.007	0.013	0.020	0.031	0.042	0.053	0.063	0.072	0.082	0.089	0.098	0.104	0.107	0.110	0.112	0.113	0.113	0.113
	40	0.000	0.003	0.007	0.014	0.021	0.031	0.043	0.054	0.064	0.074	0.084	0.092	0.101	0.107	0.109	0.113	0.115	0.116	0.116	0.116
	41	0.000	0.003	0.007	0.014	0.021	0.033	0.044	0.056	0.066	0.076	0.087	0.095	0.104	0.110	0.113	0.116	0.119	0.119	0.120	0.120
	42	0.000	0.003	0.008	0.014	0.022	0.033	0.045	0.057	0.068	0.078	0.089	0.097	0.106	0.113	0.115	0.119	0.121	0.122	0.122	0.122
	43	0.000	0.003	0.008	0.015	0.022	0.034	0.046	0.059	0.069	0.079	0.091	0.099	0.108	0.115	0.118	0.122	0.124	0.125	0.125	0.125
	44	0.000	0.003	0.008	0.015	0.023	0.035	0.047	0.060	0.071	0.082	0.093	0.102	0.112	0.119	0.121	0.125	0.128	0.128	0.129	0.129
	45	0.000	0.003	0.008	0.016	0.024	0.036	0.049	0.062	0.074	0.084	0.096	0.105	0.115	0.122	0.125	0.129	0.132	0.133	0.133	0.133
	46	0.000	0.003	0.008	0.016	0.024	0.037	0.050	0.064	0.075	0.086	0.098	0.107	0.117	0.125	0.128	0.132	0.134	0.135	0.136	0.136
	47	0.000	0.003	0.009	0.016	0.025	0.038	0.051	0.065	0.077	0.088	0.101	0.110	0.121	0.128	0.131	0.135	0.138	0.139	0.139	0.140
	48	0.000	0.003	0.009	0.017	0.025	0.039	0.052	0.067	0.079	0.090	0.103	0.112	0.123	0.130	0.134	0.138	0.140	0.141	0.142	0.142
	49	0.000	0.004	0.009	0.017	0.026	0.040	0.054	0.069	0.081	0.093	0.106	0.115	0.127	0.135	0.138	0.142	0.145	0.146	0.146	0.146
	50	0.001	0.004	0.009	0.018	0.027	0.041	0.055	0.070	0.083	0.095	0.108	0.118	0.129	0.137	0.141	0.145	0.148	0.149	0.150	0.150

Table 11. (continued)

d. Wednesday closures

		Starting Sept 21	Starting Sept 14	Starting Sept 07	Starting Aug 31	Starting Aug 24	Starting Aug 17	Starting Aug 10	Starting Aug 03	Starting July 27	Starting July 20	Starting July 13	Starting July 06	Starting June 29	Starting June 22	Starting June 15	Starting June 08	Starting June 01	Starting May 25	Starting May 18	All Year
	Harvest	36	200	537	1,109	1,694	2,611	3,466	4,466	5,172	6,042	6,983	7,695	8,492	9,169	9,575	9,903	10,136	10,288	10,304	10,320
Lower Limit (in)	35	0.000	0.002	0.005	0.010	0.016	0.024	0.032	0.042	0.048	0.056	0.065	0.072	0.079	0.085	0.089	0.092	0.094	0.096	0.096	0.096
	36	0.000	0.002	0.005	0.011	0.017	0.026	0.034	0.044	0.051	0.059	0.069	0.076	0.083	0.090	0.094	0.097	0.100	0.101	0.101	0.102
	37	0.000	0.002	0.006	0.011	0.017	0.027	0.035	0.045	0.053	0.061	0.071	0.078	0.086	0.093	0.097	0.101	0.103	0.105	0.105	0.105
	38	0.000	0.002	0.006	0.012	0.018	0.028	0.037	0.048	0.055	0.064	0.074	0.082	0.090	0.098	0.102	0.106	0.108	0.110	0.110	0.110
	39	0.000	0.002	0.006	0.012	0.019	0.029	0.038	0.049	0.057	0.067	0.077	0.085	0.093	0.101	0.105	0.109	0.112	0.113	0.114	0.114
	40	0.000	0.002	0.006	0.013	0.019	0.030	0.039	0.051	0.059	0.068	0.079	0.087	0.096	0.104	0.108	0.112	0.115	0.117	0.117	0.117
	41	0.000	0.003	0.006	0.013	0.020	0.031	0.041	0.052	0.061	0.071	0.082	0.090	0.099	0.107	0.112	0.116	0.119	0.120	0.121	0.121
	42	0.000	0.003	0.007	0.013	0.020	0.031	0.041	0.053	0.062	0.072	0.083	0.092	0.101	0.109	0.114	0.118	0.121	0.123	0.123	0.123
	43	0.000	0.003	0.007	0.014	0.021	0.032	0.042	0.055	0.063	0.074	0.085	0.094	0.103	0.112	0.117	0.121	0.124	0.126	0.126	0.126
	44	0.000	0.003	0.007	0.014	0.022	0.033	0.044	0.056	0.065	0.076	0.088	0.096	0.106	0.115	0.120	0.125	0.128	0.130	0.130	0.130
	45	0.000	0.003	0.007	0.015	0.022	0.034	0.045	0.058	0.067	0.079	0.091	0.100	0.110	0.119	0.124	0.129	0.132	0.134	0.134	0.134
	46	0.000	0.003	0.007	0.015	0.023	0.035	0.046	0.059	0.069	0.080	0.092	0.101	0.112	0.121	0.127	0.131	0.135	0.137	0.137	0.137
	47	0.000	0.003	0.008	0.015	0.023	0.036	0.047	0.061	0.071	0.082	0.095	0.104	0.115	0.125	0.130	0.135	0.138	0.141	0.141	0.141
	48	0.000	0.003	0.008	0.016	0.024	0.036	0.048	0.062	0.072	0.084	0.097	0.106	0.117	0.127	0.133	0.137	0.141	0.143	0.143	0.143
	49	0.000	0.003	0.008	0.016	0.025	0.037	0.050	0.064	0.074	0.087	0.100	0.110	0.121	0.131	0.137	0.142	0.145	0.148	0.148	0.148
	50	0.000	0.003	0.008	0.016	0.025	0.038	0.051	0.066	0.076	0.088	0.102	0.112	0.124	0.134	0.140	0.145	0.149	0.151	0.151	0.151

e. Thursday closures

		Starting Sept 22	Starting Sept 15	Starting Sept 08	Starting Sept 01	Starting Aug 25	Starting Aug 18	Starting Aug 11	Starting Aug 04	Starting July 28	Starting July 21	Starting July 14	Starting July 07	Starting June 30	Starting June 23	Starting June 16	Starting June 09	Starting June 02	Starting May 26	Starting May 19	All Year
	Harvest	64	198	543	1,121	1,655	2,615	3,581	4,534	5,336	6,085	7,015	7,731	8,419	9,216	9,778	10,074	10,322	10,459	10,525	10,555
Lower Limit (in)	35	0.001	0.002	0.005	0.010	0.015	0.024	0.033	0.042	0.049	0.056	0.064	0.071	0.077	0.084	0.090	0.092	0.095	0.096	0.097	0.097
	36	0.001	0.002	0.005	0.011	0.016	0.025	0.035	0.044	0.052	0.059	0.068	0.075	0.082	0.089	0.095	0.098	0.100	0.102	0.102	0.103
	37	0.001	0.002	0.005	0.011	0.017	0.026	0.036	0.045	0.054	0.061	0.070	0.077	0.084	0.092	0.098	0.101	0.104	0.105	0.106	0.106
	38	0.001	0.002	0.006	0.012	0.018	0.028	0.038	0.048	0.056	0.064	0.074	0.081	0.088	0.097	0.103	0.106	0.109	0.110	0.111	0.111
	39	0.001	0.002	0.006	0.012	0.018	0.029	0.039	0.049	0.058	0.066	0.076	0.084	0.091	0.100	0.106	0.110	0.112	0.114	0.115	0.115
	40	0.001	0.002	0.006	0.013	0.019	0.029	0.040	0.051	0.060	0.068	0.078	0.086	0.094	0.103	0.109	0.112	0.115	0.117	0.118	0.118
	41	0.001	0.002	0.006	0.013	0.019	0.030	0.042	0.052	0.062	0.070	0.081	0.089	0.097	0.106	0.113	0.116	0.119	0.121	0.121	0.122
	42	0.001	0.002	0.006	0.013	0.020	0.031	0.042	0.053	0.063	0.072	0.083	0.091	0.099	0.108	0.115	0.118	0.121	0.123	0.124	0.124
	43	0.001	0.003	0.007	0.014	0.020	0.032	0.043	0.055	0.064	0.073	0.084	0.093	0.101	0.110	0.117	0.121	0.124	0.126	0.127	0.127
	44	0.001	0.003	0.007	0.014	0.021	0.033	0.045	0.056	0.066	0.076	0.087	0.095	0.104	0.114	0.121	0.125	0.128	0.130	0.130	0.131
	45	0.001	0.003	0.007	0.015	0.022	0.034	0.046	0.058	0.068	0.078	0.090	0.098	0.107	0.117	0.125	0.129	0.132	0.134	0.135	0.135
	46	0.001	0.003	0.007	0.015	0.022	0.034	0.047	0.059	0.070	0.080	0.091	0.100	0.109	0.119	0.127	0.131	0.135	0.136	0.137	0.138
	47	0.001	0.003	0.007	0.015	0.023	0.035	0.048	0.061	0.072	0.082	0.094	0.103	0.112	0.123	0.131	0.135	0.138	0.140	0.141	0.141
	48	0.001	0.003	0.008	0.016	0.023	0.036	0.049	0.062	0.073	0.083	0.096	0.105	0.114	0.125	0.133	0.137	0.141	0.143	0.144	0.144
	49	0.001	0.003	0.008	0.016	0.024	0.037	0.051	0.064	0.075	0.086	0.099	0.108	0.118	0.129	0.137	0.141	0.145	0.147	0.148	0.148
	50	0.001	0.003	0.008	0.016	0.024	0.038	0.052	0.065	0.077	0.088	0.101	0.110	0.120	0.131	0.140	0.144	0.148	0.150	0.151	0.152

Table 11. (continued)

f. Friday closures

		Starting Sept 23	Starting Sept 16	Starting Sept 09	Starting Sept 02	Starting Aug 26	Starting Aug 19	Starting Aug 12	Starting Aug 05	Starting July 29	Starting July 22	Starting July 15	Starting July 08	Starting July 01	Starting June 24	Starting June 17	Starting June 10	Starting June 03	Starting May 27	Starting May 20	All Year
	Harvest	23	100	467	1,026	1,366	2,213	3,325	4,177	5,067	6,048	7,049	7,659	8,440	9,179	9,748	10,160	10,302	10,465	10,560	10,578
Lower Limit (in)	35	0.000	0.001	0.004	0.009	0.012	0.020	0.031	0.039	0.047	0.056	0.065	0.071	0.078	0.085	0.090	0.094	0.095	0.096	0.097	0.097
	36	0.000	0.001	0.005	0.010	0.013	0.022	0.032	0.041	0.049	0.059	0.069	0.075	0.082	0.089	0.095	0.099	0.100	0.102	0.103	0.103
	37	0.000	0.001	0.005	0.010	0.014	0.022	0.033	0.042	0.051	0.061	0.071	0.077	0.085	0.092	0.098	0.102	0.104	0.105	0.106	0.107
	38	0.000	0.001	0.005	0.011	0.015	0.024	0.035	0.044	0.054	0.064	0.074	0.081	0.089	0.097	0.103	0.107	0.109	0.110	0.111	0.112
	39	0.000	0.001	0.005	0.011	0.015	0.024	0.036	0.046	0.055	0.066	0.077	0.083	0.092	0.100	0.106	0.111	0.112	0.114	0.115	0.115
	40	0.000	0.001	0.005	0.012	0.015	0.025	0.037	0.047	0.057	0.068	0.079	0.086	0.094	0.102	0.109	0.114	0.115	0.117	0.118	0.118
	41	0.000	0.001	0.005	0.012	0.016	0.026	0.039	0.048	0.059	0.070	0.081	0.088	0.097	0.106	0.112	0.117	0.119	0.121	0.122	0.122
	42	0.000	0.001	0.006	0.012	0.016	0.026	0.039	0.049	0.060	0.071	0.083	0.090	0.099	0.108	0.115	0.120	0.121	0.123	0.125	0.125
	43	0.000	0.001	0.006	0.012	0.017	0.027	0.040	0.051	0.061	0.073	0.085	0.092	0.101	0.110	0.117	0.122	0.124	0.126	0.127	0.127
	44	0.000	0.001	0.006	0.013	0.017	0.028	0.041	0.052	0.063	0.075	0.087	0.095	0.104	0.113	0.121	0.126	0.128	0.130	0.131	0.131
	45	0.000	0.001	0.006	0.013	0.018	0.029	0.043	0.054	0.065	0.078	0.090	0.098	0.108	0.117	0.124	0.130	0.132	0.134	0.135	0.136
	46	0.000	0.001	0.006	0.014	0.018	0.029	0.044	0.055	0.067	0.079	0.092	0.100	0.110	0.119	0.127	0.132	0.134	0.137	0.138	0.138
	47	0.000	0.002	0.006	0.014	0.019	0.030	0.045	0.056	0.068	0.081	0.095	0.103	0.113	0.122	0.130	0.136	0.138	0.141	0.142	0.142
	48	0.000	0.002	0.007	0.014	0.019	0.031	0.046	0.057	0.070	0.083	0.096	0.104	0.115	0.125	0.133	0.139	0.141	0.143	0.144	0.145
	49	0.000	0.002	0.007	0.015	0.020	0.032	0.047	0.059	0.072	0.085	0.099	0.108	0.118	0.129	0.137	0.143	0.145	0.147	0.149	0.149
	50	0.000	0.002	0.007	0.015	0.020	0.033	0.048	0.060	0.073	0.087	0.101	0.110	0.121	0.131	0.140	0.146	0.148	0.151	0.152	0.152

g. Saturday closures

		Starting Sept 24	Starting Sept 17	Starting Sept 10	Starting Sept 03	Starting Aug 27	Starting Aug 20	Starting Aug 13	Starting Aug 06	Starting July 30	Starting July 23	Starting July 16	Starting July 09	Starting July 02	Starting June 25	Starting June 18	Starting June 11	Starting June 04	Starting May 28	Starting May 21	All Year
	Harvest	32	107	355	813	1,331	2,004	2,943	3,860	4,695	5,664	6,552	7,300	8,078	8,641	9,192	9,564	9,761	9,924	10,014	10,041
Lower Limit (in)	35	0.000	0.001	0.003	0.007	0.012	0.018	0.027	0.035	0.043	0.052	0.060	0.067	0.074	0.079	0.084	0.088	0.089	0.091	0.092	0.092
	36	0.000	0.001	0.003	0.008	0.013	0.019	0.028	0.037	0.045	0.055	0.063	0.070	0.078	0.084	0.089	0.093	0.094	0.096	0.097	0.097
	37	0.000	0.001	0.004	0.008	0.013	0.020	0.029	0.038	0.047	0.056	0.065	0.073	0.081	0.086	0.092	0.095	0.097	0.099	0.100	0.100
	38	0.000	0.001	0.004	0.008	0.014	0.021	0.031	0.040	0.049	0.059	0.068	0.076	0.084	0.090	0.096	0.100	0.102	0.104	0.105	0.105
	39	0.000	0.001	0.004	0.009	0.014	0.022	0.032	0.042	0.051	0.061	0.071	0.079	0.087	0.093	0.099	0.103	0.105	0.107	0.108	0.109
	40	0.000	0.001	0.004	0.009	0.015	0.022	0.033	0.043	0.052	0.063	0.072	0.081	0.089	0.095	0.102	0.106	0.108	0.110	0.111	0.111
	41	0.000	0.001	0.004	0.009	0.015	0.023	0.034	0.044	0.054	0.064	0.075	0.083	0.092	0.098	0.105	0.109	0.111	0.113	0.115	0.115
	42	0.000	0.001	0.004	0.009	0.016	0.023	0.034	0.045	0.055	0.066	0.076	0.085	0.094	0.100	0.107	0.111	0.114	0.116	0.117	0.117
	43	0.000	0.001	0.004	0.010	0.016	0.024	0.035	0.046	0.056	0.067	0.078	0.086	0.096	0.102	0.109	0.113	0.116	0.118	0.119	0.120
	44	0.000	0.001	0.004	0.010	0.017	0.025	0.036	0.047	0.057	0.069	0.080	0.089	0.098	0.105	0.112	0.117	0.119	0.122	0.123	0.123
	45	0.000	0.001	0.004	0.010	0.017	0.026	0.037	0.049	0.059	0.071	0.082	0.092	0.102	0.109	0.116	0.121	0.123	0.125	0.127	0.127
	46	0.000	0.001	0.005	0.011	0.017	0.026	0.038	0.049	0.060	0.073	0.084	0.093	0.103	0.111	0.118	0.123	0.126	0.128	0.129	0.130
	47	0.000	0.001	0.005	0.011	0.018	0.027	0.039	0.051	0.062	0.074	0.086	0.096	0.106	0.114	0.121	0.126	0.129	0.131	0.133	0.133
	48	0.000	0.001	0.005	0.011	0.018	0.027	0.039	0.052	0.063	0.076	0.088	0.097	0.108	0.115	0.123	0.128	0.131	0.134	0.135	0.135
	49	0.000	0.001	0.005	0.011	0.019	0.028	0.041	0.053	0.065	0.078	0.090	0.100	0.111	0.119	0.127	0.132	0.135	0.138	0.139	0.139
	50	0.000	0.001	0.005	0.012	0.019	0.029	0.041	0.054	0.066	0.080	0.092	0.102	0.113	0.121	0.129	0.135	0.138	0.140	0.142	0.142

Table 12. Projected charter removals (Mlb) and harvest for Area 2C in 2022 under reverse slot limits with lower limits of the protected slot ranging from 35 to 50 inches and an upper limit of 80 inches with days closed throughout the season and a **four fish annual limit**. Light shaded cells represent projections for the most liberal upper and lower size limits that do not exceed the reference allocation of 0.60 Mlb. Dark shaded cells represent projections for the most liberal upper and lower size limits that do not exceed the 2021 allocation of 0.81 Mlb. All values in the table include corrections for errors in estimation of average weight and inflation factors for release mortality.

a. Sunday closures

		Starting Sept 18	Starting Sept 11	Starting Sept 04	Starting Aug 28	Starting Aug 21	Starting Aug 14	Starting Aug 7	Starting July 31	Starting July 24	Starting July 17	Starting July 10	Starting July 03	Starting June 26	Starting June 19	Starting June 12	Starting June 05	Starting May 29	Starting May 22	Starting May 15	All Year
	Harvest	71,808	71,587	71,141	70,498	70,151	69,210	68,359	67,580	66,782	65,854	65,075	64,381	63,728	63,195	62,813	62,578	62,333	62,202	62,158	62,157
Lower Limit (in)	35	0.660	0.658	0.654	0.648	0.645	0.637	0.629	0.622	0.615	0.606	0.599	0.593	0.587	0.582	0.578	0.576	0.574	0.573	0.572	0.572
	36	0.699	0.696	0.692	0.686	0.683	0.674	0.665	0.658	0.650	0.641	0.634	0.627	0.621	0.616	0.612	0.610	0.608	0.606	0.606	0.606
	37	0.721	0.719	0.715	0.708	0.705	0.696	0.687	0.679	0.672	0.662	0.655	0.648	0.641	0.636	0.632	0.630	0.627	0.626	0.626	0.626
	38	0.756	0.754	0.749	0.742	0.739	0.729	0.720	0.712	0.704	0.694	0.686	0.679	0.672	0.667	0.663	0.660	0.658	0.656	0.656	0.656
	39	0.781	0.779	0.774	0.767	0.763	0.753	0.744	0.736	0.727	0.717	0.709	0.702	0.695	0.689	0.685	0.682	0.679	0.678	0.678	0.677
	40	0.802	0.799	0.794	0.787	0.783	0.773	0.764	0.755	0.747	0.736	0.728	0.720	0.713	0.707	0.703	0.700	0.698	0.696	0.696	0.696
	41	0.827	0.825	0.820	0.812	0.808	0.798	0.788	0.779	0.770	0.760	0.751	0.743	0.736	0.730	0.726	0.723	0.720	0.718	0.718	0.718
	42	0.844	0.841	0.836	0.829	0.825	0.814	0.804	0.795	0.786	0.775	0.766	0.758	0.751	0.745	0.740	0.737	0.735	0.733	0.732	0.732
	43	0.862	0.859	0.854	0.846	0.842	0.831	0.821	0.812	0.803	0.792	0.783	0.775	0.767	0.761	0.756	0.754	0.751	0.749	0.748	0.748
	44	0.888	0.885	0.880	0.872	0.868	0.856	0.846	0.837	0.827	0.816	0.807	0.799	0.791	0.784	0.779	0.776	0.773	0.772	0.771	0.771
	45	0.916	0.913	0.908	0.900	0.896	0.884	0.873	0.864	0.854	0.842	0.833	0.824	0.816	0.810	0.805	0.801	0.798	0.796	0.796	0.796
	46	0.935	0.932	0.926	0.918	0.914	0.902	0.891	0.881	0.871	0.859	0.850	0.841	0.833	0.826	0.821	0.818	0.814	0.813	0.812	0.812
	47	0.960	0.957	0.951	0.943	0.939	0.926	0.915	0.905	0.895	0.883	0.873	0.864	0.856	0.849	0.843	0.840	0.837	0.835	0.834	0.834
	48	0.977	0.974	0.968	0.960	0.955	0.943	0.931	0.921	0.910	0.898	0.888	0.879	0.871	0.864	0.858	0.855	0.851	0.849	0.849	0.849
	49	1.007	1.004	0.998	0.989	0.985	0.972	0.960	0.950	0.939	0.926	0.916	0.907	0.898	0.891	0.885	0.882	0.878	0.876	0.875	0.875
	50	1.028	1.025	1.019	1.010	1.005	0.992	0.980	0.969	0.958	0.945	0.935	0.925	0.916	0.909	0.903	0.900	0.896	0.894	0.893	0.893

Table 12. (continued)

b. Monday closures

		Starting Sept 19	Starting Sept 12	Starting Sept 05	Starting Aug 29	Starting Aug 22	Starting Aug 15	Starting Aug 08	Starting Aug 01	Starting July 25	Starting July 18	Starting July 11	Starting July 04	Starting June 27	Starting June 20	Starting June 13	Starting June 06	Starting May 30	Starting May 23	Starting May 16	All Year
	Harvest	71,852	71,647	71,265	70,767	69,890	68,852	67,891	66,877	65,886	64,862	63,968	63,321	62,497	61,920	61,561	61,243	60,984	60,835	60,807	60,792
Lower Limit (in)	35	0.660	0.659	0.655	0.651	0.643	0.633	0.624	0.615	0.606	0.597	0.588	0.582	0.575	0.569	0.566	0.563	0.561	0.559	0.559	0.559
	36	0.699	0.697	0.693	0.688	0.680	0.670	0.661	0.651	0.641	0.631	0.623	0.617	0.608	0.603	0.599	0.596	0.594	0.592	0.592	0.592
	37	0.722	0.720	0.716	0.711	0.702	0.692	0.682	0.672	0.662	0.652	0.643	0.637	0.628	0.622	0.619	0.615	0.613	0.611	0.611	0.611
	38	0.756	0.754	0.750	0.745	0.736	0.725	0.715	0.704	0.694	0.683	0.674	0.667	0.659	0.653	0.649	0.645	0.642	0.641	0.641	0.640
	39	0.781	0.779	0.775	0.770	0.760	0.749	0.739	0.728	0.717	0.706	0.696	0.689	0.681	0.674	0.670	0.667	0.664	0.662	0.662	0.662
	40	0.802	0.800	0.796	0.790	0.780	0.769	0.758	0.747	0.736	0.725	0.715	0.708	0.699	0.692	0.688	0.684	0.681	0.680	0.679	0.679
	41	0.828	0.825	0.821	0.815	0.805	0.793	0.782	0.771	0.759	0.748	0.738	0.730	0.721	0.714	0.710	0.706	0.703	0.701	0.701	0.701
	42	0.844	0.842	0.837	0.831	0.821	0.809	0.798	0.786	0.775	0.763	0.753	0.745	0.735	0.729	0.724	0.720	0.717	0.715	0.715	0.715
	43	0.862	0.860	0.855	0.849	0.839	0.827	0.815	0.803	0.791	0.780	0.769	0.761	0.752	0.745	0.740	0.736	0.733	0.731	0.731	0.730
	44	0.888	0.886	0.881	0.875	0.864	0.852	0.840	0.827	0.815	0.803	0.792	0.784	0.774	0.767	0.762	0.758	0.755	0.753	0.753	0.752
	45	0.917	0.914	0.909	0.903	0.892	0.879	0.867	0.854	0.842	0.829	0.818	0.810	0.799	0.792	0.787	0.782	0.779	0.777	0.777	0.776
	46	0.935	0.932	0.928	0.921	0.910	0.897	0.884	0.871	0.858	0.846	0.834	0.826	0.815	0.808	0.803	0.798	0.795	0.793	0.792	0.792
	47	0.961	0.958	0.953	0.946	0.934	0.921	0.908	0.895	0.882	0.869	0.857	0.849	0.838	0.830	0.825	0.820	0.816	0.814	0.814	0.814
	48	0.977	0.975	0.970	0.963	0.951	0.937	0.924	0.911	0.897	0.884	0.872	0.864	0.852	0.844	0.839	0.834	0.831	0.829	0.828	0.828
	49	1.008	1.005	1.000	0.993	0.980	0.966	0.953	0.939	0.925	0.912	0.899	0.890	0.879	0.871	0.865	0.860	0.856	0.854	0.854	0.854
	50	1.028	1.025	1.020	1.013	1.000	0.986	0.972	0.958	0.944	0.930	0.918	0.909	0.897	0.888	0.883	0.878	0.874	0.872	0.871	0.871

c. Tuesday closures

		Starting Sept 20	Starting Sept 13	Starting Sept 06	Starting Aug 30	Starting Aug 23	Starting Aug 16	Starting Aug 09	Starting Aug 02	Starting July 26	Starting July 19	Starting July 12	Starting July 05	Starting June 28	Starting June 21	Starting June 14	Starting June 07	Starting May 31	Starting May 24	Starting May 17	All Year
	Harvest	71,836	71,624	71,240	70,682	70,085	69,127	68,136	67,129	66,262	65,435	64,500	63,852	63,038	62,488	62,288	62,007	61,829	61,764	61,729	61,724
Lower Limit (in)	35	0.660	0.658	0.655	0.650	0.644	0.635	0.626	0.617	0.609	0.601	0.592	0.586	0.579	0.574	0.572	0.569	0.568	0.567	0.567	0.567
	36	0.699	0.697	0.693	0.688	0.682	0.672	0.663	0.653	0.644	0.636	0.627	0.621	0.613	0.607	0.605	0.603	0.601	0.600	0.600	0.600
	37	0.721	0.719	0.715	0.710	0.704	0.694	0.684	0.674	0.665	0.657	0.647	0.641	0.633	0.627	0.625	0.622	0.620	0.620	0.619	0.619
	38	0.756	0.754	0.750	0.744	0.738	0.727	0.717	0.706	0.697	0.688	0.678	0.672	0.663	0.657	0.655	0.652	0.650	0.649	0.649	0.649
	39	0.781	0.779	0.775	0.769	0.762	0.751	0.741	0.730	0.720	0.711	0.701	0.694	0.685	0.679	0.677	0.674	0.672	0.671	0.670	0.670
	40	0.802	0.800	0.795	0.789	0.782	0.771	0.760	0.749	0.739	0.730	0.719	0.712	0.703	0.697	0.695	0.691	0.689	0.689	0.688	0.688
	41	0.827	0.825	0.820	0.814	0.807	0.796	0.784	0.773	0.762	0.753	0.742	0.735	0.725	0.719	0.717	0.713	0.711	0.710	0.710	0.710
	42	0.844	0.841	0.837	0.830	0.823	0.812	0.800	0.788	0.778	0.768	0.757	0.749	0.740	0.733	0.731	0.727	0.725	0.724	0.724	0.724
	43	0.862	0.860	0.855	0.848	0.841	0.829	0.817	0.805	0.794	0.785	0.773	0.765	0.756	0.749	0.746	0.743	0.741	0.740	0.739	0.739
	44	0.888	0.886	0.881	0.874	0.866	0.854	0.842	0.829	0.818	0.808	0.797	0.789	0.779	0.772	0.769	0.765	0.763	0.762	0.762	0.762
	45	0.917	0.914	0.909	0.902	0.894	0.881	0.869	0.856	0.844	0.834	0.822	0.814	0.804	0.797	0.794	0.790	0.787	0.787	0.786	0.786
	46	0.935	0.932	0.927	0.920	0.911	0.899	0.886	0.873	0.861	0.851	0.839	0.830	0.820	0.813	0.810	0.806	0.803	0.802	0.802	0.802
	47	0.960	0.958	0.952	0.945	0.936	0.923	0.910	0.896	0.885	0.874	0.861	0.853	0.842	0.835	0.832	0.828	0.825	0.824	0.824	0.824
	48	0.977	0.974	0.969	0.961	0.953	0.940	0.926	0.912	0.900	0.889	0.877	0.868	0.857	0.849	0.846	0.842	0.840	0.839	0.838	0.838
	49	1.008	1.005	0.999	0.991	0.982	0.969	0.955	0.940	0.928	0.917	0.904	0.895	0.883	0.876	0.872	0.868	0.865	0.864	0.864	0.864
	50	1.028	1.025	1.020	1.011	1.002	0.989	0.975	0.959	0.947	0.935	0.922	0.913	0.901	0.893	0.890	0.886	0.883	0.882	0.881	0.881

Table 12. (continued)

d. Wednesday closures

		Starting Sept 21	Starting Sept 14	Starting Sept 07	Starting Aug 31	Starting Aug 24	Starting Aug 17	Starting Aug 10	Starting Aug 03	Starting July 27	Starting July 20	Starting July 13	Starting July 06	Starting June 29	Starting June 22	Starting June 15	Starting June 08	Starting June 01	Starting May 25	Starting May 18	All Year
	Harvest	71,839	71,677	71,344	70,781	70,204	69,303	68,459	67,474	66,779	65,924	64,995	64,295	63,511	62,845	62,443	62,120	61,889	61,738	61,722	61,706
Lower Limit (in)	35	0.660	0.660	0.659	0.656	0.645	0.637	0.629	0.620	0.613	0.605	0.597	0.590	0.583	0.577	0.573	0.570	0.568	0.566	0.566	0.566
	36	0.699	0.699	0.697	0.694	0.683	0.674	0.666	0.656	0.649	0.641	0.632	0.625	0.617	0.610	0.606	0.603	0.601	0.599	0.599	0.599
	37	0.722	0.722	0.720	0.716	0.705	0.696	0.687	0.677	0.670	0.661	0.652	0.645	0.637	0.630	0.626	0.623	0.620	0.619	0.619	0.618
	38	0.756	0.756	0.754	0.751	0.739	0.729	0.720	0.710	0.702	0.693	0.683	0.676	0.668	0.660	0.656	0.653	0.650	0.648	0.648	0.648
	39	0.781	0.781	0.779	0.776	0.763	0.753	0.744	0.733	0.725	0.716	0.706	0.698	0.690	0.682	0.678	0.674	0.672	0.670	0.670	0.670
	40	0.802	0.802	0.800	0.796	0.783	0.773	0.764	0.752	0.745	0.735	0.725	0.717	0.708	0.700	0.696	0.692	0.689	0.688	0.687	0.687
	41	0.827	0.827	0.825	0.821	0.808	0.798	0.788	0.776	0.768	0.758	0.748	0.740	0.730	0.722	0.718	0.714	0.711	0.709	0.709	0.709
	42	0.844	0.844	0.842	0.838	0.824	0.814	0.803	0.792	0.783	0.773	0.762	0.754	0.745	0.737	0.732	0.728	0.725	0.723	0.723	0.723
	43	0.862	0.862	0.860	0.856	0.842	0.831	0.821	0.809	0.800	0.790	0.779	0.770	0.761	0.753	0.747	0.743	0.740	0.739	0.738	0.738
	44	0.888	0.888	0.886	0.882	0.867	0.856	0.846	0.833	0.824	0.814	0.802	0.794	0.784	0.775	0.770	0.766	0.763	0.761	0.761	0.760
	45	0.917	0.917	0.914	0.910	0.895	0.884	0.873	0.860	0.851	0.840	0.828	0.819	0.809	0.800	0.795	0.790	0.787	0.785	0.785	0.785
	46	0.935	0.935	0.933	0.928	0.913	0.901	0.890	0.877	0.868	0.857	0.845	0.836	0.825	0.816	0.811	0.806	0.803	0.801	0.801	0.800
	47	0.960	0.960	0.958	0.953	0.938	0.926	0.914	0.901	0.891	0.880	0.867	0.858	0.848	0.838	0.833	0.828	0.825	0.822	0.822	0.822
	48	0.977	0.977	0.975	0.970	0.954	0.942	0.930	0.917	0.907	0.895	0.883	0.873	0.863	0.853	0.847	0.843	0.839	0.837	0.837	0.837
	49	1.008	1.008	1.005	1.000	0.984	0.971	0.959	0.945	0.935	0.923	0.910	0.900	0.889	0.879	0.873	0.868	0.865	0.863	0.862	0.862
	50	1.028	1.028	1.025	1.021	1.004	0.991	0.979	0.964	0.954	0.942	0.928	0.918	0.907	0.897	0.891	0.886	0.882	0.880	0.880	0.880

e. Thursday closures

		Starting Sept 22	Starting Sept 15	Starting Sept 08	Starting Sept 01	Starting Aug 25	Starting Aug 18	Starting Aug 11	Starting Aug 04	Starting July 28	Starting July 21	Starting July 14	Starting July 07	Starting June 30	Starting June 23	Starting June 16	Starting June 09	Starting June 02	Starting May 26	Starting May 19	All Year
	Harvest	71,810	71,678	71,338	70,768	70,243	69,295	68,341	67,401	66,611	65,874	64,955	64,248	63,571	62,785	62,231	61,938	61,692	61,555	61,489	61,460
Lower Limit (in)	35	0.660	0.659	0.656	0.650	0.646	0.637	0.628	0.620	0.612	0.606	0.597	0.591	0.585	0.577	0.572	0.570	0.567	0.566	0.565	0.565
	36	0.699	0.697	0.694	0.688	0.683	0.674	0.665	0.656	0.648	0.641	0.632	0.625	0.619	0.611	0.606	0.603	0.600	0.599	0.598	0.598
	37	0.721	0.720	0.716	0.711	0.705	0.696	0.686	0.677	0.669	0.662	0.652	0.646	0.639	0.631	0.625	0.622	0.620	0.618	0.618	0.617
	38	0.756	0.755	0.751	0.745	0.739	0.729	0.719	0.710	0.701	0.693	0.684	0.677	0.669	0.661	0.655	0.652	0.650	0.648	0.647	0.647
	39	0.781	0.779	0.776	0.769	0.764	0.753	0.743	0.733	0.724	0.716	0.706	0.699	0.692	0.683	0.677	0.674	0.671	0.669	0.669	0.668
	40	0.802	0.800	0.796	0.790	0.784	0.773	0.763	0.752	0.743	0.735	0.725	0.717	0.710	0.701	0.695	0.691	0.689	0.687	0.686	0.686
	41	0.827	0.825	0.822	0.815	0.809	0.798	0.787	0.776	0.767	0.759	0.748	0.740	0.732	0.723	0.717	0.713	0.710	0.709	0.708	0.708
	42	0.844	0.842	0.838	0.831	0.825	0.814	0.803	0.792	0.782	0.774	0.763	0.755	0.747	0.738	0.731	0.728	0.725	0.723	0.722	0.722
	43	0.862	0.860	0.856	0.849	0.843	0.831	0.820	0.809	0.799	0.790	0.779	0.771	0.763	0.754	0.747	0.743	0.740	0.739	0.738	0.737
	44	0.888	0.886	0.882	0.875	0.868	0.856	0.845	0.833	0.823	0.814	0.803	0.795	0.786	0.777	0.769	0.766	0.763	0.761	0.760	0.760
	45	0.916	0.914	0.910	0.903	0.896	0.884	0.872	0.860	0.850	0.840	0.829	0.820	0.811	0.802	0.794	0.790	0.787	0.785	0.784	0.784
	46	0.935	0.933	0.928	0.921	0.914	0.902	0.889	0.877	0.867	0.857	0.845	0.837	0.828	0.818	0.810	0.806	0.803	0.801	0.800	0.800
	47	0.960	0.958	0.954	0.946	0.939	0.926	0.913	0.901	0.890	0.880	0.868	0.859	0.850	0.840	0.832	0.828	0.825	0.823	0.822	0.821
	48	0.977	0.975	0.970	0.962	0.955	0.942	0.929	0.917	0.906	0.896	0.884	0.875	0.865	0.855	0.847	0.843	0.839	0.837	0.836	0.836
	49	1.007	1.005	1.000	0.992	0.985	0.972	0.958	0.945	0.934	0.924	0.911	0.902	0.892	0.881	0.873	0.869	0.865	0.863	0.862	0.862
	50	1.028	1.026	1.021	1.012	1.005	0.991	0.978	0.965	0.953	0.942	0.930	0.920	0.910	0.899	0.891	0.886	0.883	0.881	0.880	0.879

Table 12. (continued)

f. Friday closures

		Starting Sept 23	Starting Sept 16	Starting Sept 09	Starting Sept 02	Starting Aug 26	Starting Aug 19	Starting Aug 12	Starting Aug 05	Starting July 29	Starting July 22	Starting July 15	Starting July 08	Starting July 01	Starting June 24	Starting June 17	Starting June 10	Starting June 03	Starting May 27	Starting May 20	All Year
	Harvest	71,851	71,775	71,414	70,861	70,526	69,691	68,595	67,756	66,876	65,908	64,922	64,320	63,551	62,821	62,258	61,852	61,713	61,552	61,455	61,438
Lower Limit (in)	35	0.660	0.660	0.656	0.651	0.648	0.641	0.630	0.623	0.615	0.606	0.597	0.591	0.584	0.577	0.572	0.568	0.567	0.565	0.565	0.564
	36	0.699	0.698	0.695	0.689	0.686	0.678	0.667	0.659	0.650	0.641	0.631	0.626	0.618	0.611	0.605	0.601	0.600	0.598	0.598	0.597
	37	0.722	0.721	0.717	0.712	0.708	0.700	0.689	0.680	0.671	0.662	0.652	0.646	0.638	0.631	0.625	0.621	0.620	0.618	0.617	0.617
	38	0.756	0.756	0.752	0.746	0.742	0.733	0.722	0.713	0.704	0.694	0.683	0.677	0.669	0.661	0.655	0.651	0.649	0.648	0.647	0.647
	39	0.781	0.780	0.777	0.771	0.767	0.758	0.746	0.737	0.727	0.717	0.706	0.699	0.691	0.683	0.677	0.672	0.671	0.669	0.668	0.668
	40	0.802	0.801	0.797	0.791	0.787	0.778	0.766	0.756	0.746	0.736	0.725	0.718	0.709	0.701	0.695	0.690	0.689	0.687	0.686	0.686
	41	0.828	0.827	0.822	0.816	0.812	0.802	0.790	0.780	0.770	0.759	0.748	0.741	0.732	0.724	0.717	0.712	0.711	0.709	0.707	0.707
	42	0.844	0.843	0.839	0.832	0.828	0.818	0.805	0.796	0.785	0.774	0.762	0.755	0.746	0.738	0.731	0.726	0.725	0.723	0.721	0.721
	43	0.862	0.861	0.857	0.850	0.846	0.836	0.823	0.813	0.802	0.791	0.779	0.772	0.763	0.754	0.747	0.742	0.740	0.738	0.737	0.737
	44	0.888	0.887	0.883	0.876	0.871	0.861	0.848	0.837	0.826	0.815	0.802	0.795	0.786	0.777	0.770	0.764	0.763	0.761	0.759	0.759
	45	0.917	0.916	0.911	0.904	0.899	0.889	0.875	0.864	0.853	0.841	0.828	0.821	0.811	0.802	0.794	0.789	0.787	0.785	0.784	0.783
	46	0.935	0.934	0.929	0.922	0.917	0.906	0.892	0.881	0.870	0.858	0.845	0.837	0.827	0.818	0.810	0.805	0.803	0.801	0.799	0.799
	47	0.961	0.959	0.955	0.947	0.942	0.931	0.917	0.905	0.893	0.881	0.868	0.860	0.850	0.840	0.832	0.827	0.825	0.822	0.821	0.821
	48	0.977	0.976	0.971	0.964	0.959	0.947	0.933	0.921	0.909	0.896	0.883	0.875	0.865	0.855	0.847	0.841	0.839	0.837	0.835	0.835
	49	1.008	1.006	1.001	0.994	0.989	0.977	0.962	0.950	0.937	0.924	0.910	0.902	0.891	0.881	0.873	0.867	0.865	0.863	0.861	0.861
	50	1.028	1.027	1.022	1.014	1.009	0.997	0.981	0.969	0.956	0.943	0.929	0.920	0.910	0.899	0.891	0.885	0.883	0.880	0.879	0.879

g. Saturday closures

		Starting Sept 24	Starting Sept 17	Starting Sept 10	Starting Sept 03	Starting Aug 27	Starting Aug 20	Starting Aug 13	Starting Aug 06	Starting July 30	Starting July 23	Starting July 16	Starting July 09	Starting July 02	Starting June 25	Starting June 18	Starting June 11	Starting June 04	Starting May 28	Starting May 21	All Year
	Harvest	71,842	71,767	71,524	71,072	70,561	69,894	68,970	68,066	67,242	66,286	65,410	64,671	63,905	63,348	62,806	62,437	62,244	62,082	61,993	61,966
Lower Limit (in)	35	0.660	0.660	0.660	0.657	0.649	0.643	0.634	0.626	0.618	0.610	0.602	0.595	0.588	0.583	0.578	0.574	0.573	0.571	0.570	0.570
	36	0.699	0.699	0.698	0.696	0.686	0.680	0.671	0.662	0.654	0.645	0.637	0.630	0.622	0.617	0.611	0.608	0.606	0.604	0.603	0.603
	37	0.722	0.722	0.721	0.718	0.709	0.702	0.693	0.684	0.676	0.666	0.657	0.650	0.642	0.637	0.631	0.628	0.626	0.624	0.623	0.623
	38	0.756	0.756	0.756	0.753	0.743	0.736	0.726	0.717	0.708	0.698	0.689	0.682	0.673	0.668	0.662	0.658	0.656	0.654	0.653	0.653
	39	0.781	0.781	0.780	0.778	0.767	0.760	0.750	0.741	0.732	0.721	0.712	0.704	0.696	0.690	0.684	0.680	0.678	0.676	0.675	0.675
	40	0.802	0.802	0.801	0.798	0.788	0.780	0.770	0.760	0.751	0.741	0.731	0.723	0.714	0.708	0.702	0.698	0.696	0.694	0.693	0.692
	41	0.827	0.827	0.827	0.824	0.813	0.805	0.795	0.784	0.775	0.764	0.754	0.746	0.737	0.731	0.725	0.720	0.718	0.716	0.715	0.715
	42	0.844	0.844	0.843	0.840	0.829	0.821	0.811	0.800	0.790	0.780	0.769	0.761	0.752	0.745	0.739	0.735	0.732	0.730	0.729	0.729
	43	0.862	0.862	0.861	0.858	0.847	0.839	0.828	0.817	0.808	0.796	0.786	0.777	0.768	0.762	0.755	0.751	0.748	0.746	0.745	0.745
	44	0.888	0.888	0.887	0.884	0.872	0.864	0.853	0.842	0.832	0.821	0.810	0.801	0.791	0.785	0.778	0.773	0.771	0.769	0.768	0.767
	45	0.917	0.917	0.916	0.913	0.900	0.892	0.880	0.869	0.859	0.847	0.836	0.827	0.817	0.810	0.803	0.798	0.796	0.793	0.792	0.792
	46	0.935	0.935	0.934	0.931	0.918	0.910	0.898	0.887	0.876	0.864	0.853	0.843	0.833	0.826	0.819	0.814	0.812	0.809	0.808	0.808
	47	0.960	0.960	0.959	0.956	0.943	0.934	0.923	0.911	0.900	0.887	0.876	0.866	0.856	0.849	0.842	0.837	0.834	0.831	0.830	0.830
	48	0.977	0.977	0.976	0.973	0.960	0.951	0.939	0.927	0.916	0.903	0.891	0.882	0.871	0.864	0.857	0.851	0.849	0.846	0.845	0.844
	49	1.008	1.008	1.007	1.003	0.990	0.980	0.968	0.956	0.944	0.931	0.919	0.909	0.898	0.891	0.883	0.878	0.875	0.872	0.871	0.871
	50	1.028	1.028	1.027	1.024	1.010	1.000	0.988	0.975	0.963	0.950	0.938	0.928	0.917	0.909	0.901	0.896	0.893	0.890	0.889	0.888

Table 13. Projected charter removals (Mlb) and harvest for Area 2C in 2022 under reverse slot limits with lower limits of the protected slot ranging from 35 to 50 inches and an upper limit of 80 inches with days closed throughout the season and a **three fish annual limit**. Light shaded cells represent projections for the most liberal upper and lower size limits that do not exceed the reference allocation of 0.60 Mlb. Dark shaded cells represent projections for the most liberal upper and lower size limits that do not exceed the 2021 allocation of 0.81 Mlb. All values in the table include corrections for errors in estimation of average weight and inflation factors for release mortality.

a. Sunday closures

		Starting Sept 18	Starting Sept 11	Starting Sept 04	Starting Aug 28	Starting Aug 21	Starting Aug 14	Starting Aug 7	Starting July 31	Starting July 24	Starting July 17	Starting July 10	Starting July 03	Starting June 26	Starting June 19	Starting June 12	Starting June 05	Starting May 29	Starting May 22	Starting May 15	All Year
	Harvest	68,638	68,426	68,000	67,381	67,050	66,147	65,332	64,587	63,825	62,937	62,190	61,526	60,900	60,388	60,023	59,796	59,561	59,435	59,391	59,390
Lower Limit (in)	35	0.630	0.628	0.625	0.619	0.616	0.608	0.600	0.594	0.587	0.579	0.572	0.566	0.560	0.556	0.552	0.550	0.548	0.547	0.546	0.546
	36	0.667	0.665	0.661	0.655	0.652	0.643	0.635	0.628	0.621	0.612	0.605	0.599	0.593	0.588	0.585	0.582	0.580	0.579	0.578	0.578
	37	0.689	0.687	0.682	0.676	0.673	0.664	0.656	0.649	0.641	0.632	0.625	0.619	0.612	0.607	0.604	0.601	0.599	0.598	0.597	0.597
	38	0.722	0.720	0.715	0.709	0.705	0.696	0.688	0.680	0.672	0.663	0.655	0.648	0.642	0.637	0.633	0.630	0.628	0.626	0.626	0.626
	39	0.746	0.743	0.739	0.732	0.729	0.719	0.710	0.702	0.694	0.685	0.677	0.670	0.663	0.658	0.654	0.651	0.649	0.647	0.647	0.647
	40	0.765	0.763	0.758	0.752	0.748	0.738	0.729	0.721	0.713	0.703	0.695	0.688	0.681	0.675	0.671	0.669	0.666	0.664	0.664	0.664
	41	0.790	0.787	0.782	0.775	0.772	0.761	0.752	0.744	0.735	0.725	0.717	0.710	0.702	0.697	0.692	0.690	0.687	0.685	0.685	0.685
	42	0.805	0.803	0.798	0.791	0.787	0.777	0.767	0.759	0.750	0.740	0.731	0.724	0.717	0.711	0.706	0.704	0.701	0.699	0.699	0.699
	43	0.822	0.820	0.815	0.808	0.804	0.793	0.784	0.775	0.766	0.756	0.747	0.739	0.732	0.726	0.722	0.719	0.716	0.714	0.714	0.714
	44	0.847	0.845	0.840	0.832	0.828	0.817	0.807	0.798	0.789	0.778	0.770	0.762	0.754	0.748	0.744	0.741	0.738	0.736	0.735	0.735
	45	0.874	0.872	0.866	0.859	0.855	0.843	0.833	0.824	0.815	0.803	0.795	0.786	0.779	0.772	0.767	0.764	0.761	0.760	0.759	0.759
	46	0.892	0.889	0.884	0.876	0.872	0.860	0.850	0.841	0.831	0.820	0.811	0.802	0.794	0.788	0.783	0.780	0.777	0.775	0.774	0.774
	47	0.916	0.913	0.908	0.900	0.896	0.884	0.873	0.864	0.854	0.842	0.833	0.824	0.816	0.810	0.805	0.801	0.798	0.796	0.796	0.796
	48	0.932	0.930	0.924	0.916	0.911	0.899	0.889	0.879	0.869	0.857	0.848	0.839	0.831	0.824	0.819	0.816	0.812	0.810	0.810	0.810
	49	0.961	0.958	0.952	0.944	0.939	0.927	0.916	0.906	0.896	0.883	0.874	0.865	0.856	0.850	0.844	0.841	0.837	0.835	0.835	0.835
	50	0.980	0.977	0.972	0.963	0.958	0.946	0.934	0.924	0.914	0.901	0.892	0.883	0.874	0.867	0.861	0.858	0.854	0.853	0.852	0.852

Table 13. (continued)

b. Monday closures

		Starting Sept 19	Starting Sept 12	Starting Sept 05	Starting Aug 29	Starting Aug 22	Starting Aug 15	Starting Aug 08	Starting Aug 01	Starting July 25	Starting July 18	Starting July 11	Starting July 04	Starting June 27	Starting June 20	Starting June 13	Starting June 06	Starting May 30	Starting May 23	Starting May 16	All Year
	Harvest	68,681	68,482	68,119	67,645	66,805	65,812	64,891	63,919	62,971	61,991	61,136	60,517	59,728	59,178	58,835	58,529	58,279	58,134	58,106	58,092
Lower Limit (in)	35	0.631	0.629	0.626	0.621	0.614	0.604	0.596	0.587	0.578	0.570	0.562	0.556	0.549	0.544	0.540	0.538	0.535	0.534	0.534	0.534
	36	0.668	0.666	0.662	0.658	0.649	0.640	0.631	0.621	0.612	0.603	0.595	0.589	0.581	0.576	0.572	0.569	0.567	0.565	0.565	0.565
	37	0.689	0.687	0.684	0.679	0.670	0.661	0.651	0.642	0.632	0.622	0.614	0.608	0.600	0.594	0.591	0.588	0.585	0.584	0.583	0.583
	38	0.722	0.720	0.716	0.711	0.703	0.692	0.683	0.672	0.663	0.652	0.644	0.637	0.629	0.623	0.619	0.616	0.613	0.612	0.611	0.611
	39	0.746	0.744	0.740	0.735	0.726	0.715	0.705	0.695	0.684	0.674	0.665	0.658	0.650	0.644	0.640	0.636	0.634	0.632	0.632	0.631
	40	0.766	0.764	0.760	0.754	0.745	0.734	0.724	0.713	0.703	0.692	0.683	0.676	0.667	0.661	0.657	0.653	0.650	0.649	0.648	0.648
	41	0.790	0.788	0.784	0.778	0.769	0.757	0.747	0.736	0.725	0.714	0.704	0.697	0.688	0.682	0.678	0.674	0.671	0.669	0.669	0.669
	42	0.806	0.803	0.799	0.793	0.784	0.772	0.762	0.750	0.739	0.728	0.718	0.711	0.702	0.695	0.691	0.687	0.684	0.683	0.682	0.682
	43	0.823	0.820	0.816	0.811	0.801	0.789	0.778	0.766	0.755	0.744	0.734	0.726	0.717	0.710	0.706	0.702	0.699	0.697	0.697	0.697
	44	0.848	0.845	0.841	0.835	0.825	0.813	0.802	0.790	0.778	0.766	0.756	0.749	0.739	0.732	0.727	0.723	0.720	0.718	0.718	0.718
	45	0.875	0.872	0.868	0.862	0.851	0.839	0.827	0.815	0.803	0.791	0.780	0.773	0.763	0.755	0.751	0.747	0.743	0.741	0.741	0.741
	46	0.892	0.890	0.885	0.879	0.868	0.856	0.844	0.831	0.819	0.807	0.796	0.788	0.778	0.771	0.766	0.762	0.758	0.756	0.756	0.756
	47	0.917	0.914	0.909	0.903	0.892	0.879	0.867	0.854	0.841	0.829	0.818	0.810	0.799	0.792	0.787	0.782	0.779	0.777	0.776	0.776
	48	0.933	0.930	0.925	0.919	0.908	0.894	0.882	0.869	0.856	0.844	0.832	0.824	0.813	0.806	0.801	0.796	0.793	0.790	0.790	0.790
	49	0.962	0.959	0.954	0.947	0.935	0.922	0.909	0.896	0.883	0.870	0.858	0.849	0.838	0.831	0.825	0.821	0.817	0.815	0.815	0.814
	50	0.981	0.978	0.973	0.966	0.954	0.941	0.928	0.914	0.901	0.887	0.875	0.867	0.856	0.847	0.842	0.837	0.834	0.831	0.831	0.831

c. Tuesday closures

		Starting Sept 20	Starting Sept 13	Starting Sept 06	Starting Aug 30	Starting Aug 23	Starting Aug 16	Starting Aug 09	Starting Aug 02	Starting July 26	Starting July 19	Starting July 12	Starting July 05	Starting June 28	Starting June 21	Starting June 14	Starting June 07	Starting May 31	Starting May 24	Starting May 17	All Year
	Harvest	68,666	68,460	68,095	67,566	66,997	66,080	65,135	64,176	63,351	62,564	61,672	61,051	60,277	59,754	59,564	59,296	59,125	59,062	59,027	59,022
Lower Limit (in)	35	0.630	0.629	0.625	0.620	0.615	0.607	0.598	0.589	0.581	0.574	0.566	0.560	0.553	0.548	0.546	0.544	0.542	0.542	0.541	0.541
	36	0.667	0.665	0.662	0.657	0.651	0.642	0.633	0.623	0.615	0.608	0.599	0.593	0.585	0.580	0.578	0.576	0.574	0.573	0.573	0.573
	37	0.689	0.687	0.683	0.678	0.672	0.663	0.653	0.644	0.635	0.627	0.618	0.612	0.604	0.599	0.597	0.594	0.593	0.592	0.592	0.591
	38	0.722	0.720	0.716	0.710	0.704	0.695	0.685	0.674	0.666	0.657	0.648	0.641	0.633	0.628	0.626	0.623	0.621	0.620	0.620	0.620
	39	0.746	0.744	0.740	0.734	0.728	0.718	0.707	0.697	0.688	0.679	0.669	0.663	0.654	0.649	0.646	0.643	0.642	0.641	0.640	0.640
	40	0.766	0.763	0.759	0.753	0.747	0.737	0.726	0.715	0.706	0.697	0.687	0.680	0.672	0.666	0.663	0.660	0.658	0.658	0.657	0.657
	41	0.790	0.787	0.783	0.777	0.770	0.760	0.749	0.738	0.728	0.719	0.709	0.702	0.693	0.687	0.684	0.681	0.679	0.678	0.678	0.678
	42	0.805	0.803	0.799	0.792	0.785	0.775	0.764	0.752	0.742	0.733	0.723	0.715	0.706	0.700	0.698	0.694	0.692	0.692	0.691	0.691
	43	0.823	0.820	0.816	0.809	0.802	0.791	0.780	0.768	0.758	0.749	0.738	0.731	0.722	0.715	0.713	0.709	0.707	0.706	0.706	0.706
	44	0.848	0.845	0.841	0.834	0.826	0.815	0.804	0.791	0.781	0.772	0.760	0.753	0.743	0.737	0.734	0.731	0.729	0.728	0.727	0.727
	45	0.875	0.872	0.867	0.861	0.853	0.841	0.829	0.817	0.806	0.796	0.785	0.777	0.767	0.761	0.758	0.754	0.752	0.751	0.751	0.751
	46	0.892	0.890	0.885	0.878	0.870	0.858	0.846	0.833	0.822	0.812	0.801	0.793	0.783	0.776	0.773	0.769	0.767	0.766	0.766	0.766
	47	0.917	0.914	0.909	0.902	0.894	0.881	0.869	0.856	0.845	0.834	0.822	0.814	0.804	0.797	0.794	0.790	0.788	0.787	0.786	0.786
	48	0.933	0.930	0.925	0.918	0.909	0.897	0.884	0.871	0.860	0.849	0.837	0.829	0.818	0.811	0.808	0.804	0.802	0.801	0.800	0.800
	49	0.961	0.959	0.953	0.946	0.937	0.925	0.911	0.898	0.886	0.875	0.863	0.854	0.843	0.836	0.833	0.829	0.826	0.825	0.825	0.825
	50	0.981	0.978	0.973	0.965	0.956	0.943	0.930	0.916	0.904	0.893	0.880	0.871	0.860	0.853	0.850	0.845	0.843	0.842	0.841	0.841

Table 13. (continued)

d. Wednesday closures

		Starting Sept 21	Starting Sept 14	Starting Sept 07	Starting Aug 31	Starting Aug 24	Starting Aug 17	Starting Aug 10	Starting Aug 03	Starting July 27	Starting July 20	Starting July 13	Starting July 06	Starting June 29	Starting June 22	Starting June 15	Starting June 08	Starting June 01	Starting May 25	Starting May 18	All Year
	Harvest	68,668	68,514	68,196	67,661	67,113	66,252	65,449	64,510	63,848	63,033	62,146	61,480	60,735	60,099	59,716	59,407	59,186	59,043	59,027	59,012
Lower Limit (in)	35	0.631	0.631	0.629	0.626	0.616	0.608	0.601	0.592	0.586	0.578	0.570	0.564	0.557	0.551	0.547	0.544	0.542	0.541	0.541	0.541
	36	0.667	0.667	0.666	0.663	0.652	0.644	0.636	0.627	0.620	0.612	0.603	0.597	0.590	0.583	0.579	0.576	0.574	0.573	0.573	0.572
	37	0.689	0.689	0.687	0.684	0.673	0.664	0.656	0.647	0.640	0.632	0.623	0.616	0.609	0.602	0.598	0.595	0.593	0.591	0.591	0.591
	38	0.722	0.722	0.720	0.717	0.705	0.696	0.688	0.678	0.671	0.662	0.653	0.646	0.638	0.631	0.627	0.624	0.621	0.620	0.619	0.619
	39	0.746	0.746	0.744	0.741	0.729	0.719	0.711	0.700	0.693	0.684	0.674	0.667	0.659	0.652	0.648	0.644	0.642	0.640	0.640	0.640
	40	0.766	0.766	0.764	0.760	0.748	0.738	0.729	0.719	0.711	0.702	0.692	0.685	0.676	0.669	0.665	0.661	0.658	0.657	0.657	0.656
	41	0.790	0.790	0.788	0.784	0.772	0.762	0.752	0.741	0.734	0.724	0.714	0.706	0.698	0.690	0.686	0.682	0.679	0.677	0.677	0.677
	42	0.805	0.805	0.803	0.800	0.787	0.777	0.767	0.756	0.748	0.738	0.728	0.720	0.711	0.704	0.699	0.695	0.692	0.691	0.690	0.690
	43	0.823	0.823	0.821	0.817	0.804	0.793	0.783	0.772	0.764	0.754	0.743	0.735	0.726	0.719	0.714	0.710	0.707	0.705	0.705	0.705
	44	0.848	0.848	0.845	0.842	0.828	0.817	0.807	0.795	0.787	0.777	0.766	0.758	0.749	0.740	0.735	0.731	0.728	0.727	0.726	0.726
	45	0.875	0.875	0.872	0.868	0.854	0.843	0.833	0.821	0.812	0.802	0.790	0.782	0.772	0.764	0.759	0.755	0.752	0.750	0.750	0.749
	46	0.892	0.892	0.890	0.886	0.871	0.860	0.850	0.837	0.828	0.818	0.806	0.798	0.788	0.779	0.774	0.770	0.767	0.765	0.765	0.764
	47	0.917	0.917	0.914	0.910	0.895	0.884	0.873	0.860	0.851	0.840	0.828	0.819	0.809	0.801	0.795	0.791	0.787	0.785	0.785	0.785
	48	0.933	0.933	0.930	0.926	0.911	0.899	0.888	0.875	0.866	0.855	0.843	0.834	0.824	0.815	0.809	0.805	0.801	0.799	0.799	0.799
	49	0.962	0.962	0.959	0.954	0.939	0.927	0.915	0.902	0.892	0.881	0.869	0.859	0.849	0.840	0.834	0.829	0.826	0.824	0.824	0.823
	50	0.981	0.981	0.978	0.974	0.958	0.946	0.934	0.920	0.910	0.899	0.886	0.877	0.866	0.856	0.850	0.846	0.842	0.840	0.840	0.840

e. Thursday closures

		Starting Sept 22	Starting Sept 15	Starting Sept 08	Starting Sept 01	Starting Aug 25	Starting Aug 18	Starting Aug 11	Starting Aug 04	Starting July 28	Starting July 21	Starting July 14	Starting July 07	Starting June 30	Starting June 23	Starting June 16	Starting June 09	Starting June 02	Starting May 26	Starting May 19	All Year
	Harvest	68,640	68,513	68,187	67,644	67,143	66,236	65,321	64,425	63,671	62,967	62,090	61,414	60,769	60,016	59,488	59,207	58,971	58,842	58,777	58,747
Lower Limit (in)	35	0.630	0.629	0.626	0.621	0.616	0.608	0.600	0.592	0.585	0.578	0.570	0.564	0.558	0.551	0.546	0.544	0.542	0.541	0.540	0.540
	36	0.667	0.666	0.663	0.657	0.652	0.644	0.635	0.626	0.619	0.612	0.604	0.597	0.591	0.584	0.578	0.576	0.573	0.572	0.571	0.571
	37	0.689	0.687	0.684	0.679	0.674	0.665	0.655	0.646	0.639	0.632	0.623	0.616	0.610	0.602	0.597	0.594	0.592	0.590	0.590	0.589
	38	0.722	0.720	0.717	0.711	0.706	0.696	0.687	0.678	0.670	0.662	0.653	0.646	0.639	0.631	0.626	0.623	0.620	0.619	0.618	0.618
	39	0.746	0.744	0.741	0.735	0.729	0.719	0.709	0.700	0.692	0.684	0.675	0.667	0.660	0.652	0.646	0.643	0.641	0.639	0.639	0.638
	40	0.765	0.764	0.760	0.754	0.748	0.738	0.728	0.718	0.710	0.702	0.692	0.685	0.678	0.669	0.663	0.660	0.658	0.656	0.655	0.655
	41	0.790	0.788	0.784	0.778	0.772	0.762	0.751	0.741	0.732	0.724	0.714	0.707	0.699	0.691	0.684	0.681	0.678	0.677	0.676	0.676
	42	0.805	0.804	0.800	0.793	0.787	0.777	0.766	0.756	0.747	0.738	0.728	0.721	0.713	0.704	0.698	0.694	0.692	0.690	0.689	0.689
	43	0.822	0.821	0.817	0.810	0.804	0.793	0.782	0.772	0.763	0.754	0.744	0.736	0.728	0.719	0.713	0.709	0.706	0.705	0.704	0.704
	44	0.847	0.846	0.842	0.835	0.828	0.817	0.806	0.795	0.786	0.777	0.766	0.758	0.750	0.741	0.734	0.731	0.728	0.726	0.725	0.725
	45	0.874	0.873	0.868	0.861	0.855	0.843	0.832	0.821	0.811	0.802	0.791	0.783	0.774	0.765	0.758	0.754	0.751	0.749	0.748	0.748
	46	0.892	0.890	0.886	0.879	0.872	0.860	0.848	0.837	0.827	0.818	0.807	0.798	0.790	0.780	0.773	0.769	0.766	0.764	0.763	0.763
	47	0.916	0.914	0.910	0.903	0.896	0.884	0.871	0.860	0.850	0.840	0.829	0.820	0.812	0.802	0.794	0.790	0.787	0.785	0.784	0.784
	48	0.932	0.930	0.926	0.919	0.912	0.899	0.887	0.875	0.865	0.855	0.843	0.835	0.826	0.816	0.808	0.804	0.801	0.799	0.798	0.798
	49	0.961	0.959	0.955	0.947	0.940	0.927	0.914	0.902	0.891	0.881	0.869	0.860	0.851	0.841	0.833	0.829	0.825	0.824	0.823	0.822
	50	0.980	0.978	0.974	0.966	0.959	0.946	0.933	0.920	0.909	0.899	0.887	0.878	0.869	0.858	0.850	0.846	0.842	0.840	0.839	0.839

Table 13. (continued)

f. Friday closures

		Starting Sept 23	Starting Sept 16	Starting Sept 09	Starting Sept 02	Starting Aug 26	Starting Aug 19	Starting Aug 12	Starting Aug 05	Starting July 29	Starting July 22	Starting July 15	Starting July 08	Starting July 01	Starting June 24	Starting June 17	Starting June 10	Starting June 03	Starting May 27	Starting May 20	All Year
	Harvest	68,680	68,607	68,261	67,732	67,419	66,620	65,569	64,768	63,929	63,002	62,057	61,483	60,748	60,047	59,507	59,123	58,987	58,832	58,739	58,720
Lower Limit (in)	35	0.631	0.630	0.627	0.622	0.619	0.612	0.602	0.595	0.587	0.578	0.570	0.564	0.558	0.551	0.546	0.543	0.541	0.540	0.539	0.539
	36	0.668	0.667	0.663	0.658	0.655	0.647	0.637	0.629	0.621	0.612	0.603	0.597	0.590	0.584	0.578	0.574	0.573	0.572	0.571	0.570
	37	0.689	0.688	0.685	0.680	0.676	0.668	0.658	0.650	0.641	0.632	0.623	0.617	0.609	0.602	0.597	0.593	0.592	0.590	0.589	0.589
	38	0.722	0.721	0.718	0.712	0.709	0.700	0.689	0.681	0.672	0.662	0.652	0.646	0.639	0.631	0.626	0.622	0.620	0.618	0.617	0.617
	39	0.746	0.745	0.742	0.736	0.732	0.724	0.712	0.703	0.694	0.684	0.674	0.668	0.660	0.652	0.646	0.642	0.641	0.639	0.638	0.638
	40	0.766	0.765	0.761	0.755	0.752	0.743	0.731	0.722	0.713	0.702	0.692	0.685	0.677	0.670	0.664	0.659	0.658	0.656	0.655	0.654
	41	0.790	0.789	0.785	0.779	0.775	0.766	0.754	0.745	0.735	0.724	0.714	0.707	0.699	0.691	0.685	0.680	0.678	0.676	0.675	0.675
	42	0.806	0.805	0.801	0.794	0.790	0.781	0.769	0.759	0.749	0.739	0.728	0.721	0.712	0.704	0.698	0.693	0.692	0.690	0.689	0.688
	43	0.823	0.822	0.818	0.811	0.807	0.798	0.785	0.776	0.766	0.755	0.743	0.737	0.728	0.720	0.713	0.708	0.706	0.705	0.703	0.703
	44	0.848	0.847	0.842	0.836	0.832	0.822	0.809	0.799	0.789	0.777	0.766	0.759	0.750	0.741	0.735	0.730	0.728	0.726	0.725	0.724
	45	0.875	0.874	0.869	0.863	0.858	0.848	0.835	0.825	0.814	0.802	0.790	0.783	0.774	0.765	0.758	0.753	0.751	0.749	0.748	0.748
	46	0.892	0.891	0.887	0.880	0.876	0.865	0.852	0.841	0.830	0.818	0.806	0.799	0.789	0.781	0.773	0.768	0.766	0.764	0.763	0.763
	47	0.917	0.916	0.911	0.904	0.899	0.889	0.875	0.864	0.853	0.841	0.828	0.821	0.811	0.802	0.794	0.789	0.787	0.785	0.783	0.783
	48	0.933	0.932	0.927	0.920	0.915	0.904	0.890	0.879	0.868	0.856	0.843	0.835	0.825	0.816	0.809	0.803	0.801	0.799	0.797	0.797
	49	0.962	0.960	0.956	0.948	0.943	0.932	0.918	0.906	0.894	0.882	0.869	0.861	0.851	0.841	0.833	0.828	0.826	0.823	0.822	0.822
	50	0.981	0.980	0.975	0.967	0.962	0.951	0.936	0.925	0.912	0.900	0.886	0.878	0.868	0.858	0.850	0.844	0.842	0.840	0.838	0.838

g. Saturday closures

		Starting Sept 24	Starting Sept 17	Starting Sept 10	Starting Sept 03	Starting Aug 27	Starting Aug 20	Starting Aug 13	Starting Aug 06	Starting July 30	Starting July 23	Starting July 16	Starting July 09	Starting July 02	Starting June 25	Starting June 18	Starting June 11	Starting June 04	Starting May 28	Starting May 21	All Year
	Harvest	68,671	68,599	68,366	67,934	67,447	66,810	65,927	65,059	64,273	63,357	62,520	61,813	61,081	60,551	60,032	59,680	59,493	59,336	59,252	59,226
Lower Limit (in)	35	0.631	0.631	0.630	0.628	0.619	0.614	0.606	0.598	0.590	0.582	0.574	0.568	0.561	0.556	0.552	0.548	0.547	0.545	0.544	0.544
	36	0.667	0.667	0.667	0.664	0.656	0.649	0.641	0.633	0.625	0.616	0.608	0.601	0.594	0.589	0.584	0.581	0.579	0.577	0.576	0.576
	37	0.689	0.689	0.688	0.686	0.677	0.670	0.662	0.653	0.645	0.636	0.628	0.621	0.613	0.608	0.603	0.599	0.597	0.596	0.595	0.595
	38	0.722	0.722	0.721	0.719	0.709	0.703	0.694	0.684	0.676	0.667	0.658	0.651	0.643	0.637	0.632	0.628	0.626	0.625	0.624	0.623
	39	0.746	0.746	0.745	0.743	0.733	0.726	0.716	0.707	0.699	0.689	0.680	0.672	0.664	0.659	0.653	0.649	0.647	0.645	0.644	0.644
	40	0.766	0.766	0.765	0.762	0.752	0.745	0.735	0.726	0.717	0.707	0.698	0.690	0.682	0.676	0.670	0.666	0.664	0.662	0.661	0.661
	41	0.790	0.790	0.789	0.786	0.776	0.769	0.759	0.749	0.740	0.730	0.720	0.712	0.704	0.698	0.692	0.688	0.685	0.683	0.682	0.682
	42	0.805	0.805	0.805	0.802	0.791	0.784	0.774	0.764	0.754	0.744	0.734	0.726	0.718	0.711	0.705	0.701	0.699	0.697	0.696	0.696
	43	0.823	0.823	0.822	0.819	0.808	0.800	0.790	0.780	0.771	0.760	0.750	0.742	0.733	0.727	0.721	0.716	0.714	0.712	0.711	0.711
	44	0.848	0.848	0.847	0.844	0.832	0.825	0.814	0.804	0.794	0.783	0.773	0.764	0.755	0.749	0.743	0.738	0.736	0.734	0.732	0.732
	45	0.875	0.875	0.874	0.871	0.859	0.851	0.840	0.829	0.819	0.808	0.798	0.789	0.780	0.773	0.766	0.762	0.759	0.757	0.756	0.756
	46	0.892	0.892	0.891	0.888	0.876	0.868	0.857	0.846	0.836	0.824	0.814	0.805	0.795	0.789	0.782	0.777	0.774	0.772	0.771	0.771
	47	0.917	0.917	0.916	0.913	0.900	0.892	0.880	0.869	0.859	0.847	0.836	0.827	0.817	0.810	0.803	0.798	0.796	0.793	0.792	0.792
	48	0.933	0.933	0.932	0.929	0.916	0.908	0.896	0.885	0.874	0.862	0.851	0.841	0.831	0.824	0.817	0.812	0.810	0.807	0.806	0.806
	49	0.961	0.961	0.961	0.957	0.944	0.935	0.924	0.912	0.901	0.888	0.877	0.867	0.857	0.850	0.843	0.837	0.835	0.832	0.831	0.831
	50	0.981	0.981	0.980	0.977	0.963	0.954	0.942	0.930	0.919	0.906	0.895	0.885	0.874	0.867	0.860	0.855	0.852	0.849	0.848	0.847

Table 14. Projected charter removals (Mlb) and harvest for Area 2C in 2022 under reverse slot limits with lower limits of the protected slot ranging from 35 to 50 inches and an upper limit of 80 inches with days closed throughout the season and a **two fish annual limit**. Light shaded cells represent projections for the most liberal upper and lower size limits that do not exceed the reference allocation of 0.60 Mlb. Dark shaded cells represent projections for the most liberal upper and lower size limits that do not exceed the 2021 allocation of 0.81 Mlb. All values in the table include corrections for errors in estimation of average weight and inflation factors for release mortality.

a. Sunday closures

		Starting Sept 18	Starting Sept 11	Starting Sept 04	Starting Aug 28	Starting Aug 21	Starting Aug 14	Starting Aug 7	Starting July 31	Starting July 24	Starting July 17	Starting July 10	Starting July 03	Starting June 26	Starting June 19	Starting June 12	Starting June 05	Starting May 29	Starting May 22	Starting May 15	All Year
	Harvest	57,031	56,852	56,495	55,981	55,702	54,955	54,275	53,656	53,024	52,284	51,668	51,111	50,594	50,171	49,869	49,680	49,483	49,379	49,337	49,336
Lower Limit (in)	35	0.523	0.521	0.518	0.514	0.511	0.504	0.498	0.493	0.487	0.480	0.475	0.470	0.465	0.461	0.458	0.457	0.455	0.454	0.453	0.453
	36	0.554	0.552	0.549	0.544	0.541	0.534	0.528	0.522	0.516	0.509	0.503	0.497	0.492	0.488	0.485	0.484	0.482	0.481	0.480	0.480
	37	0.572	0.570	0.567	0.562	0.559	0.552	0.545	0.539	0.532	0.525	0.519	0.514	0.508	0.504	0.501	0.499	0.497	0.496	0.496	0.496
	38	0.600	0.598	0.594	0.589	0.586	0.578	0.571	0.565	0.558	0.551	0.544	0.539	0.533	0.529	0.526	0.524	0.522	0.520	0.520	0.520
	39	0.620	0.618	0.614	0.609	0.606	0.598	0.590	0.584	0.577	0.569	0.563	0.557	0.551	0.547	0.543	0.541	0.539	0.538	0.537	0.537
	40	0.636	0.634	0.630	0.625	0.622	0.614	0.606	0.599	0.592	0.584	0.578	0.572	0.566	0.561	0.558	0.556	0.553	0.552	0.552	0.552
	41	0.657	0.655	0.651	0.645	0.642	0.633	0.625	0.619	0.611	0.603	0.596	0.590	0.584	0.579	0.576	0.574	0.571	0.570	0.570	0.570
	42	0.670	0.667	0.663	0.657	0.654	0.646	0.638	0.631	0.623	0.615	0.608	0.602	0.596	0.591	0.587	0.585	0.583	0.581	0.581	0.581
	43	0.684	0.682	0.678	0.672	0.668	0.659	0.651	0.644	0.637	0.628	0.621	0.615	0.609	0.604	0.600	0.598	0.595	0.594	0.593	0.593
	44	0.705	0.702	0.698	0.692	0.689	0.680	0.671	0.664	0.656	0.647	0.640	0.633	0.627	0.622	0.618	0.616	0.613	0.612	0.611	0.611
	45	0.727	0.725	0.721	0.714	0.711	0.701	0.693	0.685	0.677	0.668	0.661	0.654	0.647	0.642	0.638	0.636	0.633	0.632	0.631	0.631
	46	0.742	0.740	0.735	0.729	0.725	0.716	0.707	0.699	0.691	0.682	0.674	0.667	0.661	0.655	0.651	0.649	0.646	0.644	0.644	0.644
	47	0.762	0.760	0.755	0.749	0.745	0.735	0.726	0.718	0.710	0.700	0.693	0.686	0.679	0.673	0.669	0.667	0.664	0.662	0.662	0.662
	48	0.776	0.773	0.769	0.762	0.758	0.748	0.739	0.731	0.723	0.713	0.705	0.698	0.691	0.686	0.681	0.679	0.676	0.674	0.674	0.674
	49	0.799	0.797	0.792	0.785	0.781	0.771	0.762	0.753	0.745	0.735	0.727	0.719	0.712	0.706	0.702	0.699	0.696	0.695	0.694	0.694
	50	0.816	0.813	0.808	0.801	0.797	0.787	0.777	0.769	0.760	0.750	0.742	0.734	0.727	0.721	0.716	0.714	0.711	0.709	0.708	0.708

Table 14. (continued)

b. Monday closures

		Starting Sept 19	Starting Sept 12	Starting Sept 05	Starting Aug 29	Starting Aug 22	Starting Aug 15	Starting Aug 08	Starting Aug 01	Starting July 25	Starting July 18	Starting July 11	Starting July 04	Starting June 27	Starting June 20	Starting June 13	Starting June 06	Starting May 30	Starting May 23	Starting May 16	All Year
	Harvest	57,069	56,903	56,600	56,209	55,510	54,683	53,920	53,109	52,316	51,502	50,791	50,274	49,620	49,173	48,888	48,629	48,417	48,297	48,271	48,260
Lower Limit (in)	35	0.523	0.522	0.519	0.516	0.509	0.502	0.495	0.487	0.480	0.473	0.466	0.461	0.455	0.451	0.449	0.446	0.444	0.443	0.443	0.443
	36	0.554	0.553	0.550	0.546	0.539	0.531	0.524	0.516	0.508	0.501	0.494	0.489	0.482	0.478	0.475	0.473	0.471	0.469	0.469	0.469
	37	0.572	0.571	0.568	0.564	0.557	0.549	0.541	0.533	0.525	0.517	0.510	0.505	0.498	0.494	0.491	0.488	0.486	0.485	0.484	0.484
	38	0.600	0.598	0.595	0.591	0.584	0.575	0.567	0.559	0.551	0.542	0.535	0.529	0.522	0.518	0.515	0.512	0.510	0.508	0.508	0.508
	39	0.620	0.618	0.615	0.611	0.603	0.594	0.586	0.577	0.569	0.560	0.553	0.547	0.540	0.535	0.532	0.529	0.527	0.525	0.525	0.525
	40	0.637	0.635	0.632	0.627	0.619	0.610	0.602	0.593	0.584	0.575	0.567	0.562	0.554	0.549	0.546	0.543	0.541	0.539	0.539	0.539
	41	0.657	0.655	0.652	0.647	0.639	0.630	0.621	0.612	0.603	0.594	0.586	0.580	0.572	0.567	0.564	0.560	0.558	0.557	0.556	0.556
	42	0.670	0.668	0.665	0.660	0.652	0.642	0.633	0.624	0.615	0.605	0.597	0.591	0.584	0.578	0.575	0.571	0.569	0.567	0.567	0.567
	43	0.684	0.682	0.679	0.674	0.666	0.656	0.647	0.637	0.628	0.618	0.610	0.604	0.596	0.591	0.587	0.584	0.581	0.580	0.579	0.579
	44	0.705	0.703	0.699	0.695	0.686	0.676	0.667	0.657	0.647	0.637	0.629	0.622	0.614	0.609	0.605	0.602	0.599	0.597	0.597	0.597
	45	0.728	0.725	0.722	0.717	0.708	0.698	0.688	0.678	0.668	0.658	0.649	0.642	0.634	0.628	0.624	0.621	0.618	0.616	0.616	0.616
	46	0.742	0.740	0.736	0.731	0.722	0.712	0.702	0.691	0.681	0.671	0.662	0.655	0.647	0.641	0.637	0.633	0.630	0.629	0.629	0.628
	47	0.763	0.760	0.757	0.751	0.742	0.731	0.721	0.710	0.700	0.690	0.680	0.673	0.665	0.659	0.655	0.651	0.648	0.646	0.646	0.646
	48	0.776	0.774	0.770	0.765	0.755	0.744	0.734	0.723	0.712	0.702	0.693	0.686	0.677	0.670	0.666	0.662	0.659	0.658	0.657	0.657
	49	0.800	0.797	0.793	0.788	0.778	0.767	0.756	0.745	0.734	0.723	0.714	0.706	0.697	0.691	0.687	0.683	0.680	0.678	0.677	0.677
	50	0.816	0.814	0.809	0.804	0.794	0.782	0.772	0.760	0.749	0.738	0.728	0.721	0.712	0.705	0.701	0.697	0.693	0.692	0.691	0.691

c. Tuesday closures

		Starting Sept 20	Starting Sept 13	Starting Sept 06	Starting Aug 30	Starting Aug 23	Starting Aug 16	Starting Aug 09	Starting Aug 02	Starting July 26	Starting July 19	Starting July 12	Starting July 05	Starting June 28	Starting June 21	Starting June 14	Starting June 07	Starting May 31	Starting May 24	Starting May 17	All Year
	Harvest	57,056	56,883	56,578	56,137	55,671	54,908	54,125	53,329	52,651	51,996	51,253	50,731	50,096	49,666	49,508	49,287	49,145	49,094	49,061	49,057
Lower Limit (in)	35	0.523	0.522	0.519	0.515	0.511	0.504	0.496	0.489	0.483	0.477	0.470	0.465	0.459	0.455	0.454	0.452	0.450	0.450	0.449	0.449
	36	0.554	0.553	0.550	0.545	0.541	0.533	0.526	0.518	0.511	0.505	0.498	0.492	0.486	0.482	0.480	0.478	0.477	0.476	0.476	0.476
	37	0.572	0.571	0.567	0.563	0.558	0.551	0.543	0.535	0.528	0.521	0.514	0.508	0.502	0.498	0.496	0.494	0.492	0.492	0.491	0.491
	38	0.600	0.598	0.595	0.590	0.585	0.577	0.569	0.561	0.553	0.546	0.539	0.533	0.527	0.522	0.520	0.518	0.516	0.516	0.515	0.515
	39	0.620	0.618	0.615	0.610	0.605	0.596	0.588	0.579	0.572	0.565	0.557	0.551	0.544	0.539	0.538	0.535	0.533	0.533	0.533	0.532
	40	0.637	0.635	0.631	0.626	0.621	0.612	0.604	0.595	0.587	0.580	0.571	0.566	0.559	0.554	0.552	0.549	0.548	0.547	0.547	0.547
	41	0.657	0.655	0.651	0.646	0.641	0.632	0.623	0.614	0.606	0.598	0.590	0.584	0.576	0.571	0.569	0.567	0.565	0.564	0.564	0.564
	42	0.670	0.668	0.664	0.659	0.653	0.644	0.635	0.625	0.617	0.610	0.601	0.595	0.588	0.583	0.580	0.578	0.576	0.575	0.575	0.575
	43	0.684	0.682	0.678	0.673	0.667	0.658	0.649	0.639	0.631	0.623	0.614	0.608	0.600	0.595	0.593	0.590	0.588	0.588	0.587	0.587
	44	0.705	0.703	0.699	0.693	0.687	0.678	0.668	0.658	0.650	0.642	0.633	0.626	0.619	0.613	0.611	0.608	0.606	0.606	0.605	0.605
	45	0.728	0.725	0.721	0.716	0.709	0.700	0.690	0.679	0.671	0.662	0.653	0.646	0.638	0.633	0.631	0.627	0.626	0.625	0.624	0.624
	46	0.742	0.740	0.736	0.730	0.724	0.714	0.704	0.693	0.684	0.676	0.666	0.659	0.651	0.646	0.643	0.640	0.638	0.637	0.637	0.637
	47	0.763	0.760	0.756	0.750	0.743	0.733	0.723	0.712	0.703	0.694	0.684	0.677	0.669	0.663	0.661	0.658	0.656	0.655	0.654	0.654
	48	0.776	0.774	0.770	0.763	0.757	0.746	0.736	0.725	0.715	0.707	0.697	0.689	0.681	0.675	0.673	0.669	0.667	0.667	0.666	0.666
	49	0.800	0.797	0.793	0.787	0.780	0.769	0.758	0.747	0.737	0.728	0.718	0.710	0.702	0.696	0.693	0.690	0.688	0.687	0.686	0.686
	50	0.816	0.813	0.809	0.803	0.795	0.785	0.774	0.762	0.752	0.743	0.732	0.725	0.716	0.710	0.707	0.703	0.701	0.701	0.700	0.700

Table 14. (continued)

d. Wednesday closures

		Starting Sept 21	Starting Sept 14	Starting Sept 07	Starting Aug 31	Starting Aug 24	Starting Aug 17	Starting Aug 10	Starting Aug 03	Starting July 27	Starting July 20	Starting July 13	Starting July 06	Starting June 29	Starting June 22	Starting June 15	Starting June 08	Starting June 01	Starting May 25	Starting May 18	All Year
	Harvest	57,057	56,930	56,669	56,224	55,772	55,060	54,393	53,608	53,064	52,383	51,647	51,094	50,479	49,948	49,634	49,377	49,194	49,073	49,061	49,050
Lower Limit (in)	35	0.523	0.523	0.522	0.520	0.511	0.505	0.499	0.491	0.486	0.480	0.473	0.468	0.462	0.457	0.454	0.452	0.450	0.449	0.449	0.449
	36	0.554	0.554	0.553	0.550	0.542	0.535	0.528	0.520	0.515	0.508	0.501	0.496	0.490	0.485	0.481	0.479	0.477	0.476	0.476	0.476
	37	0.572	0.572	0.571	0.568	0.559	0.552	0.545	0.537	0.532	0.525	0.517	0.512	0.506	0.500	0.497	0.494	0.492	0.491	0.491	0.491
	38	0.600	0.600	0.599	0.596	0.586	0.579	0.572	0.563	0.558	0.550	0.543	0.537	0.530	0.525	0.521	0.518	0.516	0.515	0.515	0.515
	39	0.620	0.620	0.619	0.616	0.606	0.598	0.591	0.582	0.576	0.569	0.561	0.555	0.548	0.542	0.538	0.536	0.534	0.532	0.532	0.532
	40	0.637	0.637	0.635	0.632	0.622	0.614	0.606	0.598	0.591	0.584	0.575	0.569	0.562	0.556	0.553	0.550	0.548	0.546	0.546	0.546
	41	0.657	0.657	0.655	0.652	0.642	0.634	0.626	0.617	0.610	0.602	0.594	0.588	0.580	0.574	0.570	0.567	0.565	0.564	0.563	0.563
	42	0.670	0.670	0.668	0.665	0.654	0.646	0.638	0.629	0.622	0.614	0.605	0.599	0.592	0.585	0.581	0.578	0.576	0.574	0.574	0.574
	43	0.684	0.684	0.682	0.679	0.668	0.660	0.652	0.642	0.635	0.627	0.618	0.612	0.604	0.598	0.594	0.590	0.588	0.587	0.586	0.586
	44	0.705	0.705	0.703	0.700	0.689	0.680	0.671	0.662	0.655	0.646	0.637	0.630	0.623	0.616	0.612	0.608	0.606	0.605	0.604	0.604
	45	0.728	0.728	0.726	0.722	0.711	0.702	0.693	0.683	0.676	0.667	0.658	0.651	0.643	0.636	0.631	0.628	0.625	0.624	0.624	0.624
	46	0.742	0.742	0.740	0.737	0.725	0.716	0.707	0.696	0.689	0.680	0.671	0.664	0.656	0.648	0.644	0.640	0.638	0.636	0.636	0.636
	47	0.763	0.763	0.761	0.757	0.745	0.735	0.726	0.715	0.708	0.699	0.689	0.682	0.674	0.666	0.662	0.658	0.655	0.654	0.653	0.653
	48	0.776	0.776	0.774	0.771	0.758	0.749	0.739	0.728	0.721	0.711	0.701	0.694	0.686	0.678	0.674	0.670	0.667	0.665	0.665	0.665
	49	0.800	0.800	0.798	0.794	0.781	0.771	0.762	0.750	0.743	0.733	0.723	0.715	0.706	0.699	0.694	0.690	0.687	0.685	0.685	0.685
	50	0.816	0.816	0.814	0.810	0.797	0.787	0.777	0.765	0.757	0.748	0.737	0.729	0.720	0.713	0.708	0.704	0.701	0.699	0.699	0.699

e. Thursday closures

		Starting Sept 22	Starting Sept 15	Starting Sept 08	Starting Sept 01	Starting Aug 25	Starting Aug 18	Starting Aug 11	Starting Aug 04	Starting July 28	Starting July 21	Starting July 14	Starting July 07	Starting June 30	Starting June 23	Starting June 16	Starting June 09	Starting June 02	Starting May 26	Starting May 19	All Year
	Harvest	57,029	56,926	56,653	56,201	55,781	55,024	54,258	53,514	52,891	52,302	51,575	51,009	50,476	49,856	49,422	49,190	48,994	48,888	48,834	48,808
Lower Limit (in)	35	0.523	0.522	0.520	0.515	0.512	0.505	0.498	0.491	0.485	0.480	0.473	0.468	0.463	0.457	0.453	0.451	0.450	0.449	0.448	0.448
	36	0.554	0.553	0.550	0.546	0.542	0.534	0.527	0.520	0.514	0.508	0.501	0.496	0.491	0.485	0.480	0.478	0.476	0.475	0.474	0.474
	37	0.572	0.571	0.568	0.564	0.559	0.552	0.544	0.537	0.530	0.525	0.517	0.512	0.506	0.500	0.496	0.493	0.491	0.490	0.490	0.490
	38	0.600	0.599	0.596	0.591	0.587	0.579	0.571	0.563	0.556	0.550	0.542	0.537	0.531	0.525	0.520	0.517	0.515	0.514	0.514	0.513
	39	0.620	0.619	0.616	0.611	0.606	0.598	0.590	0.582	0.575	0.568	0.560	0.555	0.549	0.542	0.537	0.535	0.532	0.531	0.531	0.530
	40	0.636	0.635	0.632	0.627	0.622	0.614	0.605	0.597	0.590	0.583	0.575	0.569	0.563	0.556	0.551	0.549	0.547	0.545	0.545	0.544
	41	0.657	0.655	0.652	0.647	0.642	0.633	0.625	0.616	0.609	0.602	0.594	0.587	0.581	0.574	0.569	0.566	0.564	0.563	0.562	0.562
	42	0.669	0.668	0.665	0.660	0.655	0.646	0.637	0.628	0.621	0.614	0.605	0.599	0.593	0.586	0.580	0.577	0.575	0.574	0.573	0.573
	43	0.684	0.682	0.679	0.674	0.669	0.659	0.650	0.642	0.634	0.627	0.618	0.612	0.605	0.598	0.593	0.590	0.587	0.586	0.585	0.585
	44	0.705	0.703	0.700	0.694	0.689	0.680	0.670	0.661	0.653	0.646	0.637	0.630	0.624	0.616	0.611	0.608	0.605	0.604	0.603	0.603
	45	0.727	0.726	0.722	0.716	0.711	0.701	0.692	0.682	0.674	0.667	0.658	0.651	0.644	0.636	0.630	0.627	0.625	0.623	0.622	0.622
	46	0.742	0.740	0.737	0.731	0.725	0.715	0.705	0.696	0.688	0.680	0.671	0.664	0.657	0.649	0.643	0.640	0.637	0.636	0.635	0.635
	47	0.762	0.761	0.757	0.751	0.745	0.735	0.725	0.715	0.707	0.699	0.689	0.682	0.675	0.667	0.661	0.657	0.655	0.653	0.652	0.652
	48	0.776	0.774	0.770	0.764	0.758	0.748	0.738	0.728	0.719	0.711	0.701	0.694	0.687	0.679	0.672	0.669	0.666	0.665	0.664	0.664
	49	0.799	0.798	0.794	0.788	0.781	0.771	0.760	0.750	0.741	0.733	0.723	0.715	0.708	0.699	0.693	0.689	0.687	0.685	0.684	0.684
	50	0.816	0.814	0.810	0.803	0.797	0.786	0.775	0.765	0.756	0.748	0.737	0.730	0.722	0.713	0.707	0.703	0.700	0.699	0.698	0.698

Table 14. (continued)

f. Friday closures

		Starting Sept 23	Starting Sept 16	Starting Sept 09	Starting Sept 02	Starting Aug 26	Starting Aug 19	Starting Aug 12	Starting Aug 05	Starting July 29	Starting July 22	Starting July 15	Starting July 08	Starting July 01	Starting June 24	Starting June 17	Starting June 10	Starting June 03	Starting May 27	Starting May 20	All Year
	Harvest	57,066	57,007	56,714	56,272	56,012	55,351	54,476	53,813	53,112	52,343	51,554	51,079	50,473	49,892	49,446	49,128	49,012	48,887	48,806	48,791
Lower Limit (in)	35	0.523	0.523	0.520	0.516	0.514	0.508	0.500	0.493	0.487	0.480	0.473	0.468	0.463	0.457	0.453	0.450	0.449	0.448	0.447	0.447
	36	0.554	0.554	0.551	0.547	0.544	0.538	0.529	0.523	0.516	0.508	0.501	0.496	0.490	0.485	0.480	0.477	0.476	0.475	0.474	0.474
	37	0.572	0.572	0.569	0.564	0.562	0.555	0.546	0.540	0.533	0.525	0.517	0.512	0.506	0.500	0.496	0.493	0.491	0.490	0.489	0.489
	38	0.600	0.600	0.596	0.592	0.589	0.582	0.573	0.566	0.558	0.550	0.542	0.537	0.531	0.525	0.520	0.517	0.515	0.514	0.513	0.513
	39	0.620	0.619	0.616	0.611	0.609	0.601	0.592	0.585	0.577	0.569	0.560	0.555	0.548	0.542	0.537	0.534	0.532	0.531	0.530	0.530
	40	0.637	0.636	0.633	0.628	0.625	0.617	0.608	0.600	0.592	0.584	0.575	0.570	0.563	0.557	0.552	0.548	0.547	0.545	0.544	0.544
	41	0.657	0.656	0.653	0.648	0.645	0.637	0.627	0.619	0.611	0.602	0.593	0.588	0.581	0.574	0.569	0.566	0.564	0.563	0.562	0.561
	42	0.670	0.669	0.666	0.660	0.657	0.649	0.639	0.631	0.623	0.614	0.605	0.600	0.592	0.586	0.580	0.577	0.575	0.574	0.573	0.572
	43	0.684	0.683	0.680	0.675	0.671	0.663	0.653	0.645	0.636	0.627	0.618	0.612	0.605	0.598	0.593	0.589	0.587	0.586	0.585	0.585
	44	0.705	0.704	0.701	0.695	0.692	0.683	0.673	0.665	0.656	0.646	0.637	0.631	0.624	0.617	0.611	0.607	0.605	0.604	0.603	0.602
	45	0.728	0.727	0.723	0.717	0.714	0.705	0.694	0.686	0.677	0.667	0.657	0.651	0.644	0.636	0.631	0.626	0.625	0.623	0.622	0.622
	46	0.742	0.741	0.738	0.732	0.728	0.719	0.708	0.700	0.690	0.681	0.670	0.664	0.657	0.649	0.643	0.639	0.637	0.636	0.634	0.634
	47	0.763	0.762	0.758	0.752	0.748	0.739	0.728	0.719	0.709	0.699	0.689	0.683	0.675	0.667	0.661	0.656	0.655	0.653	0.652	0.652
	48	0.776	0.775	0.771	0.765	0.761	0.752	0.741	0.732	0.722	0.712	0.701	0.695	0.687	0.679	0.673	0.668	0.666	0.665	0.663	0.663
	49	0.800	0.799	0.795	0.789	0.785	0.775	0.763	0.754	0.744	0.733	0.722	0.716	0.708	0.700	0.693	0.688	0.687	0.685	0.684	0.683
	50	0.816	0.815	0.811	0.804	0.800	0.791	0.779	0.769	0.759	0.748	0.737	0.730	0.722	0.714	0.707	0.702	0.700	0.699	0.697	0.697

g. Saturday closures

		Starting Sept 24	Starting Sept 17	Starting Sept 10	Starting Sept 03	Starting Aug 27	Starting Aug 20	Starting Aug 13	Starting Aug 06	Starting July 30	Starting July 23	Starting July 16	Starting July 09	Starting July 02	Starting June 25	Starting June 18	Starting June 11	Starting June 04	Starting May 28	Starting May 21	All Year
	Harvest	57,058	56,998	56,804	56,445	56,040	55,519	54,787	54,069	53,412	52,650	51,951	51,364	50,760	50,323	49,900	49,610	49,452	49,323	49,254	49,229
Lower Limit (in)	35	0.523	0.523	0.523	0.521	0.514	0.509	0.503	0.496	0.490	0.483	0.477	0.471	0.466	0.462	0.458	0.455	0.454	0.453	0.452	0.452
	36	0.554	0.554	0.554	0.552	0.544	0.539	0.532	0.525	0.519	0.512	0.505	0.499	0.493	0.489	0.485	0.482	0.481	0.479	0.479	0.479
	37	0.572	0.572	0.572	0.570	0.562	0.557	0.550	0.543	0.536	0.528	0.521	0.516	0.510	0.505	0.501	0.498	0.496	0.495	0.494	0.494
	38	0.600	0.600	0.600	0.597	0.589	0.584	0.576	0.569	0.562	0.554	0.547	0.541	0.534	0.530	0.525	0.522	0.521	0.519	0.518	0.518
	39	0.620	0.620	0.619	0.617	0.609	0.603	0.596	0.588	0.581	0.573	0.565	0.559	0.552	0.548	0.543	0.540	0.538	0.537	0.536	0.535
	40	0.637	0.637	0.636	0.634	0.625	0.619	0.611	0.604	0.596	0.588	0.580	0.574	0.567	0.562	0.557	0.554	0.552	0.551	0.550	0.550
	41	0.657	0.657	0.656	0.654	0.645	0.639	0.631	0.623	0.615	0.607	0.599	0.592	0.585	0.580	0.575	0.572	0.570	0.569	0.568	0.567
	42	0.670	0.670	0.669	0.667	0.658	0.652	0.643	0.635	0.627	0.619	0.611	0.604	0.597	0.592	0.587	0.583	0.581	0.580	0.579	0.579
	43	0.684	0.684	0.683	0.681	0.672	0.666	0.657	0.649	0.641	0.632	0.624	0.617	0.610	0.604	0.599	0.596	0.594	0.592	0.591	0.591
	44	0.705	0.705	0.704	0.702	0.692	0.686	0.677	0.669	0.660	0.651	0.643	0.636	0.628	0.623	0.618	0.614	0.612	0.610	0.609	0.609
	45	0.728	0.728	0.727	0.724	0.714	0.708	0.699	0.690	0.682	0.672	0.663	0.656	0.648	0.643	0.638	0.634	0.632	0.630	0.629	0.629
	46	0.742	0.742	0.741	0.739	0.729	0.722	0.713	0.704	0.695	0.686	0.677	0.669	0.662	0.656	0.650	0.647	0.644	0.643	0.642	0.641
	47	0.763	0.763	0.762	0.759	0.749	0.742	0.733	0.723	0.714	0.705	0.695	0.688	0.680	0.674	0.668	0.664	0.662	0.660	0.659	0.659
	48	0.776	0.776	0.775	0.773	0.762	0.755	0.746	0.736	0.727	0.717	0.708	0.700	0.692	0.686	0.680	0.676	0.674	0.672	0.671	0.671
	49	0.800	0.800	0.799	0.796	0.785	0.778	0.768	0.759	0.749	0.739	0.729	0.721	0.713	0.707	0.701	0.697	0.695	0.693	0.692	0.691
	50	0.816	0.816	0.815	0.812	0.801	0.794	0.784	0.774	0.765	0.754	0.744	0.736	0.728	0.721	0.715	0.711	0.709	0.707	0.706	0.705

Table 15. Forecasts of effort (angler-days), halibut harvest per unit effort (HPUE), and harvest (numbers of halibut) for Area 3A in 2022 under status quo regulations, with associated standard errors. Status quo regulations include a two-fish bag limit with a maximum size limit of 32 inches on one of the fish, no retention of halibut on Wednesdays, CHP trip limits, and vessel trip limits.

Subarea	Effort (angler-days)	Std Error	HPUE	Std Error	Harvest (no. halibut)	Std Error
CCI	17,164	NA	1.66	0.215	28,486	3,690
EPWS	4,974	NA	1.11	0.209	5,538	1,040
GlacB	1,224	NA	0.76	0.299	925	366
Yak	4,249	NA	0.98	0.218	4,173	925
LCI	46,167	NA	1.56	0.258	72,120	11,893
NGulf	31,779	NA	1.14	0.186	36,329	5,919
Kod	12,797	NA	0.92	0.176	11,721	2,252
WPWS	4,668	NA	1.09	0.216	5,090	1,007
Area 3A	123,023	NA	1.34	NA	164,382	14,080

Table 16. Area 3A projected harvest, change in harvest, and specified dates with status quo management measures combined with all Tuesdays closures.

Number of Closed Tuesdays	Beginning and Ending Dates	Percentage change in harvest relative to status quo	Projected Harvest (no. Fish)
0		0.0%	164,382
1	July 26	-1.5%	161,921
2	July 26 - August 02	-2.9%	159,563
3	July 19 - August 02	-4.2%	157,557
4	July 12 - August 02	-5.7%	155,005
5	July 12 - August 09	-7.0%	152,899
6	July 05 - August 09	-8.3%	150,805
7	June 28 - August 09	-9.4%	148,945
8	June 28 - August 16	-10.6%	146,991
9	June 21 - August 16	-11.7%	145,147
10	June 14 - August 16	-12.6%	143,640
11	June 14 - August 23	-13.5%	142,157
12	June 07 - August 23	-14.2%	140,983
13	June 07 - August 30	-14.9%	139,912
48 (all season)	February 01 - December 31	-16.7%	136,849

Table 17. Area 3A projected harvest (upper table) and removals (lower table) for 2022 under a range of maximum size limits on one fish in the bag limit and **Tuesday closures**. Projected removals assume the following status quo measures: two fish bag limit – one of any size, limit of one trip per vessel and one trip per permit per day, Wednesday closure all year. All values in the table include corrections for errors in estimation of average weight and inflation factors for release mortality. Light shaded cells represent projections that do not exceed the reference allocation of 2.05 Mlb. Dark shaded cells represent projections that do not exceed the 2021 allocation of 1.95 Mlb.

Projected Harvest (number of fish)

	Number of Tuesday Closures														
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	All
Harvest	164,382	161,921	159,563	157,557	155,005	152,899	150,805	148,945	146,991	145,147	143,640	142,157	140,983	139,912	136,849

Projected Charter Removals (Mlb)

Size	Number of Tuesday Closures														
limit	0	1	2	3	4	5	6	7	8	9	10	11	12	13	All
26	2.078	2.048	2.020	1.993	1.960	1.933	1.906	1.882	1.858	1.834	1.816	1.798	1.784	1.770	1.730
27	2.108	2.078	2.049	2.022	1.988	1.961	1.934	1.910	1.885	1.861	1.842	1.824	1.810	1.796	1.755
28	2.156	2.125	2.096	2.068	2.034	2.006	1.979	1.953	1.928	1.904	1.884	1.866	1.851	1.836	1.795
29	2.187	2.155	2.125	2.097	2.063	2.034	2.006	1.981	1.955	1.931	1.911	1.892	1.877	1.862	1.820
30	2.232	2.200	2.170	2.141	2.106	2.077	2.048	2.022	1.996	1.971	1.951	1.932	1.916	1.901	1.858
31	2.263	2.230	2.199	2.170	2.134	2.105	2.076	2.049	2.023	1.997	1.977	1.958	1.942	1.927	1.883
32	2.302	2.269	2.237	2.207	2.171	2.141	2.112	2.085	2.058	2.032	2.011	1.991	1.976	1.960	1.916

Table 18. Area 3A projected harvest, change in harvest, and specified dates with status quo management measures with all Tuesdays closed combined with Monday and Thursday closures.

a. Monday closures

Number of Closed Mondays	Beginning and Ending Dates	Percentage change in harvest relative to status quo	Projected Harvest (no. Fish)
0		-16.7%	136,849
1	July 25	-18.2%	134,388
2	July 25 - August 01	-19.7%	132,030
3	July 18 - August 01	-20.9%	130,024
4	July 11 - August 01	-22.5%	127,472
5	July 11 - August 08	-23.7%	125,366
6	July 04 - August 08	-25.0%	123,272
7	June 27 - August 08	-26.1%	121,411
8	June 27 - August 15	-27.3%	119,458
9	June 20 - August 15	-28.5%	117,614
10	June 13 - August 15	-29.4%	116,107
11	June 13 - August 22	-30.3%	114,624
12	June 06 - August 22	-31.0%	113,450
13	June 06 - August 29	-31.6%	112,379
48 (all season)	February 01 - December 31	-33.5%	109,316

b. Thursday closures

Number of Closed Thursdays	Beginning and Ending Dates	Percentage change in harvest relative to status quo	Projected Harvest (no. Fish)
0		-16.7%	136,849
1	July 21	-17.9%	135,012
2	July 21 – July 28	-19.4%	132,478
3	July 14 – July 28	-21.0%	129,908
4	July 07 – July 28	-22.4%	127,529
5	July 07 - August 04	-23.9%	125,176
6	Jun3 30 - August 04	-25.1%	123,157
7	June 23 - August 04	-26.3%	121,107
8	June 23 - August 11	-27.7%	118,770
9	June 16 - August 11	-28.8%	117,051
10	June 09 - August 11	-29.6%	115,719
11	June 09 - August 18	-30.8%	113,731
12	June 02 - August 18	-31.4%	112,768
13	June 02 - August 25	-32.4%	111,174
48 (all season)	February 01 - December 31	-34.7%	107,313

Table 19. Area 3A projected harvest (upper table) and removals (lower table) for 2022 under a range of maximum size limits on one fish in the bag limit and with Tuesdays closed all year and **Monday closures**. Projected removals assume the following status quo measures: two fish bag limit – one of any size, limit of one trip per vessel and one trip per permit per day, Wednesday closure all year. All values in the table include corrections for errors in estimation of average weight and inflation factors for release mortality.

Projected Harvest (number of fish)

	Number of Monday Closures														
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	All
Harvest	136,849	134,388	132,030	130,024	127,472	125,366	123,272	121,411	119,458	117,614	116,107	114,624	113,450	112,379	109,316

Projected Charter Removals (Mlb)

Size	Number of Monday Closures														
limit	0	1	2	3	4	5	6	7	8	9	10	11	12	13	All
26	1.730	1.700	1.671	1.645	1.612	1.585	1.558	1.534	1.510	1.486	1.468	1.450	1.436	1.421	1.381
27	1.755	1.725	1.696	1.669	1.635	1.608	1.581	1.556	1.532	1.508	1.489	1.471	1.456	1.442	1.401
28	1.795	1.764	1.734	1.707	1.672	1.645	1.617	1.592	1.567	1.542	1.523	1.504	1.490	1.475	1.433
29	1.820	1.789	1.759	1.731	1.696	1.668	1.640	1.614	1.589	1.564	1.544	1.526	1.511	1.496	1.454
30	1.858	1.826	1.795	1.767	1.731	1.703	1.674	1.648	1.622	1.597	1.576	1.557	1.542	1.527	1.484
31	1.883	1.851	1.820	1.791	1.755	1.726	1.697	1.670	1.644	1.618	1.598	1.578	1.563	1.547	1.504
32	1.916	1.883	1.851	1.821	1.785	1.755	1.726	1.699	1.672	1.646	1.625	1.605	1.589	1.574	1.530

Table 20. Area 3A projected harvest (upper table) and removals (lower table) for 2022 under a range of maximum size limits on one fish in the bag limit and with Tuesdays closed all year and **Thursday closures**. Projected removals assume the following status quo measures: two fish bag limit – one of any size, limit of one trip per vessel and one trip per permit per day, Wednesday closure all year. All values in the table include corrections for errors in estimation of average weight and inflation factors for release mortality.

Projected Harvest (number of fish)

	Number of Thursday Closures														
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	All
Harvest	136,849	135,012	132,478	129,908	127,529	125,176	123,157	121,107	118,770	117,051	115,719	113,731	112,768	111,174	107,313

Projected Charter Removals (Mlb)

Size	Number of Thursday Closures														
limit	0	1	2	3	4	5	6	7	8	9	10	11	12	13	All
26	1.730	1.705	1.674	1.641	1.611	1.581	1.556	1.530	1.500	1.479	1.462	1.438	1.426	1.406	1.355
27	1.755	1.730	1.698	1.665	1.635	1.605	1.579	1.552	1.522	1.501	1.483	1.459	1.447	1.426	1.375
28	1.795	1.769	1.737	1.704	1.672	1.641	1.615	1.588	1.557	1.535	1.517	1.492	1.480	1.459	1.407
29	1.820	1.794	1.761	1.728	1.696	1.664	1.637	1.610	1.579	1.557	1.539	1.513	1.501	1.479	1.426
30	1.858	1.832	1.798	1.764	1.731	1.699	1.672	1.644	1.612	1.589	1.571	1.545	1.532	1.510	1.456
31	1.883	1.857	1.823	1.787	1.754	1.722	1.694	1.666	1.634	1.611	1.592	1.565	1.553	1.531	1.476
32	1.916	1.889	1.854	1.818	1.785	1.752	1.723	1.695	1.662	1.638	1.619	1.592	1.579	1.557	1.501

Table 21. Estimated effects of **annual limits of two to four halibut** on Area 3A anglers and projected harvest for 2022 under a maximum size limit on one of two fish in the bag limit, vessel trip limit, permit trip limit, and a Wednesday closure. The percent of affected anglers is the portion of individual anglers that harvested more than each specified annual limit in 2021.

Annual Limit	Subarea								
	CCI	EPWS	GlacBay	Yak	LCI	NGulf	Kod	WPWS	Area 3A
				Estimated percent of anglers affected by an annual limit:					
2	13.6%	9.9%	18.0%	27.1%	13.0%	9.7%	42.0%	5.8%	14.1%
3	11.8%	7.0%	6.9%	13.8%	10.8%	6.1%	30.0%	2.6%	10.6%
4	2.9%	1.7%	1.1%	6.0%	2.4%	1.6%	15.1%	0.2%	3.1%
				Estimated percent change in harvest relative to no annual limit:					
2	-14.9%	-10.7%	-14.2%	-24.2%	-13.5%	-9.9%	-36.8%	-5.7%	-14.5%
3	-8.9%	-5.5%	-4.5%	-11.1%	-7.5%	-4.8%	-22.1%	-2.0%	-8.1%
4	-3.7%	-1.8%	-0.7%	-4.4%	-2.6%	-1.7%	-11.6%	-0.3%	-3.2%
				Projected harvest (number of halibut):					
2	24,241	4,947	794	3,163	62,408	32,731	7,403	4,799	140,487
3	25,954	5,233	884	3,711	66,677	34,567	9,131	4,989	151,147
4	27,441	5,437	918	3,991	70,228	35,725	10,367	5,076	159,183
No Annual Limit	28,486	5,538	925	4,173	72,120	36,329	11,721	5,090	164,382

Table 22. Area 3A projected harvest (upper table) and removals (lower table) for 2022 under a range of maximum size limits on one fish in the bag limit and for **annual limits ranging from two to four fish** per year. Projected removals assume the following status quo measures: two fish bag limit, limit of one trip per vessel and one trip per permit per day, and Wednesday closure all year. All values in the table include corrections for errors in estimation of average weight and inflation factors for release mortality. Light shaded cells represent projections that do not exceed the reference allocation of 2.05 Mlb. Dark shaded cells represent projections that do not exceed the 2021 allocation of 1.95 Mlb.

Projected Harvest (number of fish)

	Annual Limit (number of halibut)		
Year	2	3	4
2022	140,487	151,147	159,183

Projected Charter Removals (Mlb)

	Annual Limit (number of halibut)		
Size Limit (in)	2	3	4
26	1.770	1.911	2.012
27	1.795	1.939	2.042
28	1.837	1.984	2.088
29	1.863	2.012	2.118
30	1.902	2.054	2.162
31	1.928	2.082	2.191
32	1.962	2.118	2.229

Table 23. Area 3A projected harvest (upper table) and removals (lower table) for 2020 under annual limits with a range of maximum size limits on one fish in the bag limit and Tuesday closures. Projected removals assume the following status quo measures: two fish bag limit – one of any size, limit of one trip per vessel and one trip per permit per day, Wednesday closure all year. All values in the table include corrections for errors in estimation of average weight and inflation factors for release mortality. Light shaded cells represent projections that do not exceed the reference allocation of 2.05 Mlb. Dark shaded cells represent projections that do not exceed the 2021 allocation of 1.95 Mlb.

a. Four-fish annual limit

		Number of Tuesday Closures														
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	All
	Harvest	159,183	156,805	154,527	152,585	150,115	148,078	146,048	144,242	142,352	140,562	139,098	137,667	136,530	135,496	132,544
	26	2.012	1.983	1.956	1.930	1.898	1.872	1.846	1.823	1.799	1.776	1.758	1.741	1.727	1.714	1.675
	27	2.042	2.012	1.984	1.958	1.926	1.900	1.873	1.849	1.826	1.802	1.784	1.767	1.753	1.739	1.700
	28	2.088	2.058	2.030	2.003	1.970	1.943	1.916	1.892	1.867	1.844	1.825	1.807	1.793	1.779	1.739
	29	2.118	2.087	2.058	2.031	1.998	1.970	1.943	1.918	1.894	1.870	1.851	1.832	1.818	1.804	1.763
	30	2.162	2.131	2.101	2.074	2.039	2.012	1.984	1.958	1.933	1.909	1.889	1.871	1.856	1.841	1.800
	31	2.191	2.160	2.130	2.102	2.067	2.039	2.011	1.985	1.959	1.935	1.915	1.896	1.881	1.866	1.824
Size Limit (in)	32	2.229	2.197	2.167	2.138	2.102	2.074	2.045	2.019	1.993	1.968	1.948	1.929	1.913	1.898	1.856

b. Three-fish annual limit

		Number of Tuesday Closures														
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	All
	Harvest	151,147	148,894	146,735	144,890	142,544	140,610	138,679	136,963	135,169	133,466	132,073	130,719	129,641	128,661	125,871
	26	1.911	1.884	1.858	1.834	1.803	1.779	1.754	1.731	1.709	1.688	1.670	1.654	1.641	1.628	1.592
	27	1.939	1.912	1.885	1.860	1.829	1.804	1.780	1.757	1.734	1.712	1.695	1.678	1.665	1.652	1.615
	28	1.984	1.955	1.928	1.903	1.871	1.846	1.820	1.797	1.774	1.751	1.733	1.716	1.703	1.690	1.652
	29	2.012	1.983	1.955	1.930	1.898	1.872	1.846	1.822	1.799	1.776	1.758	1.741	1.727	1.713	1.675
	30	2.054	2.024	1.996	1.970	1.937	1.911	1.885	1.860	1.837	1.813	1.795	1.777	1.763	1.749	1.710
	31	2.082	2.052	2.023	1.997	1.963	1.937	1.910	1.886	1.861	1.838	1.819	1.801	1.787	1.773	1.733
Size Limit (in)	32	2.118	2.087	2.058	2.031	1.997	1.970	1.943	1.918	1.893	1.869	1.850	1.832	1.818	1.803	1.763

Table 23. (continued)

c. Two-fish annual limit

Size Limit (in)	Harvest	Number of Tuesday Closures														
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	All
		140,487	138,398	136,393	134,679	132,499	130,705	128,906	127,308	125,641	124,053	122,752	121,501	120,497	119,591	117,018
	26	1.770	1.744	1.720	1.697	1.669	1.647	1.624	1.603	1.582	1.562	1.546	1.531	1.519	1.507	1.474
	27	1.795	1.770	1.745	1.722	1.694	1.671	1.648	1.626	1.606	1.585	1.569	1.554	1.541	1.529	1.495
	28	1.837	1.811	1.786	1.762	1.733	1.709	1.686	1.664	1.643	1.622	1.605	1.589	1.577	1.565	1.530
	29	1.863	1.836	1.811	1.787	1.757	1.734	1.710	1.688	1.666	1.645	1.628	1.612	1.599	1.587	1.552
	30	1.902	1.875	1.849	1.825	1.794	1.770	1.746	1.723	1.701	1.679	1.662	1.646	1.633	1.620	1.584
	31	1.928	1.901	1.874	1.850	1.819	1.794	1.769	1.747	1.724	1.702	1.685	1.668	1.655	1.642	1.606
	32	1.962	1.934	1.907	1.882	1.850	1.825	1.800	1.777	1.754	1.732	1.714	1.697	1.684	1.671	1.634

Table 24. Projected average weights and charter removals under two possible scenarios for average weight in Area 3A under a one-fish bag limit with no size limit with and without a Wednesday closure. Projected removals include a limit of one trip per vessel and one trip per permit per day. Projections include an additional 2.0% release mortality inflation factor.

a. Wednesdays closed

Mean wt Scenario	Average wt(lb)	Harvest	Removals (Mlb)
Average weight of O32 fish in 2021	23.94	103,420	2.525
Average weight of all fish in 2021 + 36%	18.50	103,420	1.951

b. Wednesdays open

Mean wt Scenario	Average wt(lb)	Harvest	Removals (Mlb)
Average weight of O32 fish in 2021	23.94	122,716	2.997
Average weight of all fish in 2021 + 36%	18.49	122,716	2.315

Table 25. Area 3A projected harvest and specified dates with Wednesday closures and all Wednesdays closed with Tuesday closures under a one fish bag limit.

a. Wednesday closures

Number of Closed Wednesdays	Beginning and Ending Dates	Projected Harvest (no. Fish)
0		122,052
1	July 27	120,283
2	July 27 - August 03	119,560
3	July 20 - August 03	118,827
4	July 13 - August 03	118,062
5	July 13 - August 10	117,116
6	July 06 - August 10	115,838
7	June 29 - August 10	114,671
8	June 29 - August 17	113,243
9	June 22 - August 17	111,600
10	June 15 - August 17	110,643
11	June 15 - August 24	108,842
12	June 09 - August 24	107,053
13	June 01 - August 24	105,381
48 (all season)	February 01 - December 31	103,420

b. Tuesday closures

Number of Closed Tuesdays	Beginning and Ending Dates	Projected Harvest (no. Fish)
0		103,420
1	July 26	101,891
2	July 26 - August 02	100,422
3	July 19 - August 02	99,141
4	July 12 - August 02	97,526
5	July 12 - August 09	96,176
6	July 05 - August 09	94,853
7	June 28 - August 09	93,691
8	June 28 - August 16	92,462
9	June 21 - August 16	91,308
10	June 14 - August 16	90,380
11	June 14 - August 23	89,455
12	June 07 - August 23	88,735
13	June 07 - August 30	88,039
48 (all season)	February 01 - December 31	86,100

Table 26. Combinations of **closed Wednesdays** with a reverse slot limit on one fish and a one fish bag limit with projected removals below the Reference allocation (2.05 Mlb) and 2021 allocation (1.95 Mlb). Numbers in cells indicate the minimum number of closed days to stay below the allocation under that given reverse slot limits. Cells with the most liberal combinations of closures and size limits are highlighted with a blue – yellow scale indicating 0 to all closed days. Projected removals include a limit of one trip per vessel and one trip per permit per day. Projections include corrections for errors in estimation of average weight and an additional 4.0% release mortality inflation factor.

a. Combinations below reference allocation (2.05 Mlb)

Lower Length Limit (in) \ Upper Length Limit (in)	60	62	64	66	68	70	72	74	76	78	80
35	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0
45	1	0	0	0	0	0	0	0	0	0	0
46	1	1	0	0	0	0	0	0	0	0	0
47	3	1	1	0	0	0	0	0	0	0	0
48	4	2	1	0	0	0	0	0	0	0	0
49	6	4	2	1	1	0	0	0	0	0	0
50	7	6	4	2	1	1	1	1	1	1	1
51	8	7	5	4	3	2	2	2	1	1	1
52	8	8	6	5	5	4	4	3	3	3	3
53	9	8	7	6	5	5	5	4	4	4	4
54	10	9	8	7	7	6	6	6	6	6	5
55	10	9	8	8	7	7	7	6	6	6	6
56	11	10	9	8	8	8	8	7	7	7	7
57	12	11	10	9	9	9	8	8	8	8	8
58	12	12	11	10	10	9	9	9	9	9	9
59	13	12	11	11	11	10	10	10	10	9	9
60	13	13	12	12	11	11	11	11	11	11	10

b. Combinations below 2021 allocation (1.95 Mlb)

Lower Length Limit (in) \ Upper Length Limit (in)	60	62	64	66	68	70	72	74	76	78	80
35	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0
40	1	0	0	0	0	0	0	0	0	0	0
41	2	1	0	0	0	0	0	0	0	0	0
42	3	1	0	0	0	0	0	0	0	0	0
43	5	4	1	1	0	0	0	0	0	0	0
44	6	5	3	1	1	1	0	0	0	0	0
45	7	6	4	2	1	1	1	1	1	1	0
46	8	6	5	4	2	2	1	1	1	1	1
47	8	8	6	5	4	4	3	3	3	2	2
48	9	8	7	6	5	5	4	4	4	3	3
49	10	9	8	7	6	6	6	6	6	5	5
50	11	10	9	8	8	7	7	7	7	6	6
51	11	11	9	9	8	8	8	8	8	7	7
52	12	11	11	10	9	9	9	9	8	8	8
53	12	12	11	10	10	9	9	9	9	9	9
54	13	13	12	11	11	11	10	10	10	10	10
55	All	13	12	12	11	11	11	11	11	10	10
56	All	All	13	12	12	12	11	11	11	11	11
57	Over	All	13	13	12	12	12	12	12	12	12
58	Over	Over	All	13	13	13	13	13	13	12	12
59	Over	Over	All	All	All	13	13	13	13	13	13
60	Over	Over	Over	Over	All	All	All	All	All	All	All

Table 27. Combinations of **closed Tuesdays** with a reverse slot limit on one fish and a one fish bag limit with projected removals below the 2021 allocation (1.95 Mlb). Numbers in cells indicate the minimum number of closed days to stay below the allocation under that given reverse slot limits. Cells with the most liberal combinations of closures and size limits are highlighted with a blue – yellow scale indicating 0 to all closed days. Projected removals include a Wednesday closure for the season and a limit of one trip per vessel and one trip per permit per day. Projections include corrections for errors in estimation of average weight and an additional 4.0% release mortality inflation factor.

Combinations below 2021 allocation (1.95 Mlb)

Lower Length Limit (in) \ Upper Length Limit (in)	60	62	64	66	68	70	72	74	76	78	80
35	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0
57	1	0	0	0	0	0	0	0	0	0	0
58	1	1	0	0	0	0	0	0	0	0	0
59	2	1	0	0	0	0	0	0	0	0	0
60	3	2	1	1	0	0	0	0	0	0	0

Table 28. Projected harvest and removals with seasonal closures in Area 3A under with all days of the week open. Two options for halibut seasons were analyzed, May 16 – July 31 and June 1 – July 31. Projected removals include all other status quo management measures: bag limit of two fish, maximum size of 32-inches on one fish, and a limit of one trip per vessel and one trip per permit per day. All values in the table include corrections for errors in estimation of average weight and inflation factors for release mortality.

Season dates	Harvest	Removals (Mlb)
May 16 – July 31	116,688	1.761
June 1 – July 31	127,317	1.613

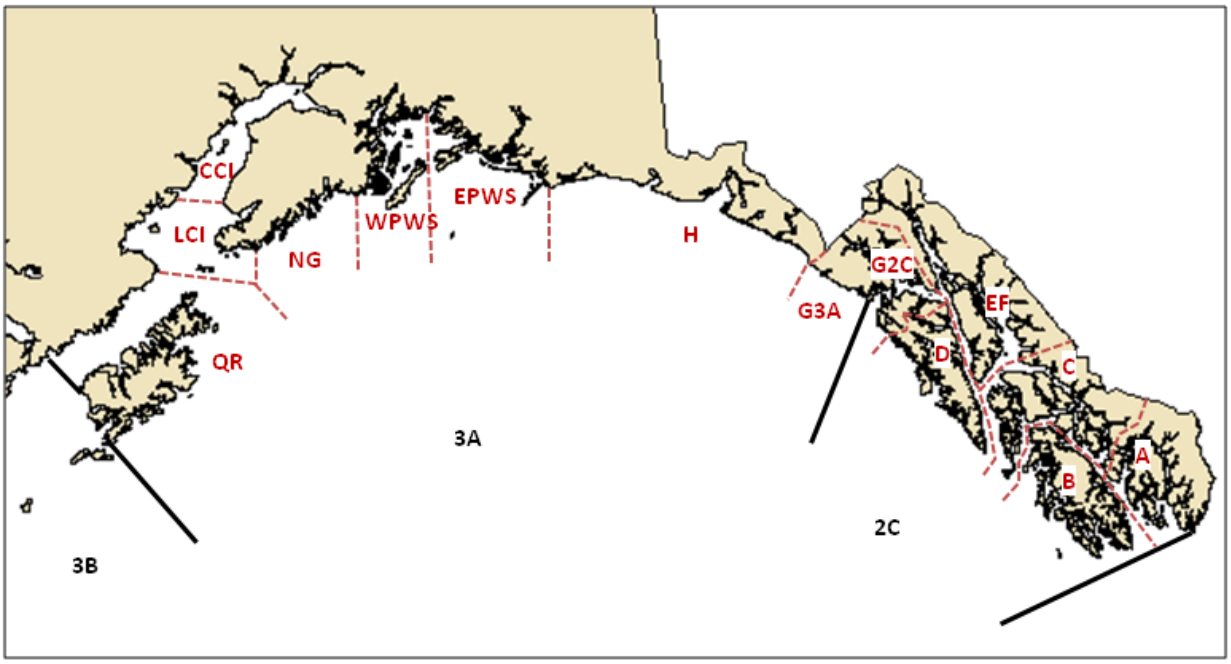

Figure 1. Subareas of IPHC Areas 2C and 3A used for analysis and reporting. A – Ketchikan; B - Prince of Wales (Craig, Klawock); C - Petersburg, Wrangell; D – Sitka; EF - Juneau, Haines, Skagway; G2C - Glacier Bay, Elfin Cove (2C areas); G3A - Glacier Bay, Elfin Cove (3A Areas); H – Yakutat; EPWS - Eastern Prince William Sound (Valdez, Cordova); WPWS - Western Prince William Sound (Whittier); NG - North Gulf (Seward); CCI - Central Cook Inlet (Deep Creek, Anchor Point); LCI - Lower Cook Inlet (Homer); QR – Kodiak.

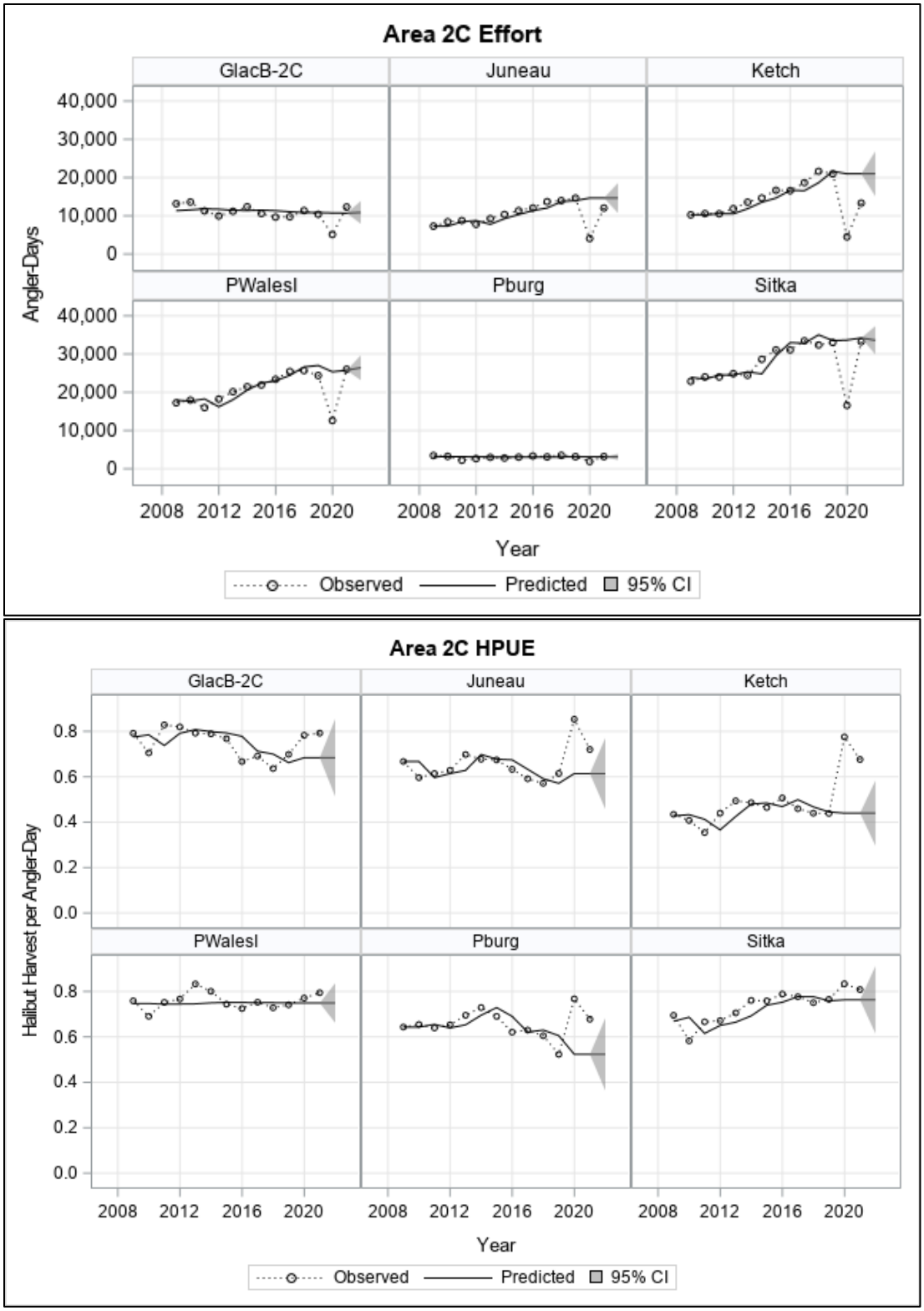

Figure 2. Time series of charter effort (upper) and HPUE (lower) for subareas of Area 2C with predicted values and forecasts for 2022. Shaded bands indicate 95% confidence intervals for the 2022 forecasts. (Source: ADF&G charter logbook)

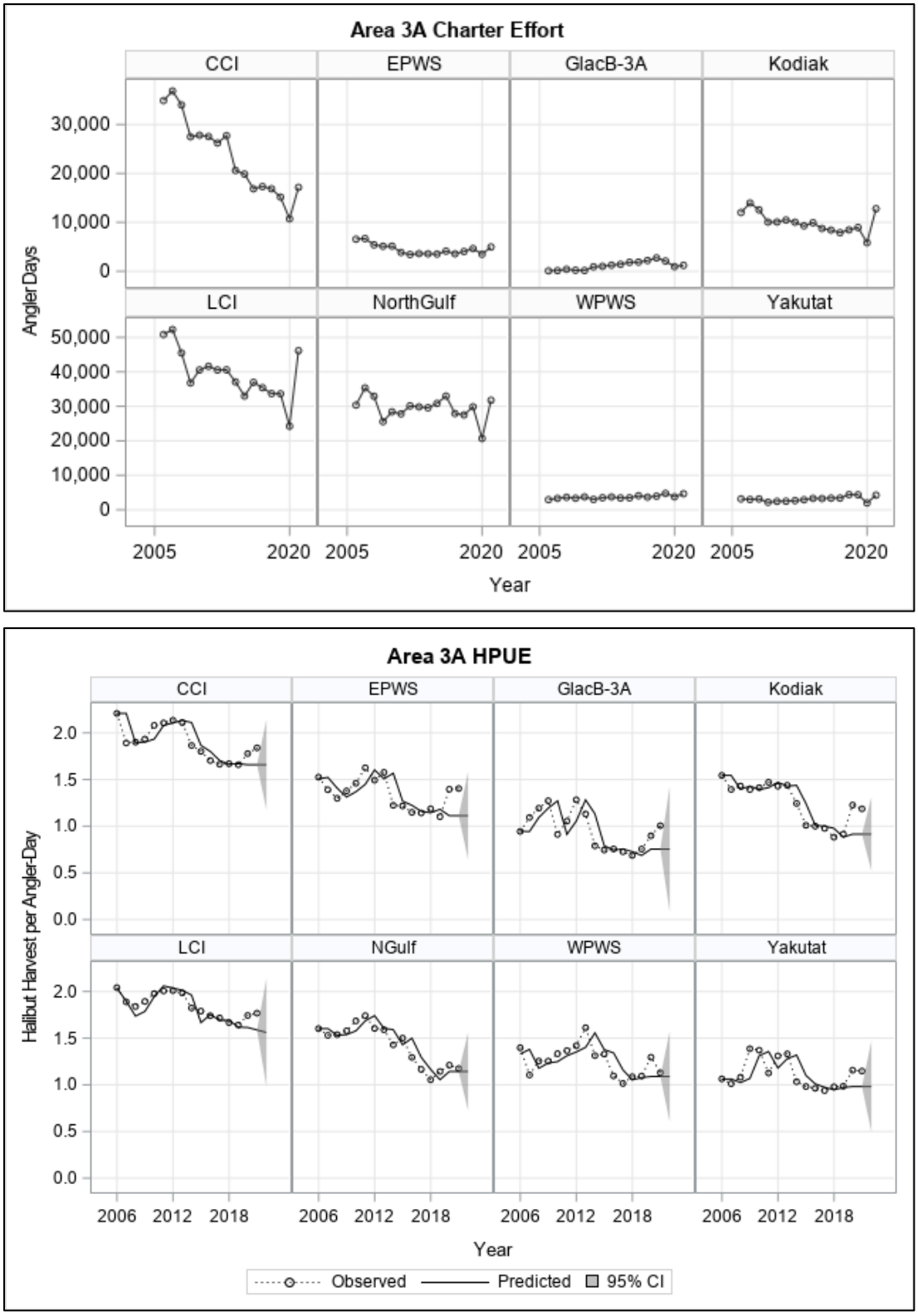

Figure 3. Time series of charter effort (upper) and HPUE (lower) by subarea of Area 3A, with predicted values and 2022 forecasts of HPUE only. No time series forecasts were made for effort. Shaded bands indicate 95% confidence intervals for the 2022 HPUE forecasts. (Source: ADF&G charter logbook)

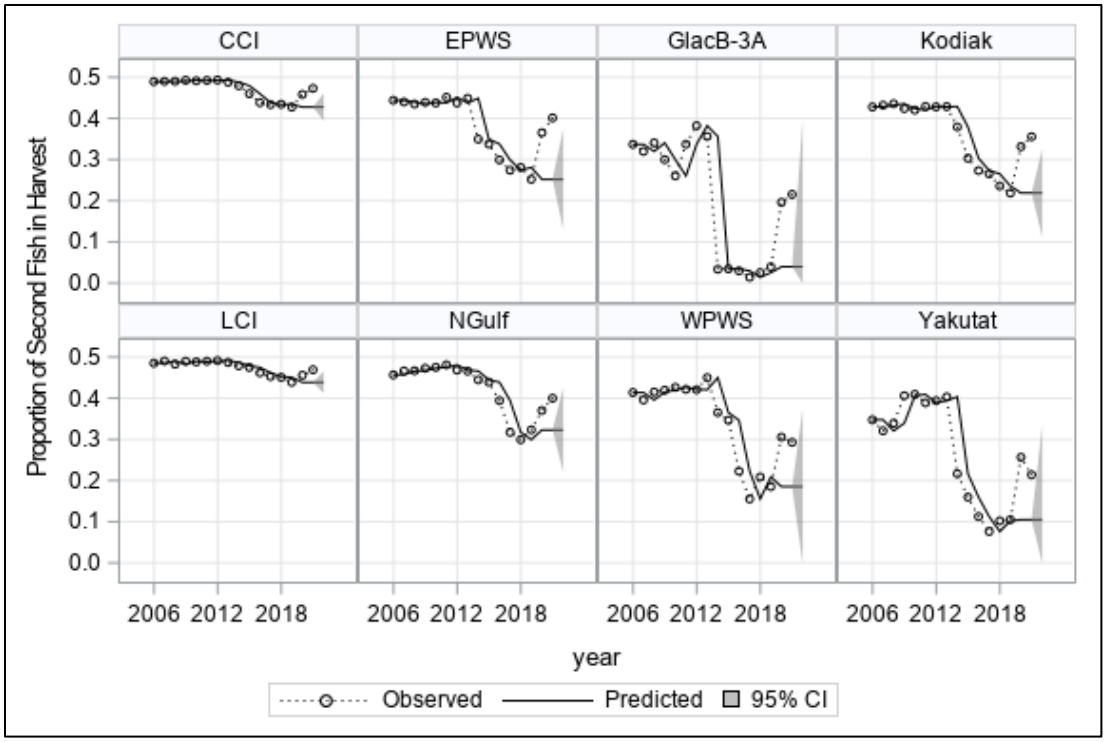

Figure 4. Time series of the proportion of second fish retained by anglers in each subarea of Area 3A, 2010-2021, with predicted values and forecasts for 2022. Shaded bands indicate 95% confidence intervals for the 2022 forecasts. (Source: ADF&G charter logbook)